

Price Match Guarantees in the Age of Showrooming: An Empirical Analysis *

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Abstract

Consumer showrooming – the behavior of examining a product in a brick-and-mortar store and later buying it from an online retailer – is seen as a major threat to brick-and-mortar retailers. To combat showrooming, Best Buy announced a price-matching policy in 2012 to compete with major online retailers. In this paper, we examine the impact of Best Buy’s price-matching policy on the price competition between Best Buy and Amazon across a wide variety of product categories. We empirically explore Best Buy’s and Amazon’s pricing patterns using unique datasets collected from different sources, and find robust results that the competitive effect of the price-matching policy depends on the showrooming value of the product. For those products that offer consumers large value from physical-store experiences – i.e., the “showrooming” products – price-matching led to more intense price competition. Moreover, Amazon cut prices more aggressively than Best Buy. For those products that offer relatively small showrooming value – i.e., the “non-showrooming” products – price-matching alleviated price competition. We further provide theoretical explanations in perspective of channel differentiation, consumer search, and competition for market share.

Keywords: Showrooming, Price matching, E-commerce, Price competition

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1 Introduction

“A year ago, people said that showrooming would kill Best Buy. I think that Best Buy has killed showrooming.”

— Hubert Joly, *CEO, Best Buy, Nov 4, 2013*

With the rise of e-commerce and mobile shopping, showrooming has become one of the biggest challenges faced by traditional brick-and-mortar retailers. Online retailers such as Amazon are well known for selling products at much lower prices than their brick-and-mortar competitors. Consumers may use physical stores as a showroom to view a product in person, but then buy it from an online retailer at a lower price. A study conducted by Accenture shows that 73% of consumers have participated in the practice of showrooming.¹ In another study conducted by Columbia Business School, a similar 70% of mobile shoppers reported having showroomed at least once in the past year.² Showrooming poses a significant threat to brick-and-mortar stores because they incur significant costs to maintain the showroom but are unable to convert the foot traffic into revenue. Reports say that brick-and-mortar retailers such as Best Buy have been losing out sales for years due to the increase in “showrooming”.³ Best Buy was hit particularly hard by consumer showrooming because it was among the retailers that Amazon customers visited most as a showroom.⁴ The challenge for brick-and-mortar retailers in competing with online retailers is to persuade shoppers to buy in the store and prevent them from using it only as a showroom.

In the battle for retail shoppers, Best Buy announced in 2012 to match the prices of not only its local competitors, but also a few major online retailers. In early 2013, the com-

¹See <https://newsroom.accenture.com/news/accenture-study-shows-us-consumers-want-a-seamless-shopping-experience-across-store-online-and-mobile-that-many-retailers-are-struggling-to-deliver.htm> for details. Accessed August 1, 2016

²Matthew Quint, David Rogers, and Rick Ferguson, “Showrooming and the rise of the mobile-assisted shopper.”

³See <http://business.time.com/2013/02/20/best-buy-swears-shoppers-dont-have-to-bother-showrooming-anymore> for details. Accessed January 5, 2015.

⁴See <http://bits.blogs.nytimes.com/2013/02/27/more-retailers-at-risk-of-amazon-showrooming/> for the article “More Retailers at Risk of Amazon Showrooming.” Accessed January 5 2015.

pany extended the policy to include 19 major online retailers, including Amazon, Apple and Buy.com.⁵ Best Buy expected benefits from this policy because it could end “showrooming”. However, some people argued that it might remind consumers of the general price disadvantage of Best Buy against its online competitors; others warned that open-ended price competition, especially with Amazon, might not be wise (Tuttle, 2012).

A similar debate exists in the economics and marketing literature concerning whether price match guarantees are anticompetitive or procompetitive. Analytical research has provided support for both views under different conditions (see Salop (1986), Corts (1997), Chen et al. (2001) and Jain and Srivastava (2000) for example). In the context of online-offline competition, the question becomes even more puzzling due to the asymmetry between the two retailers and prevalence of consumer showrooming. In this paper, we empirically investigate the impact of Best Buy’s price-matching policy on the price competition between Best Buy and its major online competitor, Amazon, and provide some theoretical explanations to point out possible market mechanisms underlying the results.

Showrooming benefits consumers because they can physically experience the product before purchase and acquire it at a lower price. Consumers often need to compare different alternatives when shopping for a particular type of product. Visiting a Best Buy store enables consumers to test a product’s functionality and evaluate its fit with their needs. For instance, when shopping for a new TV, they might not be sure whether a Sharp LED TV or a Samsung LCD TV will better suit their needs or what size would fit their living room. If they purchase directly online, consumers risk buying an unsuitable product if they cannot resolve these uncertainties before making the purchase. Moreover, Best Buy provides sale assistance and service that consumers value but cannot get from online retailers. The benefit of visiting a brick-and-mortar store, however, may be different for different product categories. For some categories, visiting a physical store does not create much value either

⁵Best Buy matches 19 online retailers: Amazon.com, Apple.com, Bhphotovideo.com, Buy.com, Crutchfield.com, Dell.com, Frys.com, hhgregg.com, HP.com, HomeDepot.com, Lowes.com, Newegg.com, OfficeDepot.com, OfficeMax.com, Sears.com, Staples.com, Target.com, TigerDirect.com and Walmart.com.

because the variation across brands and models is less important, or because consumers are able to get enough information online from product descriptions. We define such products as “non-showrooming” products. Typical examples of non-showrooming products are hard drives, mobile phone accessories, and computers printers. By contrast, the “showrooming” product categories are those for which consumers often find a physical store experience highly valuable, such as TVs, computers, and digital cameras. Our analysis therefore classifies products into these two categories. The classification is obtained from a consumer survey on Amazon Mechanical Turks on the propensity of consumer showrooming for each category. We also validate the classification with an in-store interview with Best Buyer employees.

To study the impact of Best Buy’s price-matching policy on retail prices, we compile a unique data set from multiple sources that contains Amazon’s and Best Buy’s price information for a large number of product categories. We first compare Best Buy’s and Amazon’s price patterns before and after the implementation of the price-matching policy. We then examine the effect of price match through regression models that incorporate both item-specific fixed effects and retailer-specific time trends. The results show that the direction and magnitude of price changes vary systematically across product categories for both Best Buy and Amazon. For the “showrooming” product categories, both Best Buy’s and Amazon’s prices decreased after price match. Moreover, Amazon’s prices decreased more than Best Buy’s, making the price disparity between them even larger. For the “non-showrooming” product categories, we find exactly the opposite pattern — prices went up for both Best Buy and Amazon after price match. Thus, we conclude that the competitive effect of Best Buy’s price-matching policy interacts with the showrooming value of the product category. We use several ways to test the robustness of our findings. First, we include the interaction effects of price match and product price levels. Second, we test our model on other products available at Best Buy, including its private labels and other products mainly available online. Finally, we test our model under different price measures. Our main findings on the divergent price patterns are robust across all the different model specifications.

We further seek explanations on our empirical findings. We survey the theoretical literature on price matching and find that relevant theories in the perspectives of channel differentiation, consumer search and market share competition could provide explanations that are consistent with our empirical findings. We provide detailed discussions on how the showrooming status of a product may interact with the impact of price match guarantees on these factors that can rationalize the divergent price patterns observed in our data set as market equilibrium outcomes.

This paper makes several contributions to the literature. First, we contribute to the literature on price match guarantees by providing new empirical evidence across a wide variety of categories. While the idea that price matching can be procompetitive has been raised by several studies, most literature on price matching supports the view that price matching implies tacit collusion. Our results contribute to the understanding of the seeming inconsistency by showing that the effect of price matching depends on consumers' incentive to showroom. To the best of our knowledge, this is the first empirical study that finds price match guarantees can be both anticompetitive and procompetitive. Second, we contribute to the growing attention of the marketing literature on consumer showrooming by studying its implication on the pricing strategies of online and offline retailers. Our paper also provides insights to managers and industry practitioners by documenting the competitive reactions of two major consumer-electronics retailers to price match guarantees. The results are useful to retailers when deciding whether price match guarantees are a suitable vehicle.

The rest of the paper is organized as follows. We provide a review of related research in economics and marketing in Section 2. In Section 3, we present a detailed description of the market background and the datasets we collected. Section 4 presents the main empirical findings. We provide theoretical explanations for the empirical findings in Section 5, and conclude the paper in Section 6.

2 Relevant Literature

Our research explores the impact of price matching on retail competition between online and offline channels. The paper mainly builds on two streams of research. The first stream investigates how consumers choose between shopping online and offline, and the other stream examines the impact of price match guarantees on price competition.

The primary benefits of shopping online are convenience and possible lower prices (Chintagunta et al., 2012; Forman et al., 2009). However, consumers buying online are generally unable to inspect the goods before purchases. In contrast, consumers can benefit from visiting brick-and-mortar stores because many product attributes are non-digital in nature and are difficult to assess online (Lal and Sarvary, 1999; Mehra et al., 2013). The differences between online and offline shopping channels provide showrooming opportunities for consumers. As a result, online retailers are able to free-ride the service provided in brick-and-mortar stores, resulting in further competitive disadvantages for brick-and-mortar retailers. Nevertheless, Shin (2007) showed that allowing free-riding on services from one retailer may actually benefit both retailers due to reduction in price competition.⁶

Our research is also related to the large literature in economics and marketing on price match guarantees. Many papers have studied the effect of price match guarantees on competition and firm coordination, and the conclusions were mixed. Some studies have found price matching to be anticompetitive (Salop, 1986; Png and Hirshleifer, 1987; Zhang, 1995; Hviid and Shaffer, 2012). In his pioneering study, Salop (1986) discussed the possibility of using price match guarantees to facilitate coordination and raise competitive prices to the monopoly level. Matching competitors' prices reduces firms' incentive to undercut competitors, and therefore induces tacit collusion. Png and Hirshleifer (1987) explored the possibility of using price match guarantees as a vehicle to successfully exert price discrimination in the presence of heterogeneous consumer search costs. Although firms would ideally charge dif-

⁶There are studies on consumer demand and firm performance in multi-channel environments where customers can shop online and offline at the same retailer (Gu and Tayi, 2015; Bell et al., 2013; Shriver and Bollinger, 2015).

ferent prices to consumers with different search costs, it is not attainable in the absence of price matching because consumer type is not observed. A price match policy allows firms to achieve differential pricing by collecting higher payments from consumers who do not search, leading to an increase in competitive prices and overall firm profits. Using a Hotelling model with endogenous location choices, Zhang (1995) also found that price matching leads to higher market prices. In a different context, Hviid and Shaffer (2012) analyzed the pricing strategy of a local store competing with national chain stores. While either matching or beating competitor's price could be optimal in the equilibrium under different conditions, such a policy inevitably entails a rise in the list price of the local firm.

The idea that price match guarantees facilitate collusion was later challenged because the trade press usually viewed the announcement of price-matching policies as the initiation of a price war. Researchers have proposed theories from different perspectives on why price match guarantees may not always result in higher prices. Corts (1995) showed that when firms are allowed to employ a policy that not only matches its competitors' prices, but also undercuts it, price matching is no longer anti-competitive, in the sense that it does not lead to monopoly prices in the market. In a separate study, he (Corts, 1997) argued that price-matching policies could also lead to lower prices if there are both sophisticated and unsophisticated consumers in the market, and the former is more price sensitive. Jain and Srivastava (2000) looked at the issue from the perspective of firm differentiation, showing that price matching can result in fiercer competition if there are both informed and uninformed consumers in the market and firms are sufficiently asymmetric. Chen et al. (2001) also demonstrated that price matching can be either anti- or pro-competitive, depending on the proportions of different consumer segments in the market. The presence of "opportunistic loyalists" — consumers who always shop at a particular retailer, but may take advantage of saving opportunities by utilizing price match guarantees — decreases the price-matching retailer's profit loss from cutting prices and intensifies price competition when price matching is offered. But the "switchers" in the model — consumers who search around for lower prices

before making their purchase decisions — reduce their search in the presence of price match guarantees, leading to a lower incentive for retailers to reduce prices. Several other studies (Belton, 1987; Hviid and Shaffer, 1999; Moorthy and Winter, 2006) also provided support for the notion that price matching may not always serve as a facilitating device.

Although most studies in price match guarantees are theoretical, several papers examine the effects of price match guarantees empirically. The conclusion is mostly unidirectional: strong evidences have been documented to support the anti-competitive role of price match guarantees. Hess and Gerstner (1991) collect price information from a grocery store offering price matching guarantees on specific products. They find that overall price level for products included in the program rises, compared with those not included. Arbatskaya et al. (1999) examine auto tire prices advertised on U.S. Sunday newspapers and find that the advertised prices were higher in markets where a larger percentage of competitors announce low-price guarantees. In another paper, Arbatskaya et al. (2004) compare price-matching and price-beating guarantees for advertised tire prices, and find that price-matching tends to discourage price competition while price-beating does not. Arbatskaya et al. (2006) further examine the conditions specified in hundreds of low-price guarantee advertisements and find that the hassle cost of redemption is usually high, for which they infer that firms do not intend to use it to facilitate price collusion. Finally, Srivastava and Lurie (2001) use survey methods to find evidence that consumers perceive price match guarantees as a credible signal which essentially would reduce consumer search.

3 Data

To understand the competitive reactions to Best Buy’s price-matching policy, we collect historical price information from Best Buy and its major online competitor, Amazon, before and after the policy change.⁷ We develop a computer program to collect historical price

⁷In 2014, Best Buy is the leading consumer electronic retailer in the United States with sales amounting to 30.55 billion U.S. dollars. Amazon has increased its sales in electronics from 9.35 billion U.S. dollars in

information of both retailers from a major price-tracking website camelcamelcamel.com and its sub-site camelbuy.com. This website tracks daily price information for hundreds of thousands items sold at major retailers such as Best Buy and Amazon. We compile a list of the products available on Best Buy’s website and local stores in each product category,⁸ and then search for each product’s price history from both Best Buy and Amazon, based on the product’s UPC code. On Amazon.com, products can be sold by Amazon, a third party using Amazon, or both. We collect prices set by Amazon itself. We include only the products having price histories on the tracking website.⁹

This process identifies 13,947 products that have at least a partial price history from Best Buy. We observe 3,092 products’ price information both before and after Best Buy’s price matching. Of these products, 2,749 have price information from both retailers. Best Buy products are sold either online, in its brick-and-mortar stores, or both. Our data record the prices shown on the Best Buy’s website. We believe using this online price information is a reasonable approach in studying the price competitions between Best Buy and Amazon because of the following reasons. First, according to Best Buy, online and offline prices should be consistent.¹⁰ Best Buy’s president of e-commerce Scott Durchslag mentioned in an interview that they have integrated the operations of online division and stores, and have made more than 200 changes to the online store to fix problems, including price inconsistency between channels since he took the position in 2012.¹¹ In addition, in a recent paper, Cavallo (2017)¹² conducted a large scale comparison of prices in online and offline channels and found

2010 to 25.04 billion in 2014. Source: www.statista.com.

⁸Since Amazon offers a much larger selection of products, we do not start with Amazon in the collection of product information. In addition, the focus of the paper is on the direct price competition between Amazon and Best Buy. The products carried exclusively by Amazon are less likely to be affected by the new policy.

⁹While some UPCs can not be matched exactly with any product on the tracking website, most of the top-selling products are successfully matched.

¹⁰In certain cases such as local store clearances, it is possible for Best Buy’s local stores to have different prices than its website. We searched extensively on the Internet about media reports and customer complaints on price inconsistencies but only found a few, and most of them happened in the early years. For example, <https://www.techdirt.com/articles/20070209/124307.shtml>, <https://www.techdirt.com/articles/20070209/124307.shtml>, and <http://forums.bestbuy.com/t5/Best-Buy-IdeaX/Pricing-in-store-should-be-the-same-online-at-bestbuy-com/idi-p/556460>.

¹¹See <http://www.technologyreview.com/news/520821/best-buy-battles-back-online/>.

¹²The Billion Prices Project at MIT. <http://www.thebillionpricesproject.com>.

that most of the time (72%), retailers' online and offline prices are exactly the same. This is particularly true for electronics product where prices are consistent in 83% of the occasions. We specifically compare the online and offline prices at Best Buy using the data provided by Cavallo (2017), and find that in 86% of the time, the prices are exactly the same between the online store and every physical store recorded in the data sample. Cavallo (2017)'s method may potentially have under-estimated the price consistency rate because the scraping server checks the online prices within seven days, instead of always instantaneously, after manual submission of in-store prices. Third, Best Buy offers Application Program Interfaces (APIs) for developers and partners to directly query its database on products, prices, and stores through the developer portal. In the API documentation¹³, the price information is always returned as a single value and is recorded at sku level, instead of sku-channel/store level. This is in contrast with the inventory information which is at sku-store level. If Best Buy strategically offers different prices across channels, the returned price information should be channel or store specific in order for partners and developers to synchronize the price information on their websites or mobile applications. Overall, based on the above factors, we believe that the prices on Best Buy's website are largely consistent with physical stores, and that the data we use are reasonable in studying the competitive effects between Best Buy and Amazon.

In our analysis, we restrict most of our attention mainly to those products with a price history from both retailers. To account for possible differences in price competition, we distinguish the products widely available in Best Buy's local stores, from those sold only at a limited number of stores and those sold exclusively online. We check the availability of each product across all Best Buy stores in the USA through the APIs provided by Best Buy Developer Portal. Products carried by fewer than 200 of the 1149 operating stores are defined as "Best Buy major online products". We defined the rest as "Best Buy major store products."¹⁴ In addition, Best Buy's private label brands like "Dynex," "Rocketfish" and

¹³See <https://bestbuyapis.github.io/api-documentation>.

¹⁴The store availability information is available on Best Buy's website. We checked the availability of the

“Insignia” were classified as “Best Buy private label products.” The number of products across different departments in our data are summarized in Table 1. In total, there are 899 major store items, 1,850 major online items, and 343 private label items. Since the main purpose of Best Buy’s price-matching policy is to defeat showrooming, the impact of the policy is likely to be the strongest for products sold in its brick-and-mortar stores. Therefore, we focus our analysis on “Best Buy major store products” and use the other two product categories for robustness check.

Insert Table 1 Here

To complement the historical price information, we conduct a consumer survey on Amazon Mechanical Turk to better understand the impact of Best Buy’s price matching policy on consumer shopping behavior. Details of the survey are in Appendix A. We find 116 out of 126 respondents have engaged in showrooming, and 33% of them do it regularly.

Next, we use the answers to Question 2, “How likely are you going to check the actual products at a Best Buy local store before making the purchase decision?” to classify the products as “showrooming” products or “non-showrooming” products. Classification was based on the median split (3.8) of the average consumer rating from 126 respondents (Appendix B). Product classes with a higher average rating than the median are classified as “showrooming” categories, and those with a lower rating than the median as “non-showrooming” products. Table 2 displays the detailed classification. We also ask questions about showrooming behavior in different product categories before and after knowing about the price-matching policy. Results show that consumers are significantly more likely to visit a Best Buy store after knowing the policy.

We validate the aforementioned classification by conducting an interview with two employees at a Best Buy store. We ask them to rate each category as either showrooming or products twice, first in August 2013 and the again in May 2014. We defined an item as “available” at a particular store if it was available in at least one of the two observations.

non-showrooming based on two factors: whether consumers can easily experience the products in store, and how frequently they get questions from consumers. Their evaluations, as reported in the fourth column of Table 2, are highly consistent with the survey result. As examples, digital cameras are a typical showrooming product category, because, according to Best Buy employees, they have “open display; are operational and consumers can play through the settings and compare different models.” Lenses, however are a non-showrooming product class, because they are “shown in glass display cases, therefore consumers can see but cannot touch or use them; most consumers know which brand and type they want to buy.”

From Table 2, we observe some distinctive features between showrooming and non-showrooming products. First, many of the showrooming products are experience goods. The non-digital attributes of the products are important for consumers. Second, offline channel provides more services to create value for showrooming product purchases. Third, there are more product differentiation among showrooming products resulting in different consumer search behaviors for shopping for showrooming and non-showrooming products. Finally, the showrooming products are more likely to be big ticket items and more expensive than non-showrooming products on average.

Insert Table 2 Here

4 Empirical Patterns

4.1 Price Comparisons Between Best Buy and Amazon

In this section, we present the empirical patterns of price competition between Best Buy and Amazon. We are particularly interested in the comparisons of prices before and after

price-matching started. The original data record product daily prices.¹⁵ For the empirical analysis, we test several price measures that closely reflect the nature and degree of price competition: Best Buy price index, Amazon price index, and the price dispersion between the two retailers. We use an average of each product’s prices by month to construct the price measures. The *Best Buy price index* and *Amazon price index* are constructed based on the ratio of the monthly average price to the introductory price (regular price) at Best Buy when a product was launched. The advantage of using price indexes, not raw prices, is that the measures are implicitly normalized, and are directly comparable across items and categories. The third measure, *price dispersion*, is defined as the ratio of the price difference between Amazon and Best Buy to the average of the two prices. Note that the price difference (the numerator) is equal to Amazon’s price minus Best Buy’s price, so a negative price dispersion means that, on average, Amazon has lower prices than Best Buy in a particular month for a particular product.

As we are interested in the impact of the price-matching policy and its interaction with the showrooming status of the category, we define two dummy variables to capture these effects. The first dummy variable, *price-matching*, indicates whether it is before or after the implementation of the price-matching policy. Specifically, January 2010 to October 2012 is the pre-price-matching period while November 2012 to April 2014 is the post-price-matching period.¹⁶ The *showrooming* variable, as defined in Table 2, indicates whether a product is classified as a showrooming category. In addition, we define *month* as the number of months since the product’s initial launch to the market, and use it as a control for time trends. The variables used in the analysis are explained in Table 3.

¹⁵The listing prices do not include taxes and shipping costs since these additional costs vary with shoppers’ locations. In our main analysis, we include product fixed effects in the regression model. Therefore, the estimates of the impact of the price-matching policy should not be affected when there are no systematic changes in the additional shopping costs over time.

¹⁶Best Buy started to experiment with the price-matching policy in the holiday season of 2012. It was made as a permanent policy in March 2013. As the gap between the temporary and permanent policy is only two months, we defined the start of price-matching as November 2012.

Insert Table 3 Here

A common question about the price competition between Best Buy and Amazon is whether Amazon always has a lower price. This question becomes even more relevant and important with the introduction of the price-matching policy. We provide a simple analysis of price differences between the two retailers in Table 4. The table summarizes the percentage of product-month observations in which Amazon had a lower price, Best Buy had a lower price, or both had the same price across product categories. We also provide before and after comparisons. The table shows that Amazon had lower average prices most of the time. In about 60%—75% of the instances, Amazon had a lower price than Best Buy.¹⁷ Best Buy and Amazon had the same average monthly price only about 5%—10% of the time. This is true for both Best Buy major store products and Best Buy major online products, and across both pre- and post-price-matching time periods. Intuitively, consumers should expect Best Buy to follow Amazon more closely in its pricing strategy after the price-matching policy was implemented, so that it could deliver a consistent message to consumers. However, this does not seem to be true in our data. Amazon was even more likely to have a lower price than Best Buy after price-matching started, especially for Best Buy major store products, where Amazon’s chance of having a lower price increased by 4% for non-showrooming product categories and 12% for showrooming categories. Also after price-matching, non-showrooming Best Buy major store products were more likely to have equal prices between the two retailers than before price-matching, whereas the opposite is true for the showrooming products.

Insert Table 4 Here

Since heterogeneous prices encourage consumers’ showrooming, we are also interested in the distribution of price dispersion between the two retailers . Figures 1 and 2 depict the

¹⁷Our findings are consistent with some industry reports claiming that 75 percent of the items offered by Best Buy are cheaper on Amazon, by 17 percent on average. See <http://pando.com/2012/11/12/best-buys-amazon-price-match-is-a-400m-all-in-bet-it-cant-win/>.

price dispersion between the two retailers. Most of the time, the average monthly price of Amazon is 0%-20% lower than that of Best Buy. The dispersion distribution shrinks towards the middle for non-showrooming products and shifts towards the left for showrooming products in Best Buy major store categories after price-matching began. These patterns suggest that the effect of price matching on price competition may vary across product categories.

Insert Figures 1, 2 Here

4.2 Impact of Price Match Guarantee on Pricing Strategies

The changes in price dispersion may be attributed to reactions from either Amazon, Best Buy, or both. For a clearer picture of the competitive effect of the price-matching policy, we use multiple regressions to examine the direction and magnitude of price adjustments of the two retailers. For all the regression analyses, we include item-level fixed effects, retailer-specific monthly fixed effects and time trend variables (month and month squared) to control for product heterogeneity, seasonality effect, and potential time trends of product prices at each retailer. These factors are particularly important for electronics products, because dynamic pricing and seasonal pricing strategies are commonly used by retailers in the electronics industry. We run three regressions for Best Buy major store products, because price-matching policy could potentially have the largest impact on these products and Best Buy launched the price-matching policy to defeat showrooming for these products. The dependent variables in the three regressions are *Amazon Price Index*, *Best Buy Price Index*, and *Price Dispersion* respectively.

Table 5 presents the results of the three regression equations. Note that we do not include the main effects of price matching and showrooming because these effects are already captured in the model by the product fixed effects and monthly dummies. The interactions between price matching and showrooming are the focus of the analysis. First, regarding

the Amazon price index, we find a positive but insignificant price effect (0.06%) for the non-showrooming products after price-matching. The pattern is different for showrooming products; average prices reduced by 4.37% and the effect was significant. Best Buy adopted exactly the same strategies as Amazon, at least directionally. On average, price changes are significant: the average price has increased by 4.70% for non-showrooming products and has decreased by 1.71% for showrooming products after price matching. These divergent price change patterns imply two different mechanisms. For non-showrooming categories, the price-matching policy served as a mechanism for tacit price collusion and resulted in an anti-competitive situation. On the other hand, for showrooming products, the price-matching policy caused both retailers to reduce prices — a pro-competitive outcome. Comparing the magnitude of price adjustments between Amazon and Best Buy, we find that Amazon responded more aggressively for showrooming products, while Best Buy made more drastic changes for the non-showrooming products. Finally, the price adjustments from the two competitors led to changes in price dispersion, which are captured in the third regression equation. Both interaction variables show a significantly negative effect, meaning that the average price gap between Best Buy and Amazon increased after Best Buy introduced the price-matching policy. The magnitude is similar for both showrooming and non-showrooming products. This is, to some degree, a surprising finding. Even though the price-matching policy was intended to deliver a low-price image to consumers, Best Buy failed to close the price gap.

Insert Tables 5 Here

4.3 Showrooming and Price Levels

The classification of showrooming is based on how much value consumers can get from experiencing the product in a physical store. This classification positively correlates with the price levels of products in each product class. Figure 3 displays the distribution of regular

prices for products that are carried by both Amazon and Best Buy stores in both categories. It is evident that prices overlap in the two product categories; but on average, showrooming products are significantly higher in prices than non-showrooming products. Thus, we want to examine whether the divergent pricing patterns of products in the showrooming and non-showrooming categories could merely be driven by the price levels.

Insert Figure 3 Here

We extend our regression models by adding interaction terms between the showrooming indicator and the logarithm of a product's regular price to examine how the price strategies depend on both showrooming and price levels. Results are reported in Table 6. Results show that the interaction term of price and price matching is insignificant for Best Buy price index but negative and statistically significant for Amazon price index. Most importantly, after controlling for price levels, the direction and magnitude of the estimates for the effects of price matching on showrooming and non-showrooming products remain consistent with the model as reported in Table 5. This provides us strong evidence that the showrooming status of a product is indeed playing an important role in the pricing strategies.

Insert Table 6 Here

4.4 Robustness Check

To further validate our results, we carry out a series of additional analysis to check the robustness of the empirical findings. The first robustness check is to run the same analysis on the products carried mainly by Best Buy's online channel. The results are presented in Table 7. Overall, the focal estimates are in the same directions as in the previous section. The price dispersion of showrooming products increased after the price matching policy,

while that of non-showrooming products did not change significantly. In addition, the R-squared measures are much smaller than those of the previous section, implying that price adjustments occurred more randomly for Best Buy’s major online products.

Insert Tables 7 Here

We also conduct analysis on Best Buy’s private label products - products that do not compete directly with Amazon. If the price-matching policy reduced showrooming, Best Buy would be able to take advantage of the opportunity to cross-sell more of its private label products to consumers. If this is true, Best Buy would be motivated to raise the prices of these products. Table 8 confirms this prediction. Prices of the private label products in both non-showrooming and showrooming categories increased significantly after price matching, with as much as 18.70% for the latter.

Insert Tables 8 Here

To assess the robustness of our empirical patterns to data aggregation and measurement methods, we test several alternative model specifications, starting from changing the dependent variable from monthly average price indexes to daily price indexes. The results are summarized in Table 9. All the parameter estimates of the price-matching effects are in the same directions as in the main analysis. Moreover, the estimate of Amazon’s price adjustment in the non-showrooming product categories becomes statistically significant. The price dispersion changes also closely resemble those of the main analysis, suggesting that the results are robust to data aggregation level.

We then replace the monthly price indexes with the logarithm of raw prices, the results of which are presented in Table 10. Although the products in our dataset cover a wide spectrum of prices, the analysis still shows consistent effects of the price matching policy on

non-showrooming and showrooming product categories, reinforcing our findings. According to the estimates, on average, prices of non-showrooming products increased by 1.4% at Amazon and 5.8% at Best Buy, while those of showrooming products decreased by 2.7% at Amazon.

To test whether showrooming and non-showrooming products have different time trends, we modify the main regressions to include interactions between the time trend variables Month and Month squared and the showrooming indicator. Results (Table 11) show that none of those interactions terms are statistically significant at 5% confidence level, and likelihood ratio tests favor the parsimonious model. Parameter estimates remain qualitatively consistent with the main model.

Insert Tables 9, 10, 11 Here

5 Theoretical explanations

Our empirical results showed that price matching had divergent effects on price competition in different product categories. Yet the underlying market mechanism that drives the results remains unclear. Although empirical testing of the underlying mechanism is not achievable with the current data, we would like to go into a greater depth by exploring the possible explanations for the divergent patterns. To this end, we conducted an extensive survey of the literature on price matching and pinpointed several theories that can potentially fit into the showrooming context and provide a plausible rationale for the observed interaction. In this section, we go into each of the theories to discuss how it can be used to explain our findings.

5.1 Channel Differentiation Theory

Testing out the actual products in person enhances consumers' purchase experience in a brick-and-mortar store. Thus, the ability to showroom can be viewed as a form of differentiation of physical stores from their online competitors, which is more pronounced for showrooming products than non-showrooming ones. From that perspective, the interesting interplay between price matching and firm asymmetry found by Jain and Srivastava (2000), when applied to the showrooming context, offers a possible explanation to our empirical findings.

For non-showrooming products like flash drives and microwaves, buying from Best Buy or Amazon makes little difference for consumers, resulting in similar pricing for the two retailers. When a price matching policy is in effect, a price drop from Amazon is no longer effective at helping it attract more consumers, who are able to secure the same low price by buying from Best Buy using the policy. Amazon's incentive to lower its price is virtually eliminated by the policy. As a result, the two retailers compete less aggressively on prices and we observe higher prices with price matching than without. For showrooming products, however, the showrooming benefits Best Buy offers give it an edge over the competition and allow it to charge higher prices than its competitor when there is no price matching. The high price of Best Buy, in turn, enables Amazon to lift its price too. In other words, the asymmetry between the two retailers helps soften their price competition and maintain prices at relatively high levels before price matching. When the price matching policy is in place, Best Buy's ability to outprice its competitor is undermined, essentially washing away the asymmetry between the two retailers that is beneficial to both of them. This helps explain why prices of the showrooming products decreased after Best Buy introduced the price matching policy.

5.2 Consumer Search Theory

Chen et al. (2001), which examines the competitive effect of price matching in the presence

of consumer search, offers a different perspective to approach the problem. The marketing literature has well documented that consumers engage in active search of price information when they look to purchase a product, and that not all consumers search in the same way. Some consumers are more loyal than others - they only buy from their preferred retailer, either with or without the use of price matching. And some, who figure out both prices before making a purchase, are better informed than others, who do not search or conduct only limited search before making a purchase. In a market with such a diverse set of consumers, a price-matching guarantee has two effects on prices that go in opposite directions: on one hand, it deters the search behavior of consumers, allowing retailers to raise prices. On the other hand, it reduces the foregone profit from the opportunistically loyal consumers - those who always buy from the same retailer but may take advantage of the price matching policy if there is one - when a retailer cuts price, encouraging retailers to compete more aggressively on price. When the underlying proportions of consumers with different search behavior in the market changes, one effect can be stronger or weaker than the other, leading to higher or lower prices. The divergent effect of price matching can be explained by the fact that at least some consumers search more for showrooming products than for non-showrooming products, resulting in a change in the underlying market structure in such a way that the procompetitive effect gets stronger as the showrooming value of the product increases.

5.3 Market Share Theory

The divergent effects of the price-matching policy may also be driven by retailers' battle for market share. If Amazon has a market share objective in addition to profit, the price matching policy's effect will depend on the showrooming value of the product. In fact, some people have argued that Amazon has been executing an aggressive market share strategy since its inception, with many items sold at prices that barely make a profit¹⁸.

¹⁸See the discussion in the article "Turning the retail 'showrooming effect' into a value-add", <http://knowledge.wharton.upenn.edu/article/turning-the-retail-showrooming-effect-into-a-value-add/>. Accessed Jan 03, 2015

Consider a market with two types of consumers - the sophisticated ones and the unsophisticated ones. The sophisticated consumers will use the price matching policy if given the chance. They showroom if there is no price matching but once the price matching policy is effective, they will simply buy from Best Buy's store and pay Amazon's lower price using the policy. The unsophisticated consumers, on the other hand, completely ignore the price matching policy either because they are not aware of it or because the cost of redeeming the policy is too high. In such a market, Best Buy's price matching policy will attract some sophisticated consumers to switch from Amazon to Best Buy. So if prices were to remain the same as before, Amazon would lose market share to Best Buy. To fight back, Amazon could choose to lower its price to retrieve the lost market share, or to charge an even higher price to secure more profit from existing consumers. The market outcome will be determined by the trade off between these two considerations. For the showrooming products, a lot of consumers would visit Best Buy's store but buy from Amazon without the price matching. With the price matching policy, they will simply buy from Best Buy after examining the product in its store. With a significant loss of customers, Amazon will focus more on restoring its market share through price reduction, leading to more intense price competition in these categories. For the non-showrooming products, Amazon's loss of market share is limited. Therefore, it will choose to focus on extracting the surplus of existing customers, leading to price hikes in the non-showrooming product categories. This explains the anti-competitive outcome observed in the non-showrooming categories and the pro-competitive outcome observed in the showrooming categories.¹⁹

6 Conclusion

The showrooming phenomenon has brought fundamental challenges to the traditional brick-and-mortar stores in today's changing landscape of retailing. Understanding the effectiveness

¹⁹The detailed analysis can be requested from the authors.

of attempts to defeat showrooming is important to both retail managers and the academic researchers. In this paper, we empirically test the effect of one such attempt – Best Buy’s price-matching policy – on the competition between Best Buy and Amazon. We collect price data for a wide spectrum of product categories from the two retailers before and after the introduction of the policy. We identify an interactive effect between price matching and the showrooming status of the products. Retail prices went up for non-showrooming products, suggesting tacit collusion between the two retailers. However, an opposite effect was observed in the showrooming product categories: both Best Buy and Amazon lowered their prices after the price-matching policy, with Amazon cutting prices more aggressively than Best Buy.

We further provide theoretical explanations for the empirical findings. An extended survey of the literature yields several perspectives that offer predictions consistent with our empirical findings. Price match guarantees may have different impact on prices due to degree of differentiation between an online retailer and an offline retailer; they may change consumers’ incentives in conducting costly searches and they may change the market shares of the retailers. We offer detailed explanations on how a product’s showrooming status may interact with the impact of price matching on these factors, and consequently result in different equilibrium price changes.

There are a few important questions that call for future research. First, most of the theoretical work on price-matching assumes that consumers shop for a single product when, in reality, they may purchase multiple products when they visit a retailer. If the price-matching policy helps increase the brick-and-mortar store’s traffic, it may benefit from cross-selling other product categories. Although we find some empirical evidence on the price increase of Best Buy’s private label products, we do not focus on this issue in the current paper. Second, our study focuses on the price competition between online and offline retailers, but not on the strategic reactions from the manufacturers. Consumers’ showrooming behavior could hurt the profit of the retailer that provides the service (Anderson and Coughlan, 2002; Carlton

and Chevalier, 2001), which creates incentives for retailers to cut the service levels when there is free riding in the market. A manufacturer may respond strategically by changing its wholesale price and sale allowance to encourage Best Buy to keep providing additional services for consumers. However, we don't have any empirical evidence to support the conjecture. Lastly, our research follows most other studies on price matching, in focusing on the impact of such policies on products commonly available at multiple sellers. The impact of price matching on other marketing strategies, such as product assortment decisions are also important. Coughlan and Shaffer (2009) have done pioneer work on this topic. Future research could build on their insights to empirically test such an impact. Also, because of the lack of sales data from either retailer, we are unable to directly investigate the profitability implications. Incorporating sales information directly into the investigation would further deepen our understanding of this issue.

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Table 1: Number of Products Across Best Buy Departments in the Sample

Department	Major Online Products	Major Store Products	Private Label Products
Accessories	64	20	83
Appliance	85	50	6
Audio	92	104	25
Computers	755	227	39
Digital Communication	66	141	77
Interactive Software	47	61	17
Mobile Audio	71	32	1
Photo/Commodities	610	184	58
Video	60	80	37
Total	1850	899	343

Table 2: Showrooming and Non-Showrooming Product Classifications

Classification	Product Categories
Showrooming Products	Car Stereo, Computer Monitors, Desktop Computers, Digital Cameras, Digital Camcorders, Flat Panel TV, Game Peripherals, GPS Navigation, Headphones, Home Theater, Kitchen, Laptops, Laundry Appliances, Speakers, Tablet, Video Game Hardware
Non-showrooming Products	Battery, Computer Accessories, Digital Camera Accessories, Digital Memory, DVD Players, GPS Accessories, Hard Drives, Home Theater Accessories, Ink and Paper, Lenses, Microwave, MP3/Phone Accessories, Network Cables, Personal Clock/Radio, Printers, Scanners, Tablet Accessories

Table 3: List of Model Variables

Variable	Explanation
<i>Dependent Variables</i>	
Best Buy price index	A product's monthly average price from Best Buy divided by its regular price
Amazon price index	A product's monthly average price from Amazon divided by its regular price
Price dispersion	$2 \times (\text{Amazon Price Index} - \text{Best Buy Price Index}) / (\text{Amazon Price Index} + \text{Best Buy Price Index})$
<i>Independent Variables</i>	
Month dummies	Month dummies of January to December
Month	The month indicator, from 1 to 52, with January 2010 being 1
Month squared	Month squared
Price-matching	Indicator for the Best Buy price-matching policy, 1 being periods after October 2012
Showrooming	Indicator for whether it is a showrooming product

Table 4: Best Buy and Amazon Price Advantage Comparisons

	Pre Price Matching			Post Price Matching		
	Amazon	Best Buy	Equal	Amazon	Best Buy	Equal
Best Buy major store products						
Showrooming	0.58	0.31	0.11	0.70	0.24	0.06
Non-showrooming	0.70	0.24	0.06	0.74	0.17	0.09
Best Buy major online products						
Showrooming	0.63	0.31	0.06	0.66	0.28	0.06
Non-showrooming	0.74	0.21	0.05	0.70	0.24	0.06

Note: numbers indicate the percentage of the observations that Amazon has a lower price, Best Buy has a lower price, and both have an equal price, respectively.

Table 5: Effect of Price Matching on Product Prices: Best Buy Major Store Products

	Amazon Price Index	Best Buy Price Index	Price Dispersion
Product fixed effects		Included	
Month dummies		Included	
Month	-0.0000 (0.0006)	0.0024** (0.0007)	-0.0030** (0.0010)
Month squared	-0.0001** (0.0000)	-0.0001** (0.0000)	0.0000 (0.0000)
Price matching \times Non-showrooming	0.0063 (0.0043)	0.0470** (0.0046)	-0.0408** (0.0069)
Price matching \times Showrooming	-0.0437** (0.0061)	-0.0171** (0.0066)	-0.0228* (0.0098)
R ²	0.1705	0.1029	0.0315
Adj. R ²	0.1606	0.0969	0.0297
Num. obs.	15613	15613	15613

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values with respect to a simple model with only fixed effects.

Table 6: Extension: Effect of Price Matching on Product Prices: Best Buy Major Store Products

	Amazon Price Index	Best Buy Price Index	Price Dispersion
Product fixed effects		Included	
Month dummies		Included	
Month	-0.0001 (0.0006)	0.0024** (0.0007)	-0.0029** (0.0010)
Month squared	-0.0001** (0.0000)	-0.0001** (0.0000)	0.0000 (0.0000)
Price matching \times Non-showrooming	0.0033 (0.0045)	0.0454** (0.0048)	-0.0341** (0.0072)
Price matching \times Showrooming	-0.0417** (0.0062)	-0.0161* (0.0067)	-0.0271** (0.0099)
Price matching \times Price	-0.0058* (0.0024)	-0.0031 (0.0026)	0.0126** (0.0038)
R ²	0.1708	0.1030	0.0322
Adj. R ²	0.1197	0.0477	-0.0274
Num. obs.	15613	15613	15613

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values with respect to a simple model with only fixed effects. Price measurement is in log of dollars.

Table 7: Effect of Price Matching on Product Prices: Best Buy Major Online Products

	Amazon Price Index	Best Buy Price Index	Price Dispersion
Product fixed effects		Included	
Month dummies		Included	
Month	-0.0139** (0.0009)	-0.0005 (0.0005)	-0.0052** (0.0006)
Month squared	0.0001** (0.0000)	-0.0000** (0.0000)	0.0000** (0.0000)
Price matching \times Non-showrooming	0.0425** (0.0074)	-0.0023 (0.0036)	0.0074 (0.0047)
Price matching \times Showrooming	-0.0622** (0.0080)	-0.0245** (0.0039)	-0.0239** (0.0050)
R ²	0.0333	0.0298	0.0174
Adj. R ²	0.0316	0.0283	0.0165
Num. obs.	34734	34734	34734

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values over a simple model with only fixed effects.

Table 8: Effect of Price Matching on Product Prices: Best Buy Private Label Products

	Best Buy Price Index
Product fixed effects	Included
Month dummies	Included
Month	0.0065** (0.0018)
Month squared	-0.0001** (0.0000)
Price matching \times Non-showrooming	0.0539** (0.0141)
Price matching \times Showrooming	0.1870** (0.0212)
R ²	0.0291
Adj. R ²	0.0275
Num. obs.	5981

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values over a simple model with only fixed effects.

Table 9: Robustness Check: Daily Price Indexes of Best Buy Major Store Products

	Amazon Price Index	Best Buy Price Index	Price Dispersion
Product fixed effects		Included	
Month dummies		Included	
Month	0.0002 (0.0001)	0.0026** (0.0001)	-0.0032** (0.0002)
Month squared	-0.0001** (0.0000)	-0.0001** (0.0000)	0.0000** (0.0000)
Price matching \times Non-showrooming	0.0061** (0.0008)	0.0468** (0.0009)	-0.0407** (0.0013)
Price matching \times Showrooming	-0.0423** (0.0012)	-0.0161** (0.0013)	-0.0237** (0.0019)
R ²	0.1359	0.0908	0.0254
Adj. R ²	0.1356	0.0906	0.0254
Num. obs.	439188	439188	439188

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values with respect to a simple model with only fixed effects.

Table 10: Robustness Check: Logarithm of Monthly Average Prices of Best Buy Major Store Products

	Amazon Price	Best Buy Price
Product fixed effects		Included
Month dummies		Included
Month	0.0013 (0.0008)	0.0040** (0.0008)
Month squared	− 0.0001** (0.0000)	− 0.0001** (0.0000)
Price matching × Non-showrooming	0.0135* (0.0054)	0.0572** (0.0055)
Price matching × Showrooming	− 0.0270** (0.0077)	−0.0047 (0.0078)
R ²	0.1729	0.0866
Adj. R ²	0.1628	0.0815
Num. obs.	15613	15613

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values with respect to a simple model with only fixed effects.

Table 11: Robustness Check: Separate Time Trends for Showrooming vs. Non-showrooming Products

	Amazon Price Index	Best Buy Price Index	Price Dispersion
Product fixed effects		Included	
Month dummies		Included	
Month	0.0000 (0.0007)	0.0026** (0.0007)	− 0.0029** (0.0011)
Month × Showrooming	−0.0013 (0.0016)	−0.0019 (0.0017)	−0.0002 (0.0025)
Month squared	− 0.0001** (0.0000)	− 0.0001** (0.0000)	0.0000 (0.0000)
Month squared × Showrooming	−0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Price matching × Non-showrooming	−0.0006 (0.0046)	0.0414** (0.0050)	− 0.0388** (0.0074)
Price matching × Showrooming	− 0.0247** (0.0079)	−0.0006 (0.0086)	− 0.0276* (0.0128)
R ²	0.1715	0.1035	0.0315
Adj. R ²	0.1615	0.0975	0.0297
Num. obs.	15613	15613	15613

** $p < 0.01$, * $p < 0.05$; R² and Adj. R² are incremental values with respect to a simple model with only fixed effects.

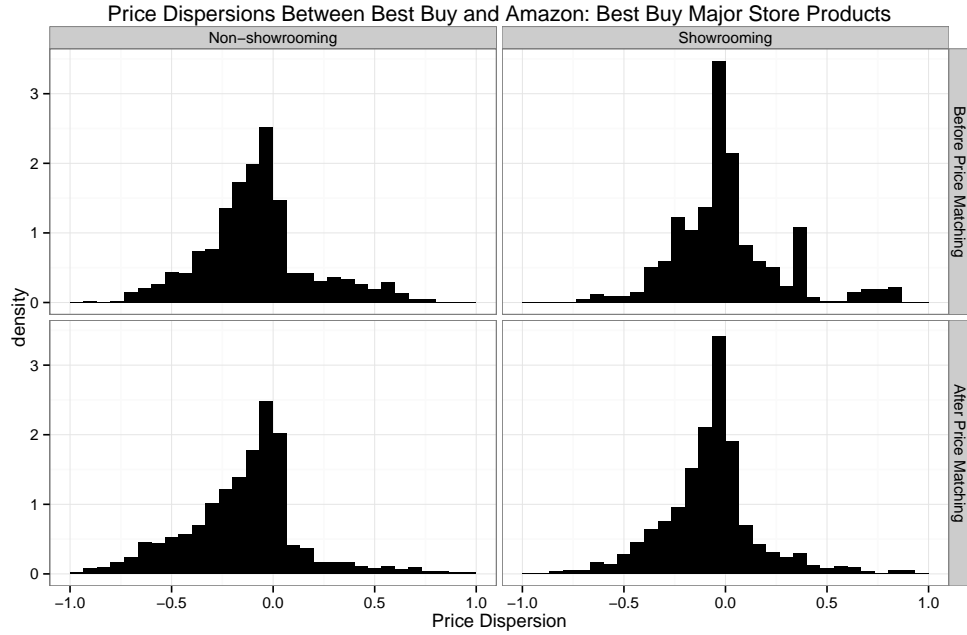


Figure 1: Price Dispersions Between Best Buy and Amazon: Best Buy Major Store Products

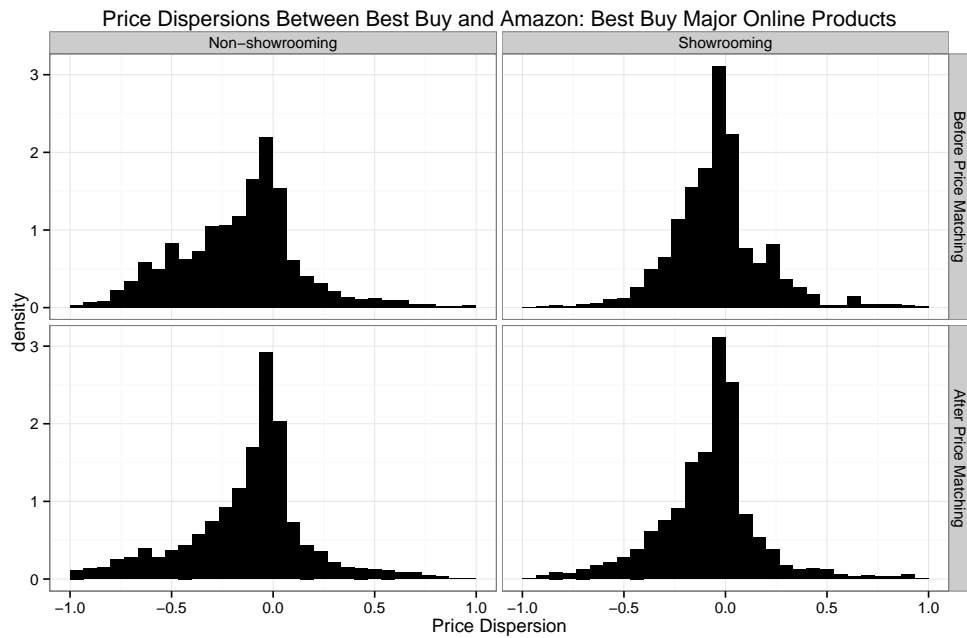


Figure 2: Price Dispersions Between Best Buy and Amazon: Best Buy Major Online Products

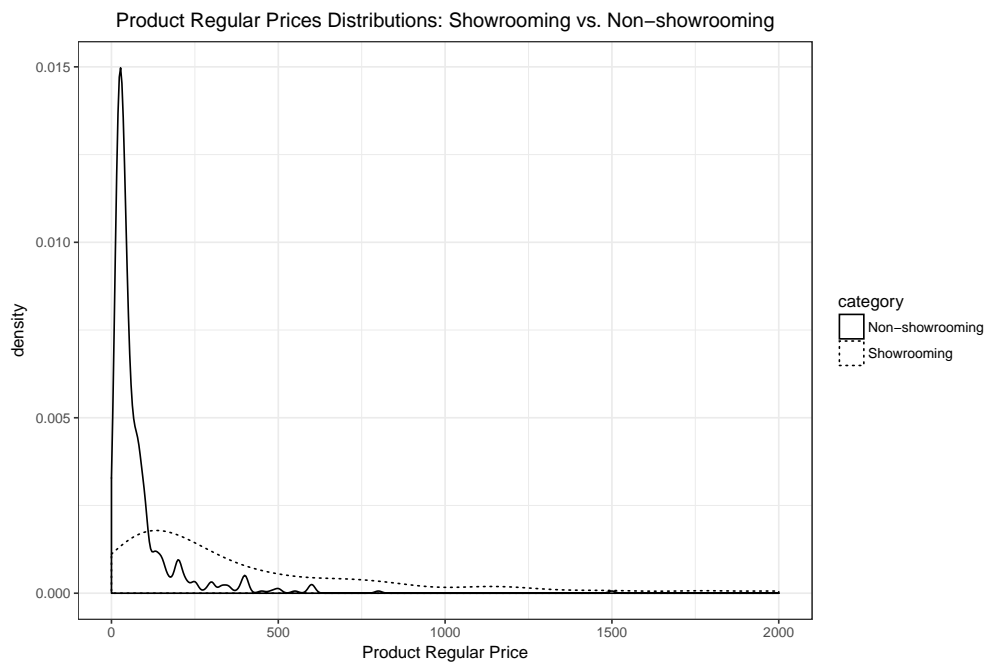


Figure 3: Product Regular Price Distributions: Showrooming vs. Non-showrooming

Appendices

A: Consumer Survey Design

- Q1: “Showrooming” is the practice of examining a product in brick-and-mortar stores such as Best Buy and then buying it from an online retailer such as Amazon. How often do you engage in such practice? (Please rate on a scale of 1 to 5, with 1 being “Never” and 5 being “Always”.)
- Q2: You are shopping for a product that is available at both Best Buy local stores and Amazon.com. For each of the following product categories, how likely are you to check the actual products at a Best Buy local store first before making your purchase decision? (Please rate on a scale of 1 to 7, with one being “extremely unlikely” and 7 being “extremely likely”. If you are unable to answer because you have not heard about the product category or have never shopped for the product category, please choose the “unable to answer” option.)
- Q3: Please indicate the strategy you are most likely to adopt when shopping for the following product categories, assuming that you are only considering between Best Buy and Amazon.
 - Go to a Best Buy local store and buy directly from there
 - Go to Amazon.com and buy directly from there
 - Go to a Best Buy local store first to look at the products and then buy from Amazon
 - Check online information first and buy from a Best Buy local store
 - Other strategy
- Q4: Best Buy has a “Price Match Guarantee (PMG)” policy that matches the prices of all local competitors and six major online competitors, including Amazon.com. If the customer is able to show a proof of a lower price found at a recognized competitor, Best Buy will honour the lower price. Were you aware of this policy? (Yes/No)
- Q5: Taking into account Best Buy’s Price Match Guarantee (PMG), what is the strategy you are most likely to adopt when shopping for each of the following products? Assume again that you are only considering between Best Buy and Amazon.
 - Buy directly from a Best Buy local store without using the PMG policy
 - Buy directly from a Best Buy local store using the PMG if Amazon has a lower price
 - Go to Amazon directly and buy from there
 - Go to a Best Buy local store first to check the actual products and buy from Amazon
 - Check online information first and buy from a Best Buy local store
 - Other strategy

B: Product Classifications

The Table reports the ratings across different product categories. Consumer rate is from Questions 2 in our consumer survey. A higher rating indicates that a consumer is more likely to visit a brick-and-mortar store before making a purchase. Employee rate is from our employee interview, “Y” is for showrooming and “N” is not.

Product Category	Product Classes	Consumer Rate	Employee Rate
Battery	BATTERIES	2.9	N
Car Stereo	CAR STEREO	4.2	Y
Computer Accessories	INPUT DEVICES; COMPUTER ACCESSORIES; MOBILE COMP. ACCESS.; CARDS/COMPONENTS	3.5	N
Computer Monitors	MONITORS	4.9	Y
Desktop Computers	DESK TOP COMPUTERS	4.9	Y
Digital Cameras	DSLR DIGITAL SLR; DIGITAL CAMERAS	4.9	Y
Digital Camcorders	DIGITAL CAMCORDERS	4.6	Y
Digital Camera Accessories	DIGITAL CAMERA ACCY	3.4	N
Digital Memory	MEMORY; USB FLASH DRIVES	2.4	N
DVD Players	BLU RAY PLAYERS; PORTABLE DVD PLAYERS	3.3	N
Flat Panel TV	SMALL FPTV 0-31'; MID FPTV 32-45'; LARGE FPTV 46'	5.6	Y
Game Peripherals	GAME PERIPHERALS	3.8	N
GPS Accessories	GPS ACCESSORIES	3.2	N
GPS Navigation	GPS NAVIGATION	3.9	Y
Hard Drives	HARD DRIVES	2.9	N
Headphones	HEADPHONES-SPKRS	4.9	Y
Home Theater	HOME THEATER IN A BOX	5.1	Y
Home Theater Accessories	HT ACCESSORIES; HT MOUNTS; HOME COMPONENTS	3.4	N
Ink and Paper	INK & PAPER	2.5	N
Kitchen	KITCHEN; TRAFFIC APPLIANCES	4.4	Y
Laptops	LAPTOPS	5.3	Y
Laundry Appliances	LAUNDARY	4.2	Y
Lenses	LENSES	3.6	N
Microwave	MICROWAVE	3.6	Y
MP3/Phone Accessories	MOBILE PHONE ACCY; MP3 ACCY; C-PAB	3.4	N
Network Cables	NETWORKING	2.4	N
Personal Clock/Radio	PERSONAL PORTABLES	3.1	N
Printers	COMPUTER PRINTERS; LASER PRINTERS	3.7	Y
Scanners	SCANNERS	3.6	N
Speakers	SPEAKERS; COMPUTER SPEAKERS	3.8	Y
Tablet	TABLET	5.0	Y
Tablet Accessories	TABLET ACCESSORIES	3.3	N
Video Game Hardware	VIDEO GAME HARDWARE	3.9	Y