

# GLOBAL FRAUD INDEX™

AN IN-DEPTH ANALYSIS OF ECOMMERCE FRAUD ON MERCHANT WEBSITES



**\$57.8  
BILLION**

Amount lost by  
eight identified  
industry segments



**FRAUD IN Q2 2017**

**+5.5%**

Percentage increase  
in total eCommerce fraud  
from Q2 2016 to Q2 2017

**+171.9%**

**COSMETICS AND PERFUMES**

Increase in eCommerce fraud  
from Q2 2016 to Q2 2017



**+11.9%**

**CONSUMER ELECTRONICS**

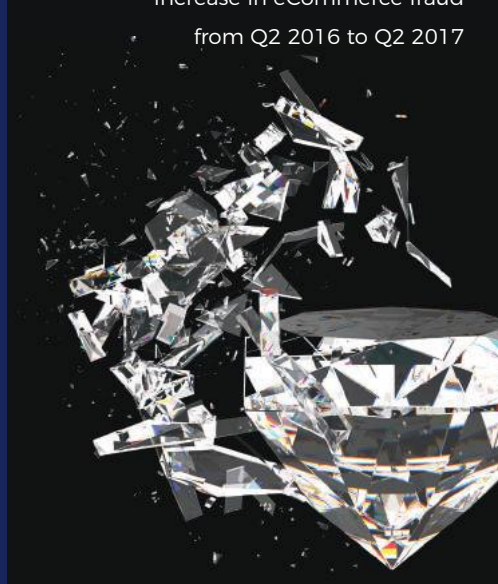
Increase in eCommerce fraud  
from Q2 2016 to Q2 2017



**+36.7%**

**JEWELRY AND PRECIOUS METALS**

Increase in eCommerce fraud  
from Q2 2016 to Q2 2017



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## ACKNOWLEDGMENT

The Global Fraud Index™ was done in collaboration with Signifyd and we are grateful for their support and insights. [PYMNTS.com](https://pymnts.com) retains full editorial control over the findings presented as well as the methodology and data analysis.



## GLOBAL FRAUD INDEX SNAPSHOT Q2 2017

### Overall fraud is increasing

eCommerce fraud peaked during the 2015 holiday season. Since Q1 2016, fraud across all industries has declined except for in the Apparel, Department Stores and Jewelry and Precious Metals categories.

However, fraud still accounts for billions of dollars lost, and perhaps even more, if one includes legitimate transactions incorrectly declined as fraudulent.

**3.64%**

Total fraud in Q2 2016

**3.85%**

Total fraud in Q2 2017

**+5.5%**

Increase in total eCommerce fraud from Q2 2016 to Q2 2017

**\$57.8  
BILLION**

Value of potential fraud in the eight industries we studied

### As expected, fraud rates rise significantly as order values increase

In Q2 2017, orders exceeding \$500 had a total fraud rate of 11.64 percent, which is more than 22 times higher than orders totaling less than \$100. Orders totaling less than \$100 had a total fraud rate of 0.52 percent.

Q2 2017: Orders less than \$100: **0.52 PERCENT**

Q2 2017: Orders \$100 to \$500: **4.02 PERCENT**

Q2 2017: Orders greater than \$500: **11.64 PERCENT**





## CONSUMER ELECTRONICS

8.62%

Total fraud in Q2 2016

9.65%

Total fraud in Q2 2017

**+11.9%**

Increase in eCommerce fraud for **Consumer Electronics** from Q2 2016 to Q2 2017



## COSMETICS AND PERFUMES

1.45%

Total fraud in Q2 2016

3.95%

Total fraud in Q2 2017

**+171.9%**

Increase in eCommerce fraud for **Cosmetics and Perfumes** from Q2 2016 to Q2 2017



## JEWELRY AND PRECIOUS METALS

10.70%

Total fraud in Q2 2016

14.62%

Total fraud in Q2 2017

**+36.7%**

Increase in eCommerce fraud for **Jewelry and Precious Metals** from Q2 2016 to Q2 2017

### Account Takeover Stats

Account takeover fraud losses are rising across five of the eight industries we cover:



APPAREL

**0.65%**

increase



CONSUMER  
ELECTRONICS

**0.53%**

increase



COSMETICS AND  
PERFUMES

**0.54%**

increase



DEPARTMENT  
STORES

**0.10%**

increase



HEALTH, LEISURE  
AND HOBBIES

**0.43%**

increase

## THE GLOBAL FRAUD INDEX: EXECUTIVE SUMMARY

**T**he 2017 Global Fraud Index is a collaboration between PYMNTS.com and Signifyd that tracks, analyzes and reports on the changing state of fraud by the examining transactions of more than 5,000 eCommerce merchants across North America, Asia and Europe.

This quarter, we observed a disturbing trend. While stolen financials have long remained fraudsters' top choice, over the last three months, **account takeovers have become perpetrators' new go-to.**

In Q2 2017 alone, our findings show account takeover fraud rose by 45 percent, costing retailers \$3.3 billion in losses. This is unfortunately a trend that is unlikely to slow down, courtesy of the Equifax breach which has compromised the personal data of as many as 143 million people, nearly 45 percent of the U.S. population or nearly all American adults.

We're still in the early days of the data breach's aftermath, and it remains to be seen how much ammunition it gave to fraudsters. Early reports indicate account takeover may have increased by 15 percent during the months of August and September, the months in which the hackers stole private information.<sup>1</sup>

The news has since been flooded with stories about other data breaches. Deloitte was said to have suffered an attack in March, but estimates the breach may have begun as early as fall of 2016.<sup>2</sup> Fast-food chain Sonic reported in late September it had suffered from a cyberattack resulting in approximately 5 million credit card numbers stolen online from customers.<sup>3</sup> While some might say that's an excuse to eat healthy, Whole Foods Market also suffered a breach affecting its taprooms and restaurants.<sup>4</sup> And, if that wasn't already enough, the U.S. Securities and Exchange Commission (SEC) announced it had discovered a data breach in September and still did not know how large it was.<sup>5</sup>

For our analysis, we have classified eCommerce fraud in three categories: friendly fraud, account takeover and stolen financials. Overall, stolen financials account for 91 percent of all fraud, account takeover for 7 percent and friendly fraud for 2 percent.

<sup>1</sup> Sinclair, Nicole. Expert: fraudsters may already be trying to use breached Equifax data. Yahoo Finance. Sept. 12, 2017. <https://finance.yahoo.com/news/expert-fraudsters-may-already-trying-use-breached-equifax-data-172337733.html>. Accessed September 2017.

<sup>2</sup> Hopkins, Nick. Deloitte hit by cyber-attack revealing clients' secret emails. The Guardian. Sept. 25, 2017. <https://www.theguardian.com/business/2017/sep/25/deloitte-hit-by-cyber-attack-revealing-clients-secret-emails>. Accessed Oct. 2017.

<sup>3</sup> Willis, David. Sonic drive-in hit by security breach. USA Today. Sept. 27, 2017. <https://www.usatoday.com/story/tech/2017/09/27/sonic-drive-hit-security-breach/708850001/>. Accessed Oct. 2017.

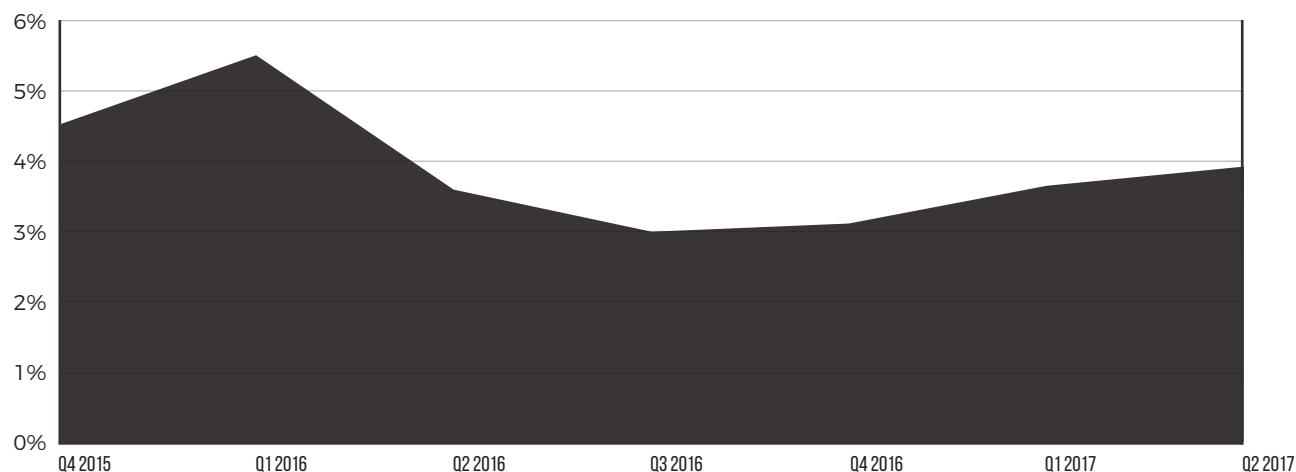
<sup>4</sup> LaVito, Angelica. Whole Foods suffers data breach in some stores. CNBC. Sept. 28, 2017. <https://www.cnbc.com/2017/09/28/whole-foods-suffers-data-breach-in-some-stores.html>. Accessed Oct. 2017.

<sup>5</sup> Lane, Sylvan. SEC chief: full extent of data breach not known. Thehill.com. Sept. 26, 2017. <http://thehill.com/policy/finance/352429-sec-chairman-full-impact-of-2016-hack-will-take-substantial-time-to-reveal>. Accessed Oct. 2017.

## TOTAL FRAUD

Good news. Despite the Equifax breach, fraud is still well below Q4 2015 and Q1 2016 rates (when EMV made physical point-of-sale fraud less attractive) and hit a low during Q3 2016. **It's been rising steadily over the last three quarters, however, which is concerning.**

FIGURE 1. TOTAL FRAUD

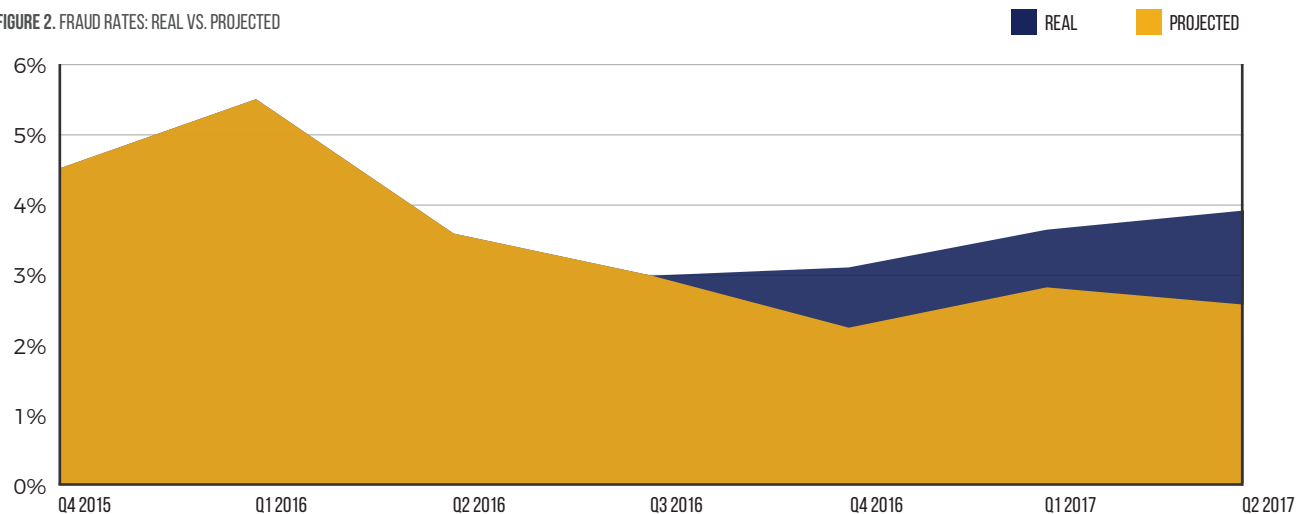


A couple of things are worth calling out, here.

Fraud rates typically decrease during the holiday season, making Q4 look artificially good because merchants see many more “good” transactions during the holidays. That means the fraud rate usually drops off, only to pick back up again in Q1.

We did not see that trend this year. We normally would have projected a fraud rate drop to 2.27 percent in Q4 2016 from 2.98 percent during Q3, but instead, it jumped to 3.07 percent.

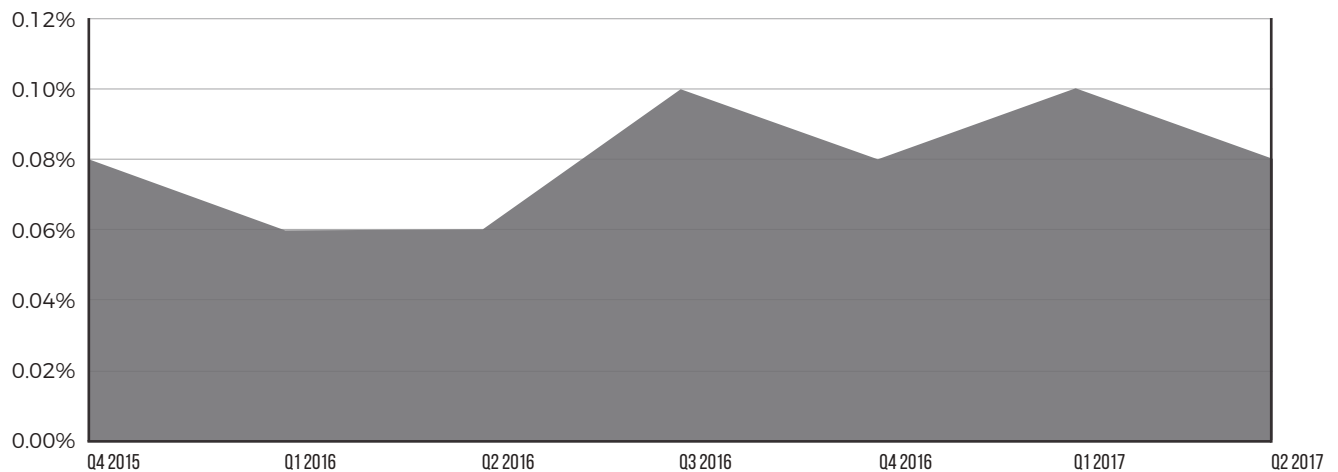
FIGURE 2. FRAUD RATES: REAL VS. PROJECTED



### FRIENDLY FRAUD

Friendly fraud is getting decidedly less friendly. It occurs when a consumer makes a legitimate purchase and subsequently requests a chargeback after receiving the purchased goods or services. In this area, we saw signs of improvement. In Q2 2017, **friendly fraud declined** to 0.08 percent from 0.10 percent in Q1.

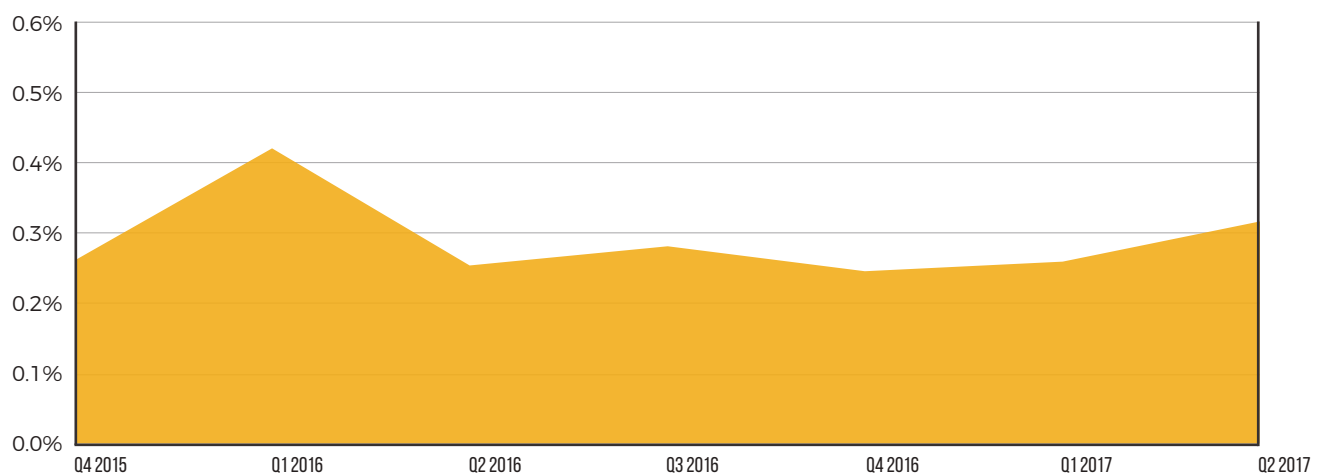
FIGURE 3. FRIENDLY FRAUD



### ACCOUNT TAKEOVER

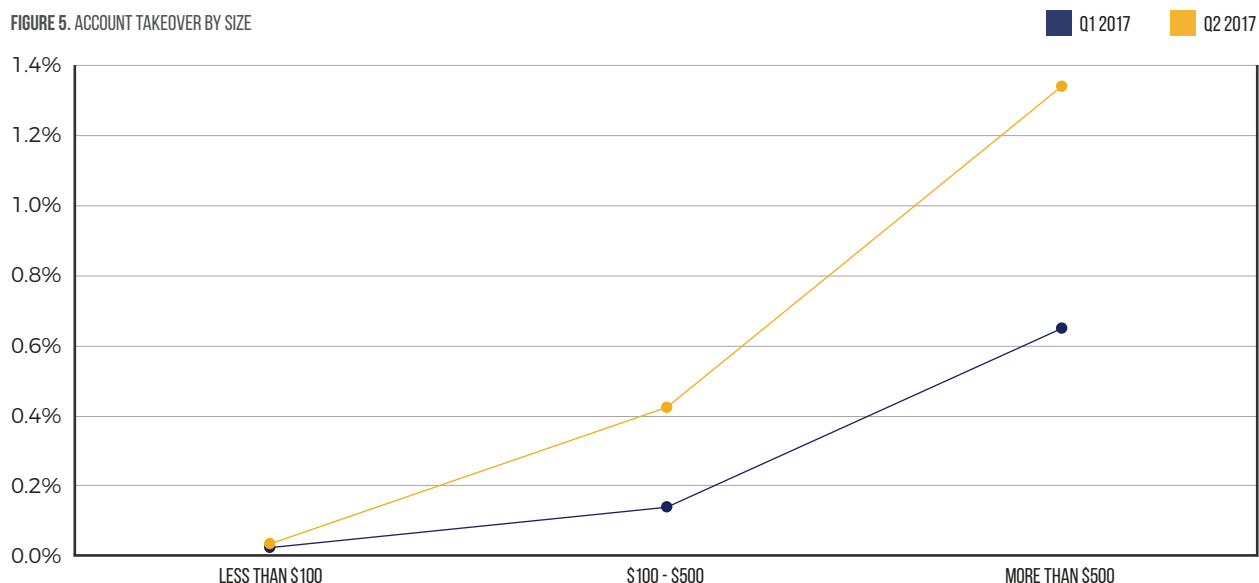
Thanks to a string of data breaches, criminals are succeeding in gaining control of consumer accounts, a trend that cost **merchants \$3.3 billion** in Q2 2017. In fact, account takeover saw a 45 percent jump from 0.2 percent in Q1 to 0.26 percent in Q2.

FIGURE 4. ACCOUNT TAKEOVER

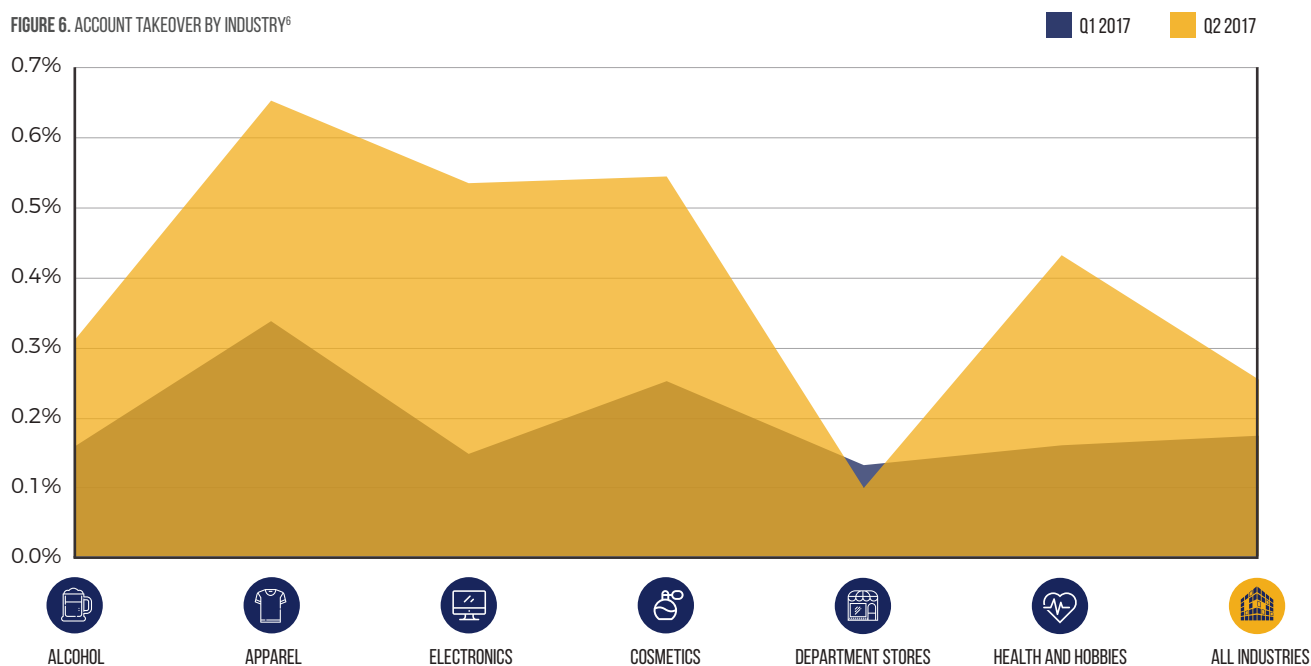


Account Takeover increases were particularly prolific for transactions between \$100 and \$500, growing by 151 percent. Account takeovers for transactions exceeding \$500 more than doubled and transactions below \$100 grew by 44.9 percent.

FIGURE 5. ACCOUNT TAKEOVER BY SIZE



Overall, growth in account takeovers ranged from 248 percent (Consumer Electronics, which increased from 0.15 percent to 0.53 percent) to 89 percent (Apparel, which increased from 0.34 percent to 0.65 percent). However, one industry with declining account takeover rates was Department Stores, a sector which saw a 75 percent decrease.

FIGURE 6. ACCOUNT TAKEOVER BY INDUSTRY<sup>6</sup>

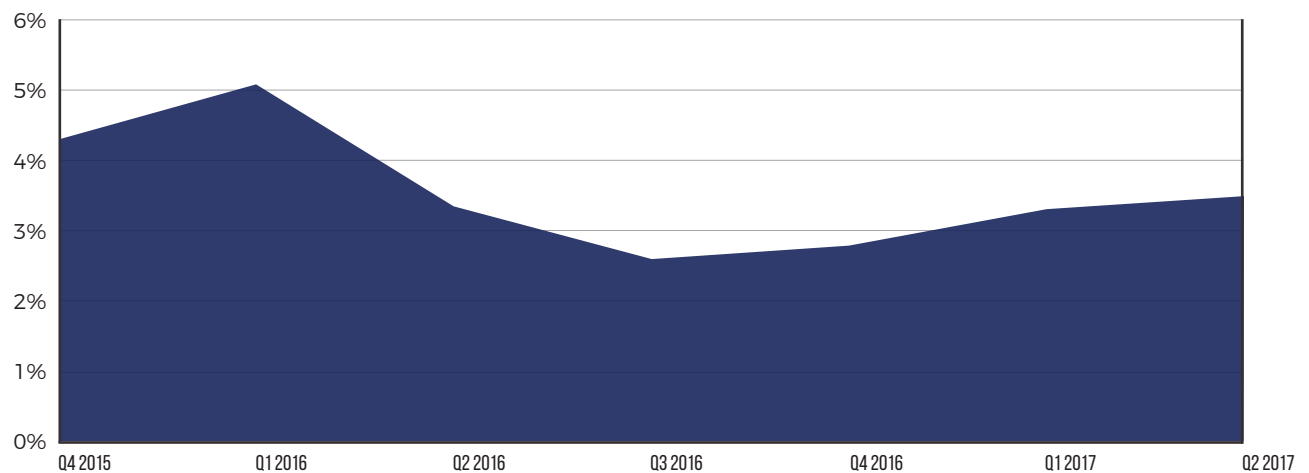
<sup>1</sup> The categories of Furniture, Appliances and Home Improvement; Jewelry and Precious Metals and Other were removed from this part of the analysis due to some behavioral anomalies.



## STOLEN FINANCIALS

For some time now, fraudsters have been purchasing stolen financials — information that is readily available on the black market — to create new accounts or to use “Guest” checkouts on merchant sites. The stolen financials category continued to increase for the fourth quarter in a row, reaching 3.5 percent in Q2 2017 and up from 3.3 percent in Q1 2017.

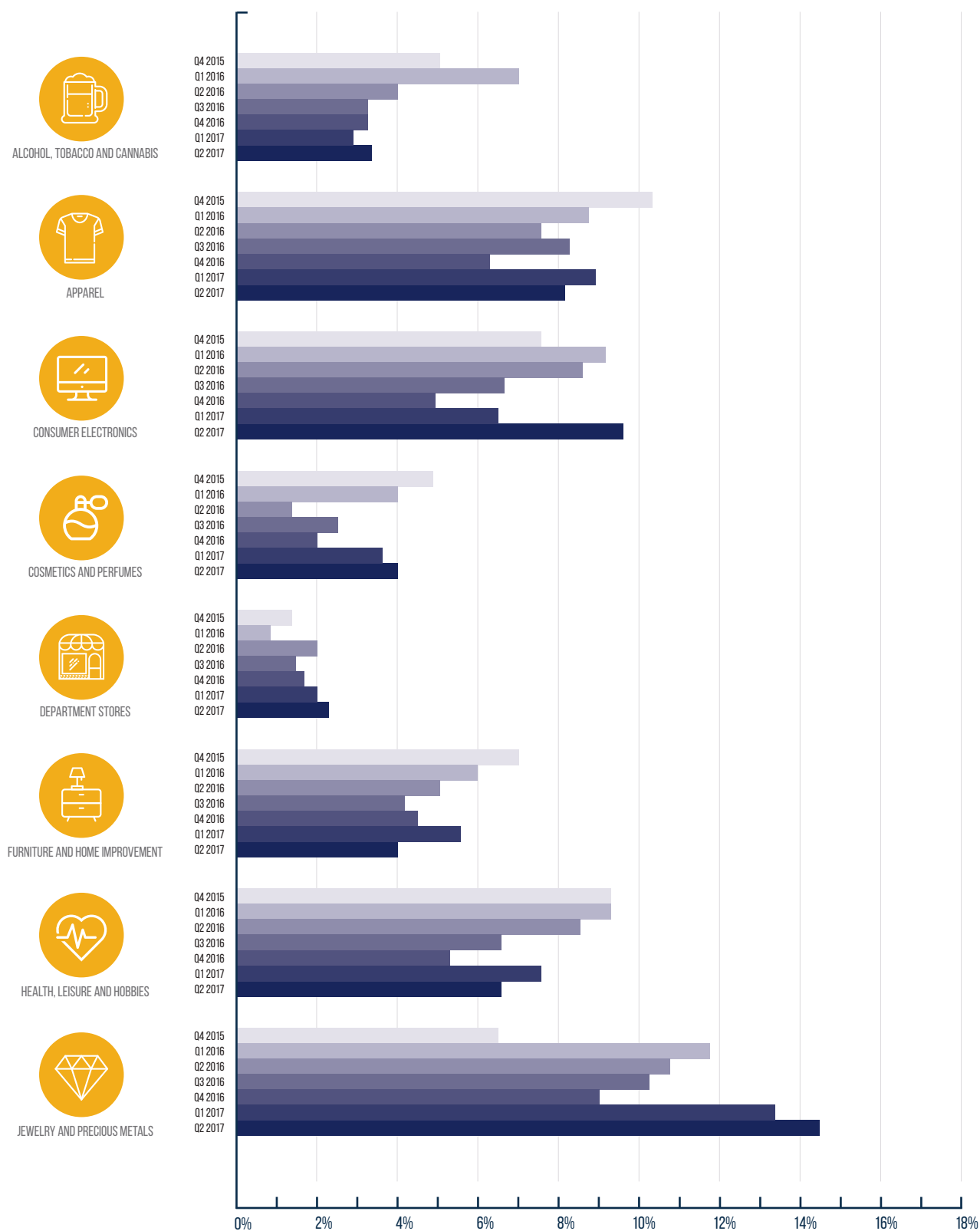
FIGURE 7. STOLEN FINANCIALS



Meanwhile, a look at fraud rates across eight different industries reveals fraudsters are increasingly casting a wider net. In Q2 2017, fraud rates increased in five industries, up from three industries last quarter.

Last quarter, only two industries saw fraud rates increase significantly — Department Stores and Jewelry and Precious Metals — while Apparel had only a slight increase. However, this quarter, five industries saw their fraud rates go up: Alcohol, Tobacco and Cannabis; Consumer Electronics; Cosmetics and Perfumes; Department Stores; and Jewelry and Precious Metals.

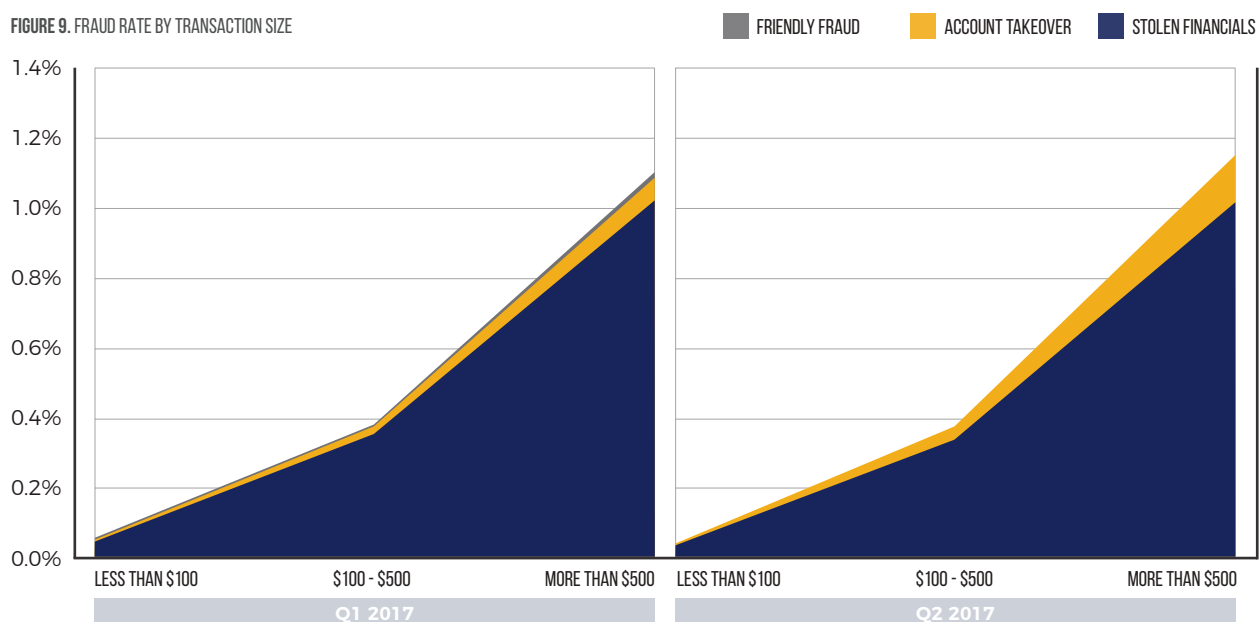
FIGURE 8. TOTAL FRAUD BY INDUSTRY



And, as fraudsters target more industries, they seem emboldened to go after larger-value transactions. **In Q2 2017, fraud for transactions below \$500 decreased while fraud for transactions exceeding \$500 increased.**

Last quarter, we reported that higher-value transactions have a fraud rate that's more than 22 times higher than lower-value transactions – and that trend continued this quarter. Fraud rates for transactions below \$500 decreased, while the fraud rate for transactions exceeding \$500 increased from 10.93 percent to 11.47 percent.

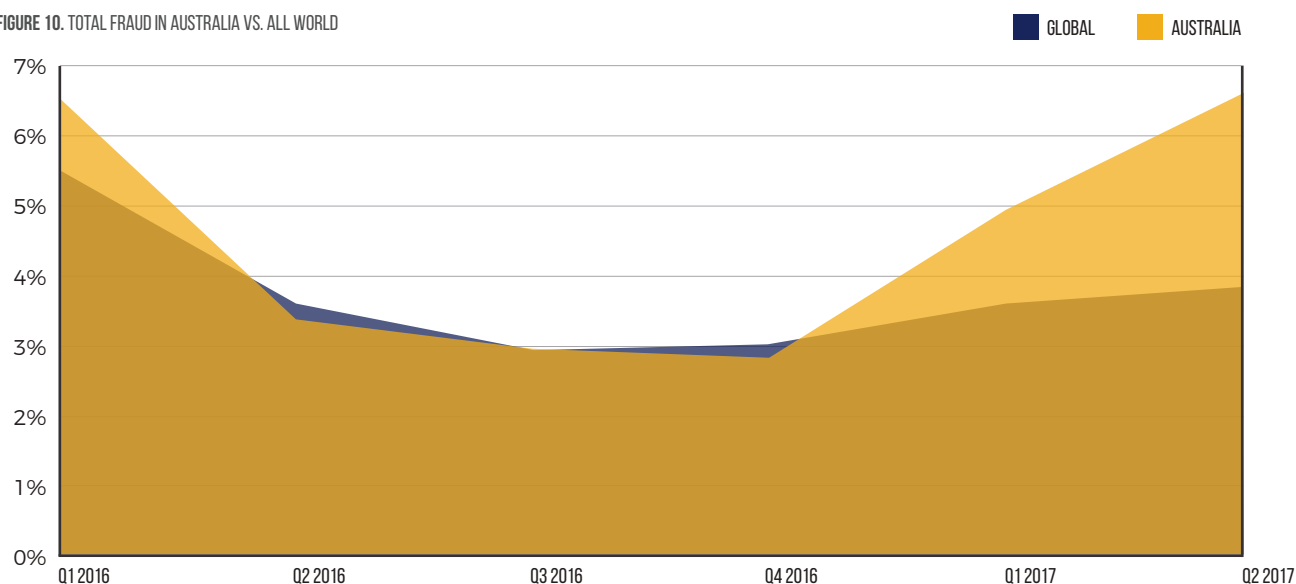
FIGURE 9. FRAUD RATE BY TRANSACTION SIZE



## FRAUD IN AUSTRALIA

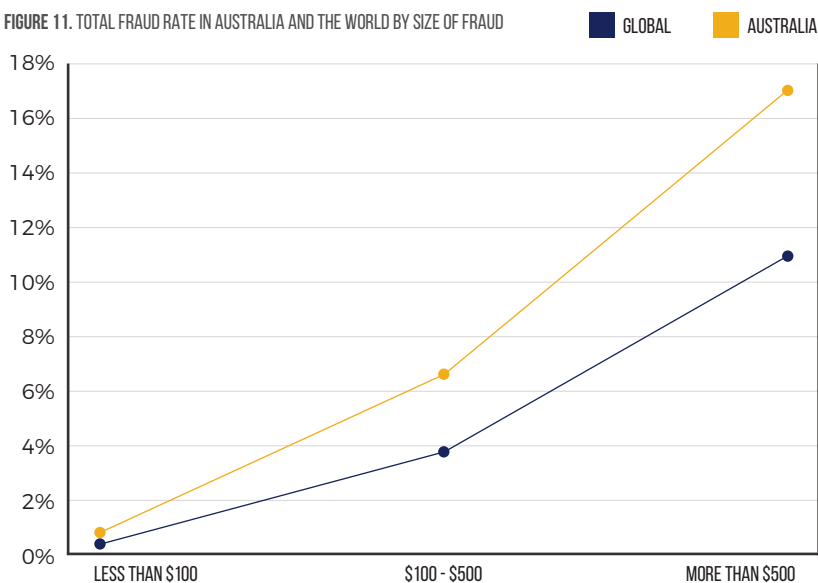
**T**his quarter, we traveled to Australia to take a microscopic look at fraud levels in the country, which is seemingly becoming a new hotspot for fraudsters. Since Q2 2016, Australia's fraud rate has doubled from 3.32 percent to 6.62 percent in the most recent quarter.

FIGURE 10. TOTAL FRAUD IN AUSTRALIA VS. ALL WORLD



Overall, Australia's fraud rate is much higher than that of the rest of the world. For transactions below \$100, Australia's fraud rate is 42 percent higher than the world average. Australia's fraud rate is 68 percent higher than the rest of the world for transactions between \$100 and \$500 and 56 percent higher than the world average for transactions exceeding \$500.

FIGURE 11. TOTAL FRAUD RATE IN AUSTRALIA AND THE WORLD BY SIZE OF FRAUD





# FRAUD

BY  
INDUSTRY





## FRAUD BY INDUSTRY

In this report, we will further monitor how fraud attempts are trending on global eCommerce merchant websites. To do so, we've reviewed eight main industries, including: Alcohol, Tobacco and Cannabis; Apparel; Consumer Electronics; Cosmetics and Perfumes; Department Stores; Furniture, Appliances and Home Improvement; Health, Leisure and Hobbies; and Jewelry and Precious Metals.

In this section, we take a deeper dive into each industry. We divided our data into eight groups, which account for 59.6 percent of all eCommerce sales in terms of the total dollars spent.

TABLE 1. PERCENTAGE OF FRAUD REPRESENTED BY MAIN INDUSTRIES

MERCHANT INDUSTRY SEGMENT	% OF TOTAL ECOMMERCE SALES
Alcohol, Tobacco and Cannabis	0.2%
Apparel	10.9%
Consumer Electronics	8.4%
Cosmetics and Perfumes	0.3%
Department Stores	20.2%
Furniture and Home Improvement	8.3%
Health, Leisure and Hobbies	10.2%
Jewelry and Precious Metals	1.3%
<b>All Tracked Industries</b>	<b>59.6%</b>



### MERCHANT INDUSTRY SEGMENT



ALCOHOL, TOBACCO AND CANNABIS



DEPARTMENT STORES



APPAREL



FURNITURE AND HOME IMPROVEMENT



CONSUMER ELECTRONICS



HEALTH, LEISURE AND HOBBIES



COSMETICS AND PERFUMES



JEWELRY AND PRECIOUS METALS

# +91.26%

Increase in **Account Takeover** fraud  
from Q1 2017 to Q2 2017

15



## ALCOHOL, TOBACCO AND CANNABIS

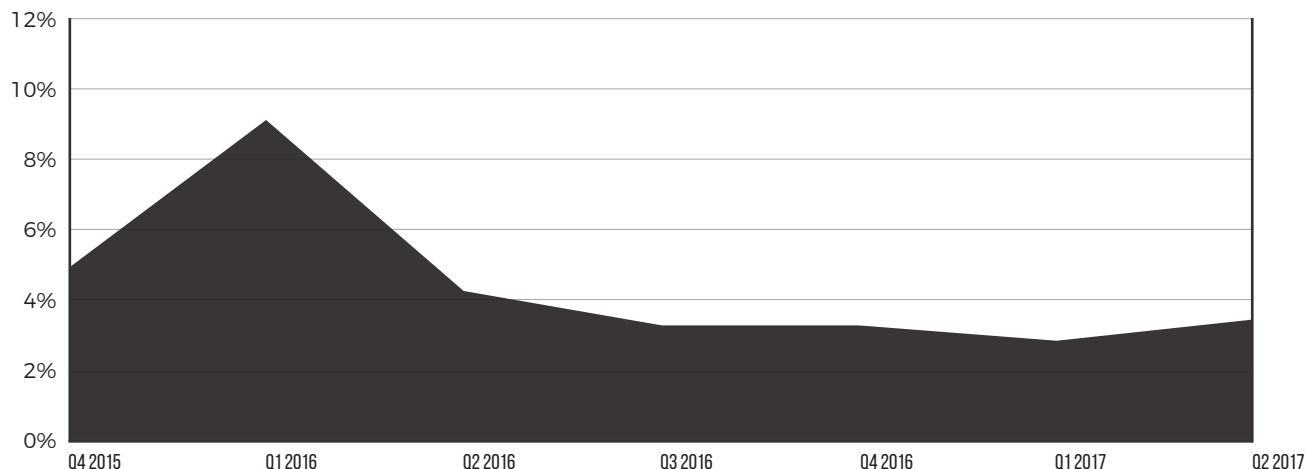
**T**he Alcohol, Tobacco and Cannabis industry includes merchants selling these substances and their related accessories and paraphernalia. For cannabis specifically, the data was heavily sourced from vendors selling accessories/paraphernalia, as there are more of these vendors online than vendors selling the dry herb or its derivatives.

Globally, most alcohol is still purchased at brick-and-mortar supermarkets as part of a consumer's grocery trip. However, online alcohol sales have boomed worldwide over the past few years. In China, online sales for wine now make up almost half of total wine sales, and Amazon Japan offers a staggering 150,000 different choices for alcoholic beverages. In Australia, online sales will contribute an estimated 12.6 percent to the industry this year. Given the growth in demand, imported wine and spirits brands are likely to flourish during the coming years.

Meanwhile, the global e-cigarette and vaporizer market is expected to experience double-digit growth over the next 10 years, particularly in China and India. However, this growth will be shaped by regulatory developments, so it's difficult to pinpoint an exact growth figure.

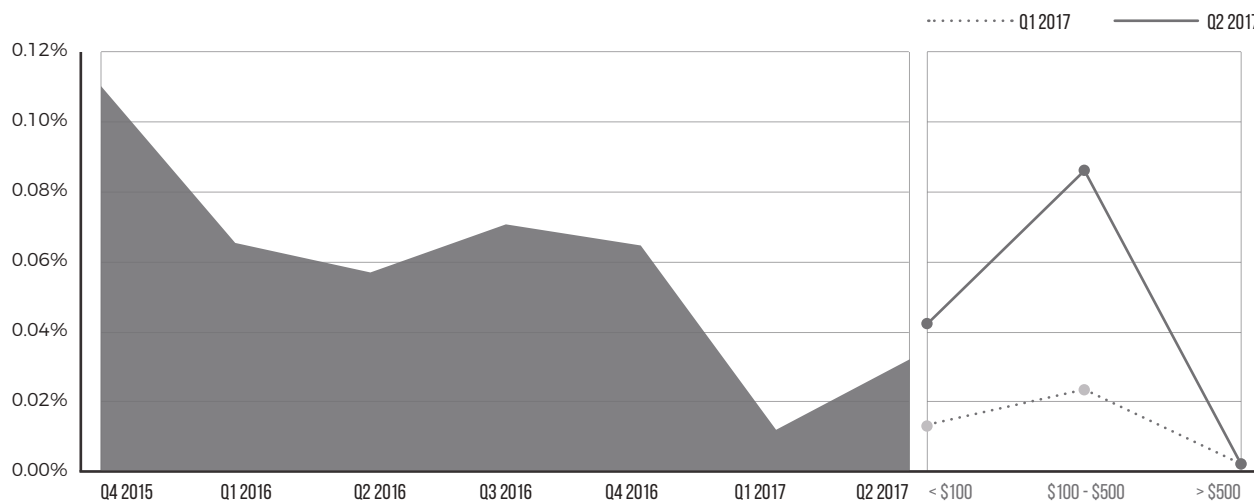
Overall, fraud in this industry has declined since Q1 2016, but it jumped this quarter from 2.81 percent to 3.32 percent. Part of the spike in Q1 2016 shown in the graph above can be attributed to the early 2016 emergence of several new tobacco and cannabis products and boom in demand. As demand has since dropped, so has fraud — until now, that is.

FIGURE 12. TOTAL FRAUD — ALCOHOL, TOBACCO AND CANNABIS



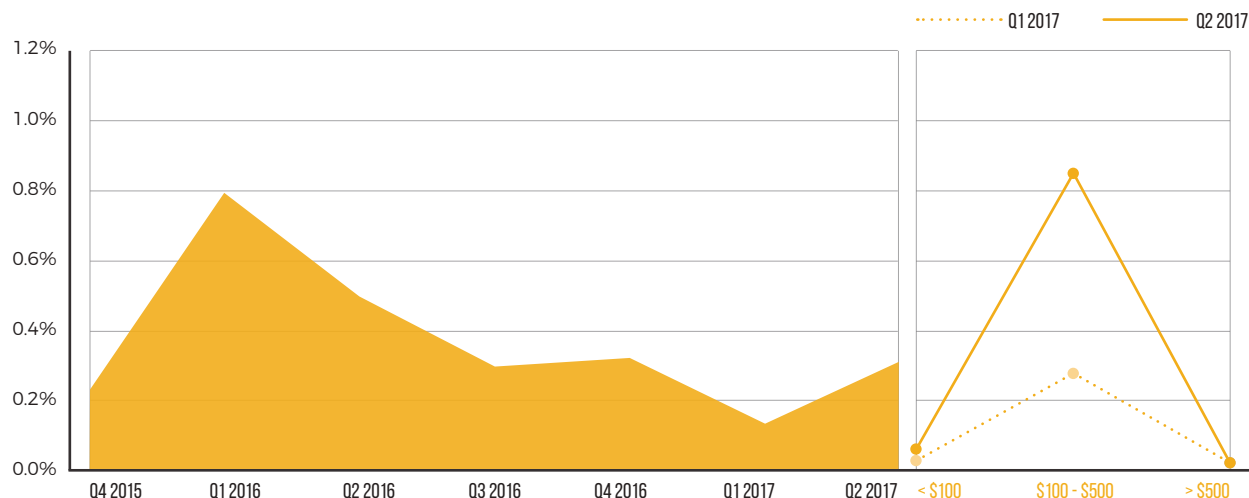
### FRIENDLY FRAUD

Last quarter, friendly fraud for Alcohol, Tobacco and Cannabis dropped dramatically from 0.07 percent in Q1 2016 to 0.01 percent. This quarter, the percentage increased to 0.03. In particular, this growth is driven by an increase from 0.2 percent to 0.9 percent in fraud for transactions between \$100 and \$500.



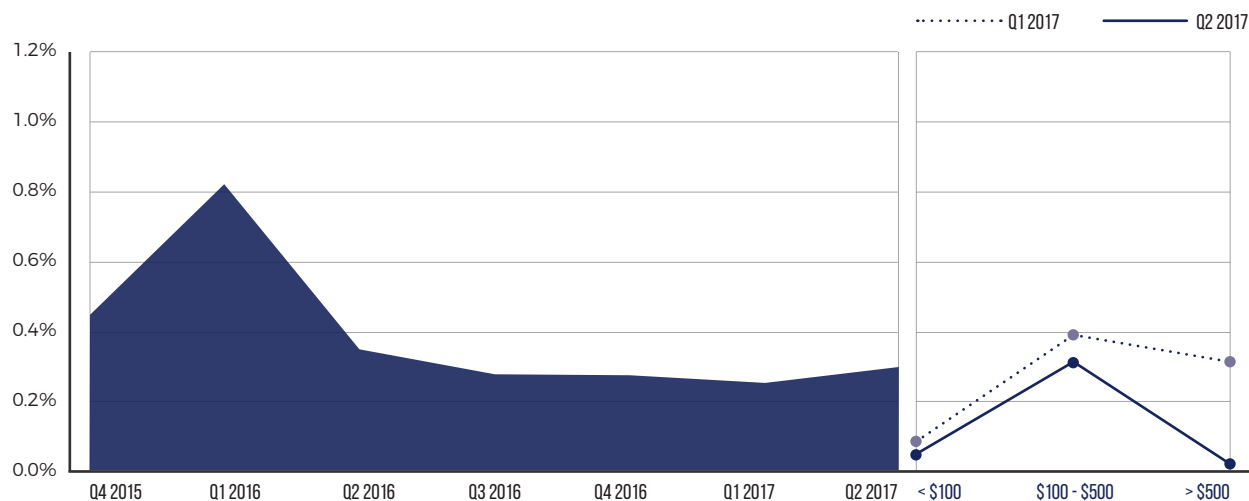
## ACCOUNT TAKEOVER

Account takeover rates also dropped last quarter from 0.79 percent to 0.16 percent. However, this quarter, the fraud rate returned to 0.31 percent, a percentage more in line with overall account takeover rates. For transactions between \$100 and \$500, account takeover fraud jumped from 0.28 percent to 0.86 percent.



## STOLEN FINANCIALS

In keeping with this quarter's trend of a slight increase following reductions during Q1, stolen financials fraud increased to 2.97 percent. Meanwhile, last quarter stolen financials fraud dropped from 2.85 percent to 2.64 percent. The good news is this type of fraud has dropped dramatically for orders exceeding \$500.



# +378.5%

Increase in **Account Takeover**  
fraud for orders over \$500  
from Q1 2017 to Q2 2017

18



## APPAREL

**A**pparel covers all clothing, shoes, and accessories such as belts, hats and sunglasses. Given the universal market for such goods, the range of products and brands in our analysis includes discount stores, global designer brands and everything in between.

Globally, more and more people are shopping online for apparel — a trend that has redefined the industry. Given the number of retail stores that closed in 2017, one might think brick-and-mortar stores were dead, or at least desperately ill. But, industry experts agree this is not the case. Instead, they predict physical stores will move to the showroom model, much like furniture stores. Brands are already testing new concepts. For example, [Nordstrom Local](#), a “micro-concept” store, will be offering services like personal styling and manicures but no in-store products. Customers will be able to purchase clothing online and pick it up at the curbside, or have it transferred from another store by a personal stylist.

In the U.S., revenue from online shopping in apparel, footwear and accessories is [projected to increase](#) from 10 percent to 17 percent through 2017. In particular, the [luxury sector](#) is evolving with “affordable luxury” and celebrity-designed fashion attracting larger audiences. “Athleisure,” which combines athletic and leisure wear, grew 8 percent in 2016 — more than double the growth of any other apparel category.

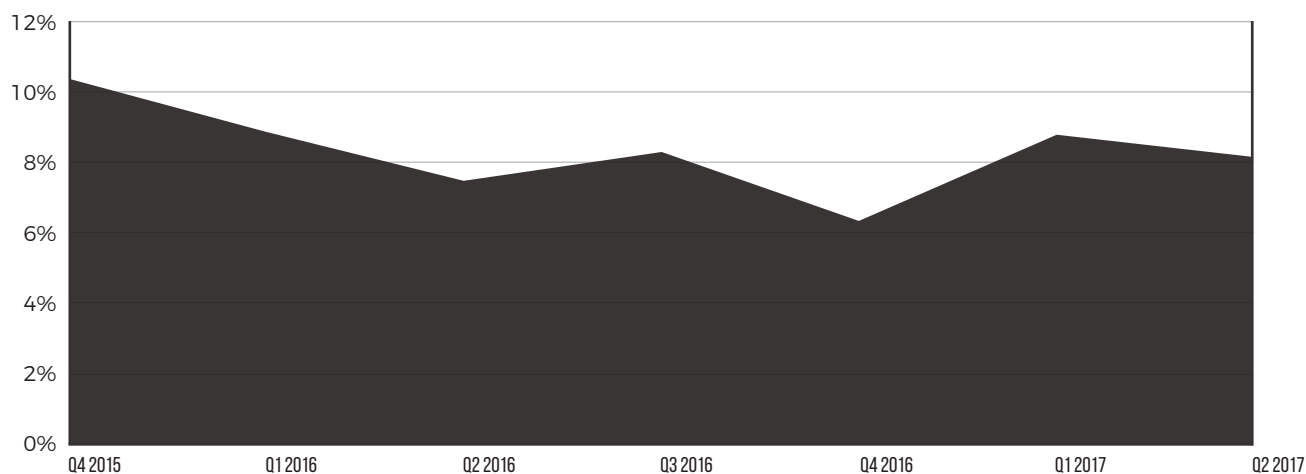


The trend is fueled by millennials' more relaxed dress code standards and the busy lifestyle of the modern worker, and Lululemon, Under Armour and Nike are among the brands that brought athleisure to prominence. Other brands have jumped on the bandwagon, too, including Gap and J. Crew. In fact, McKinsey [estimates the category](#) will maintain 6.5 to 7.5 percent sales growth in the next year. Athleisure is growing even faster in countries like China, Japan and India, where industry estimates say the category is [growing](#) at a rate of 20 to 25 percent annually.

Growing demand and a constant supply of new online buyers is the perfect mix for fraudsters, unfortunately. In luxury apparel, a growing trend of luxury manufacturers releasing limited numbers of highly coveted products is creating hotspots for fraud. Resellers charged upward of \$1,500 for Kanye West's Yeezy brand sneakers, more than seven times the original retail price. Numbers like these, combined with short supply, create a strong incentive for perpetrators.

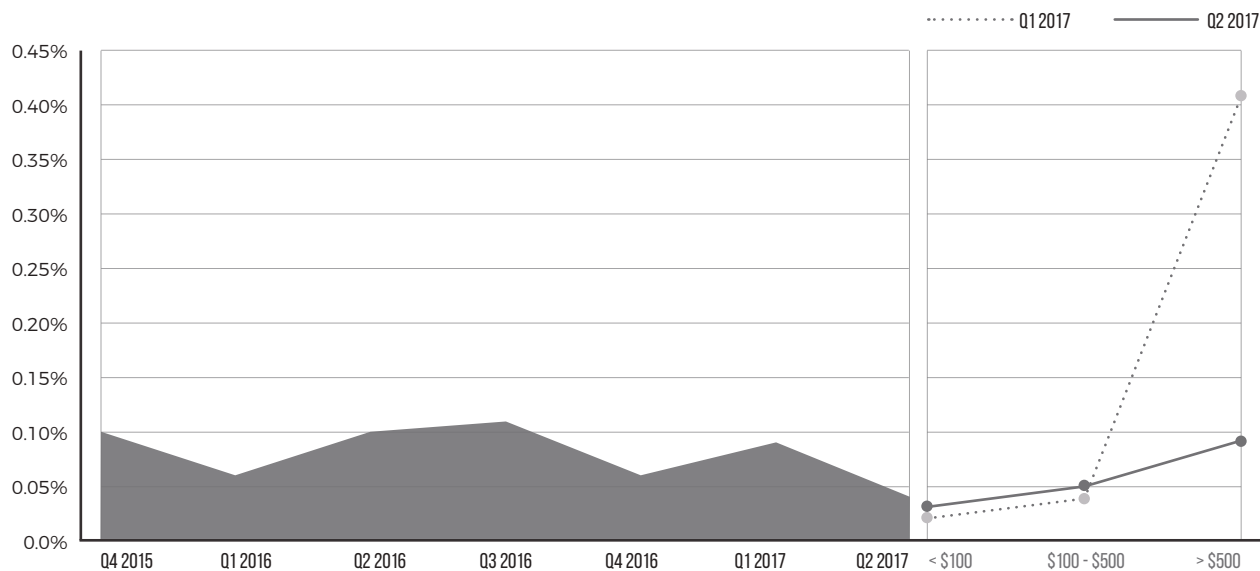
This quarter, apparel eCommerce merchants succeeded in their attempts to reduce fraud losses as fraud rates in Apparel dropped from 8.89 percent to 8.13 percent. It may not seem like much, but it's a victory as fraudsters had made Apparel a favorite target during 2016. Fraud from orders exceeding \$500 decreased from 21.89 percent to 21.37 percent. For orders between \$100 and \$500, fraud decreased from 8.05 percent to 7.32 percent. However, for purchases below \$100, fraud increased slightly from 1.53 percent to 1.59 percent.

FIGURE 13. TOTAL FRAUD — APPAREL (CLOTHING, ACCESSORIES, SHOES, SUNGLASSES)



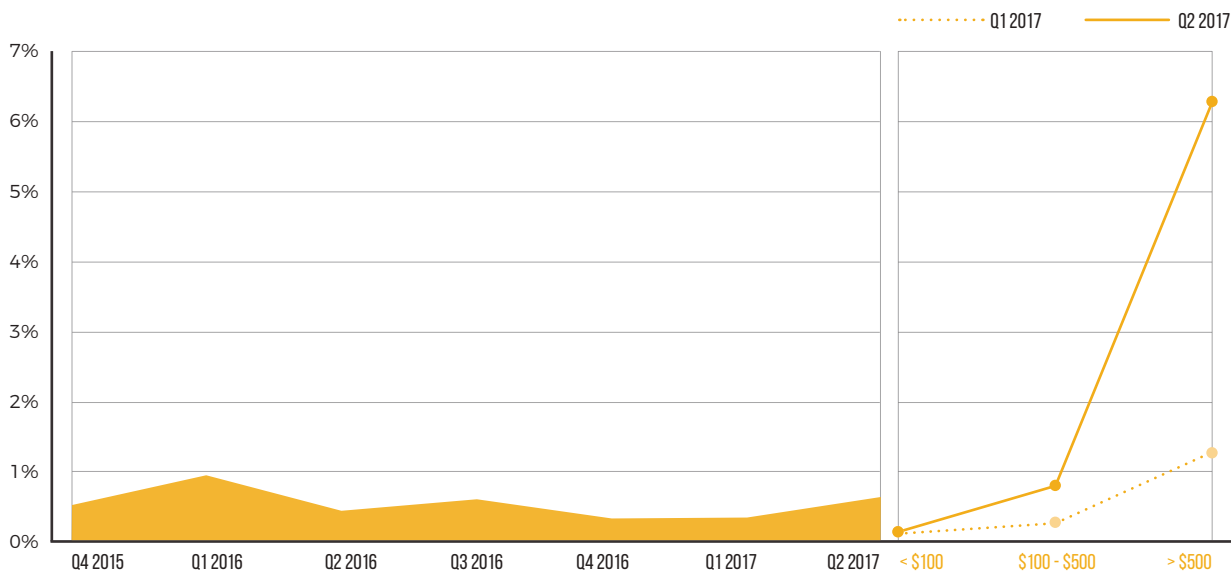
### FRIENDLY FRAUD

Friendly fraud has decreased from 0.9 percent last quarter to 0.04 percent this quarter. The real victory was the dramatically decreased rate of friendly fraud on orders exceeding \$500 from 0.41 percent last quarter to 0.09 percent.



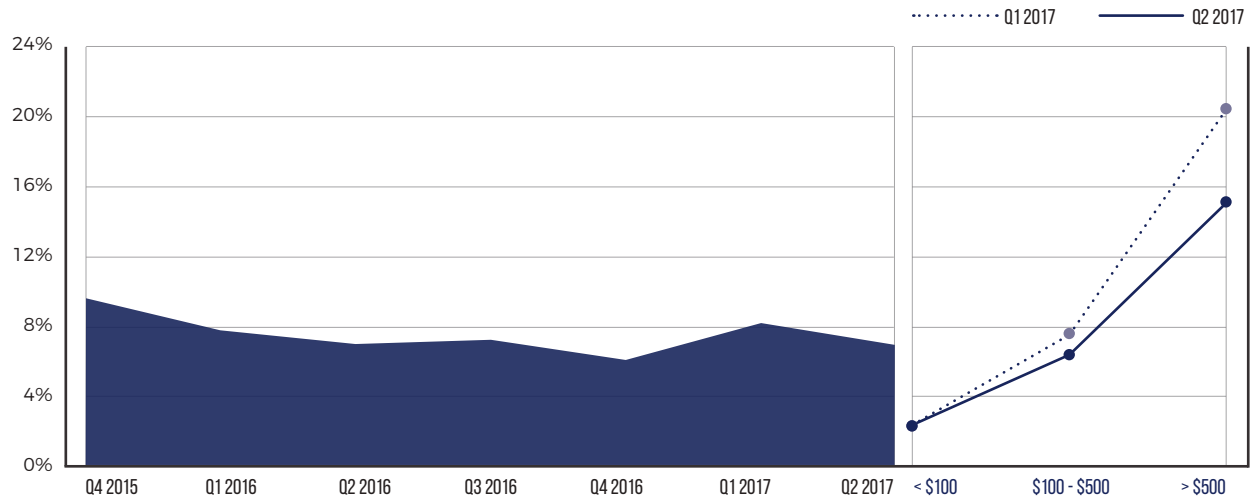
### ACCOUNT TAKEOVER

Meanwhile, account takeover saw fraud rates increase from 0.34 percent last quarter to 0.65 percent during this quarter following two quarters of no variation. Account takeovers for orders exceeding \$500 increased dramatically, from 1.3 percent to 6.22 percent.



STOLEN FINANCIALS

Stolen financials fraud for apparel decreased from 8.45 percent last quarter to 7.45 percent this quarter. For orders between \$100 and \$500, the Apparel industry saw the highest amount of stolen financials fraud compared to all other industries (6.47 percent). For orders above \$500, only Consumer Electronics and Jewelry saw a higher stolen financials rate.



# +11.9%

Increase in **total eCommerce** fraud  
from Q2 2016 to Q2 2017

22



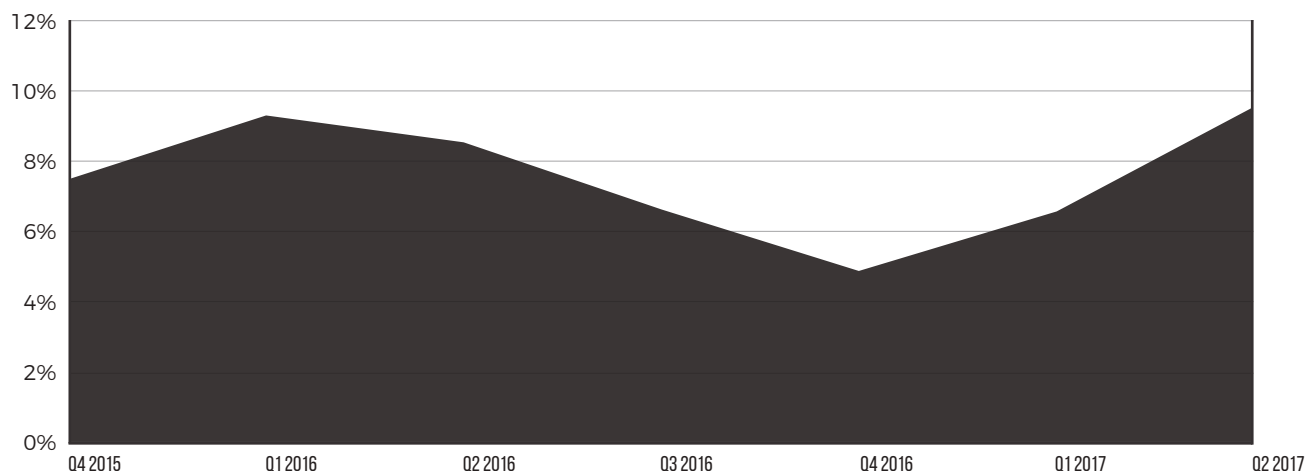
## CONSUMER ELECTRONICS

**C**onsumer Electronics covers items as varied as televisions, laptops, digital cameras, flash drives, drones, electric scooters, hover boards and wireless earbuds. Excluding automobiles, if it's powered by batteries, it'll likely fall into this category.

Over the past year, online Consumer Electronics sales have made up a significant and strategic portion of Amazon's overall sales. According to [Slice Intelligence](#), this industry was responsible for an estimated 18 percent of Amazon's sales growth in 2016. Traditional retailers, however, are stepping up to compete with the Amazonian Amazon. Best Buy saw some success using in-store pick-up for online orders and managed to see its online sales grow faster than Amazon's. In Germany, newly formed [Ceconomy AG](#) plans to use its size to compete with Amazon on its home turf, while in Russia, [Mikhail Gutseriev](#) consolidated three major retailers to dominate market share.

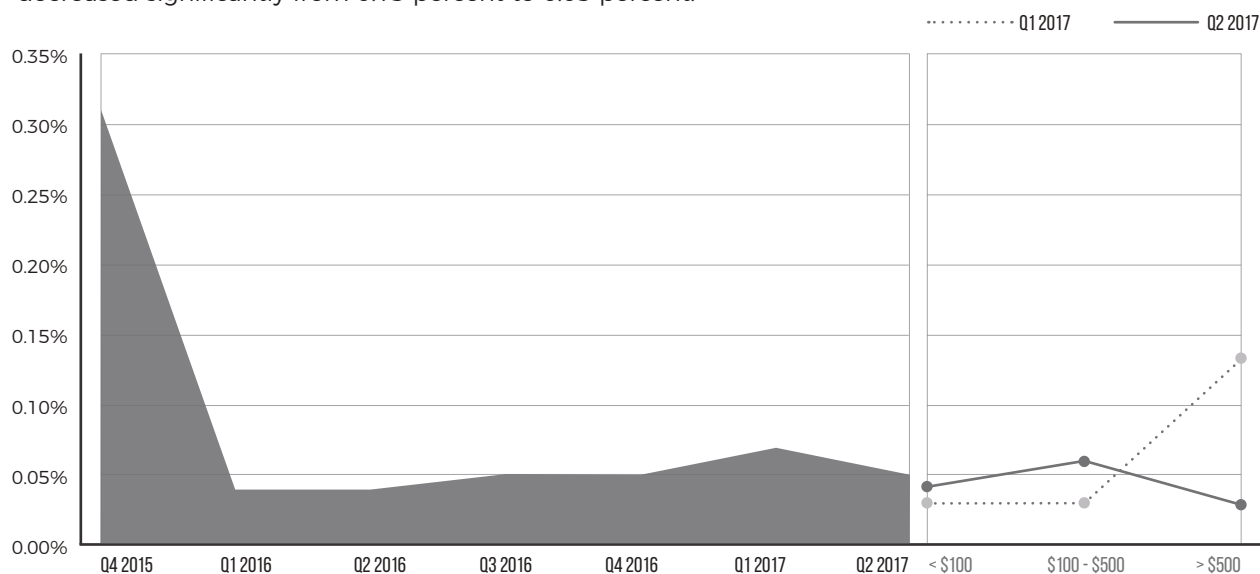
The sector did a great job battling fraud during the last half of 2016, but it seems it's losing the war. The fraud rate increased last quarter, and this quarter it increased yet again, jumping from 6.49 percent to 9.65 percent — the highest rate the sector has ever seen.

FIGURE 14. TOTAL FRAUD — CONSUMER ELECTRONICS



### FRIENDLY FRAUD

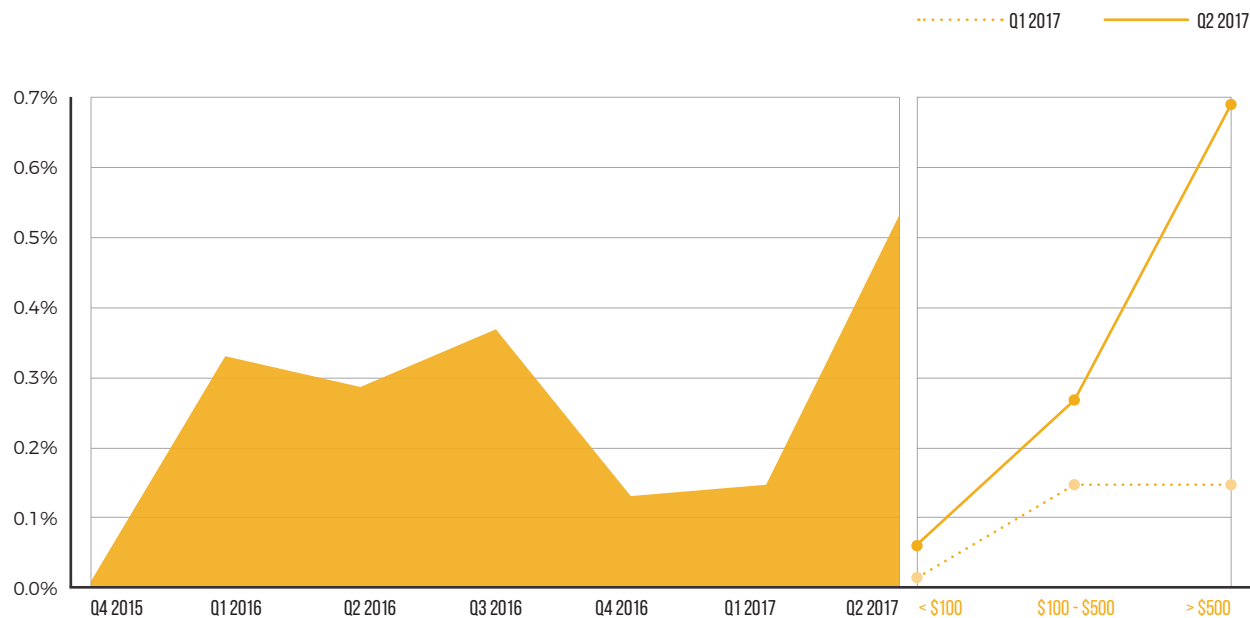
Friendly fraud dropped from 0.07 percent last quarter to 0.05 percent this quarter. That's not bad considering friendly fraud was unusually high at 0.31 percent during Q4 2015. After that, the rates oscillated between 0.04 percent and 0.07 percent. In particular, fraud for transactions exceeding \$500 decreased significantly from 0.13 percent to 0.03 percent.





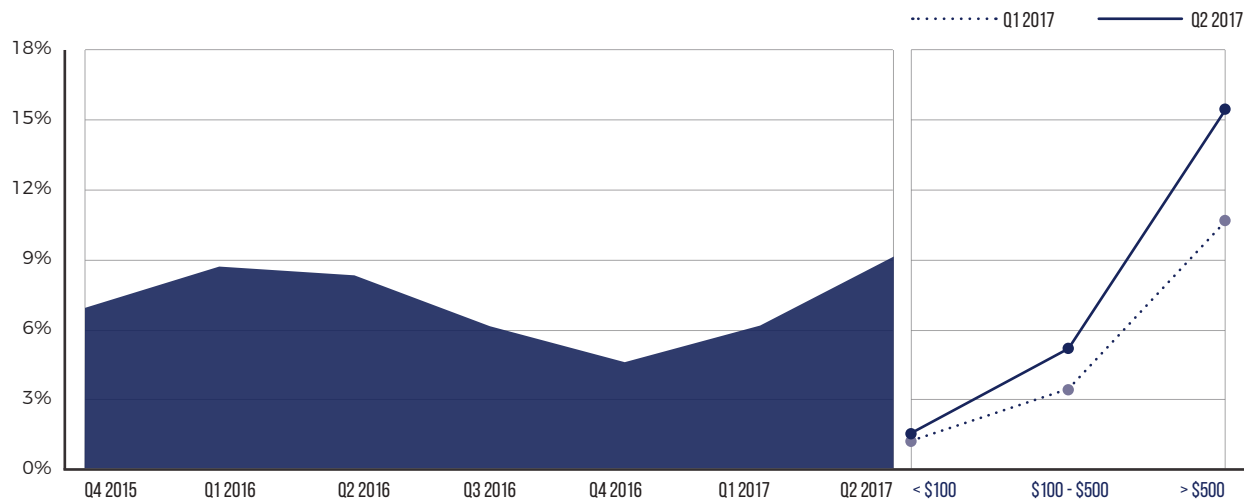
## ACCOUNT TAKEOVER

After dropping from 0.33 percent to 0.15 percent between Q1 2016 and Q1 2017, account takeover fraud has jumped again — this time to 0.53 percent, the highest the sector has ever seen.



## STOLEN FINANCIALS

Though account takeover saw large increases, stolen financials fraud is the main driver of fraud for most industries. Consumer Electronics is no different, with stolen financials accounting for 94 percent of Consumer Electronics fraud. This quarter, stolen financials fraud grew 45 percent, driving up the overall fraud rate for this industry. Orders exceeding \$500 saw an unusually high fraud rate at 15.07 percent, an increase from last quarter's 10.87 percent.



# +171.9%

Increase in **total eCommerce** fraud  
from Q2 2016 to Q2 2017

25



## COSMETICS AND PERFUMES

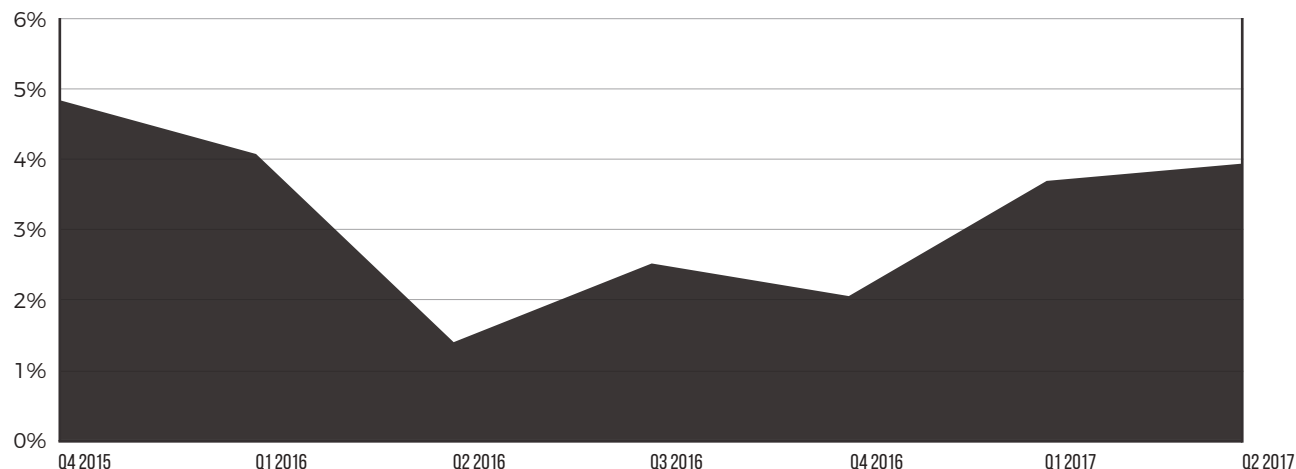
**C**osmetics and perfumes includes fragrances, makeup, wigs and skin care for men and women.

Traditionally, shoppers considered cosmetics and perfumes to be products that had to be tested in-person. However, thanks to beauty tutorial videos and Instagram influencers, the divide between in-store purchasers and online shoppers is narrowing. eCommerce continues to grow in this industry, with China leading the way. According to [Fung Global Retail & Technology](#), eCommerce made up an estimated 19.7 percent of total beauty sales in China last year alone. By comparison, eCommerce represented only an estimated 8.1 percent of total beauty sales in the U.S.

Below the surface, the beauty industry's transition to online sales seems inevitable. There's the constant introduction of new brands, new products and rapidly evolving trends, as well as the ongoing need to educate consumers about how to use products correctly. Then there's consumers' desire for hassle-free repeat purchases which paved the way for subscription services such as Birch Box and its regular deliveries of preselected products. While large brands still dominate the Cosmetics and Perfumes industries, consumers are increasingly making their purchases on [Amazon](#) — either from sellers on the marketplace or from Amazon directly.

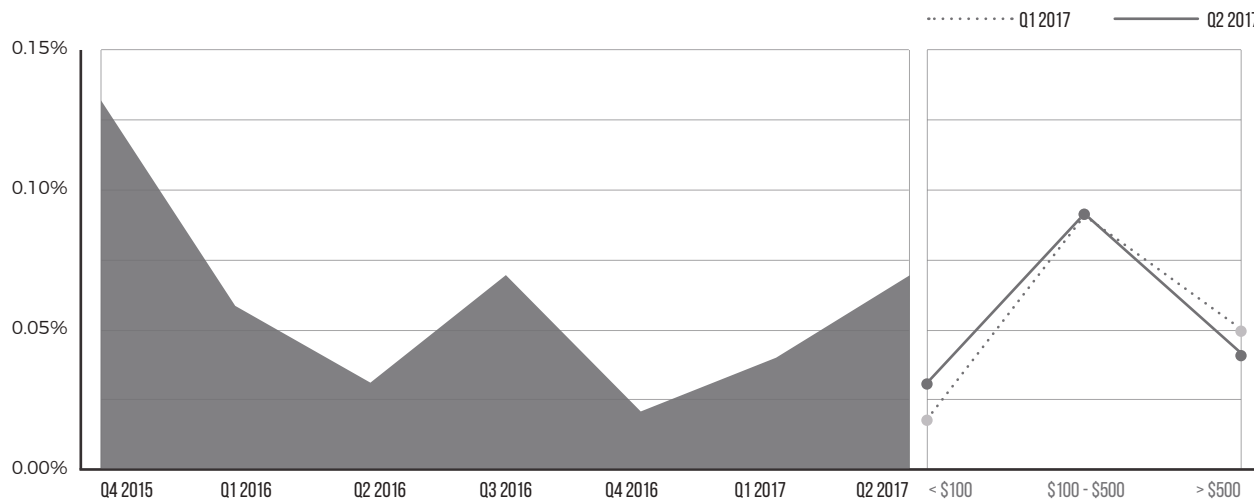
This growth in demand has also meant a growth in fraud, and an alarming trend is emerging for Cosmetics and Perfumes. While fraud rates were declining heading into 2016, they have recently climbed back up – and it appears they are still climbing. Between Q2 2016 and Q2 2017, fraud rates more than doubled from 1.45 percent to 3.95 percent.

FIGURE 15. TOTAL FRAUD — COSMETICS AND PERFUMES



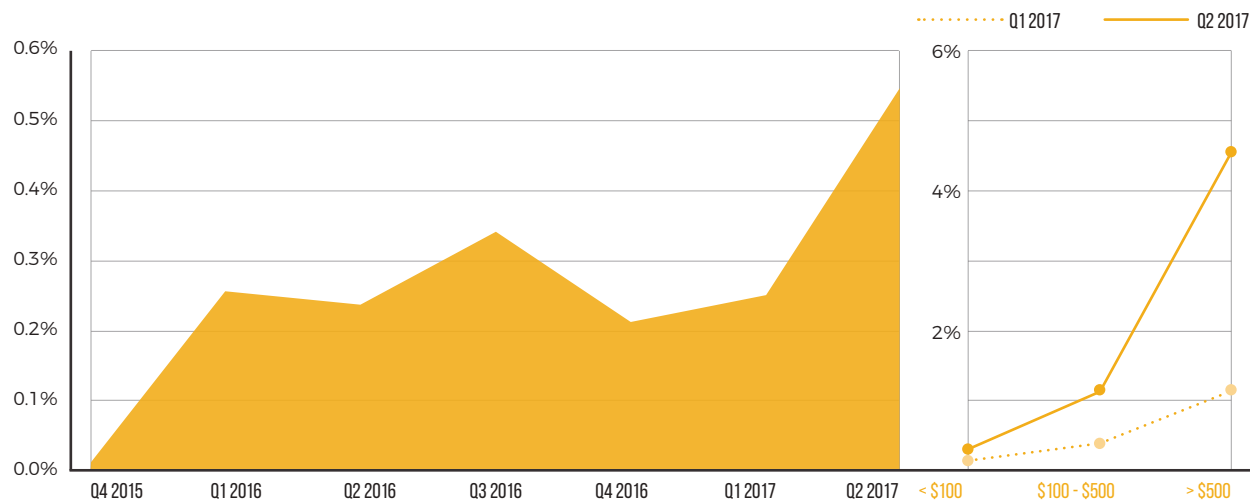
### FRIENDLY FRAUD

Friendly fraud is at 0.07 percent, 0.03 percent higher than last quarter. Friendly fraud appears to be particularly prevalent for orders between \$100 and \$500, where rates are approximately 0.09 percent.



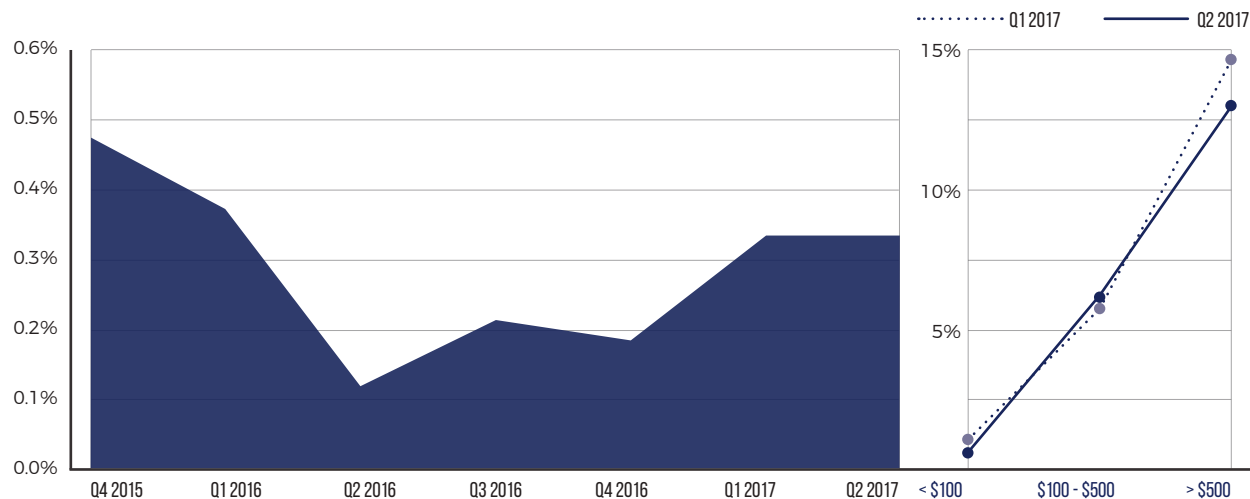
## ACCOUNT TAKEOVER

The Cosmetics and Perfumes category has the second highest account takeover fraud rate for orders between \$100 and \$500 at 0.24 percent. However, most of the fraud in the Cosmetics and Perfumes industry happens for transactions exceeding \$500, which have a fraud rate of 4.56 percent.



## STOLEN FINANCIALS

The Cosmetics and Perfumes sector also has the second highest stolen financials fraud rate of any industry for orders between \$100 and \$500 at 6.38 percent, coming in behind Apparel. As for orders exceeding \$500, the fraud rate is a staggering 12.89 percent.



# +136.7%

Increase in **Account Takeover**  
fraud for orders over \$500  
from Q1 2017 to Q2 2017

28



## DEPARTMENT STORES

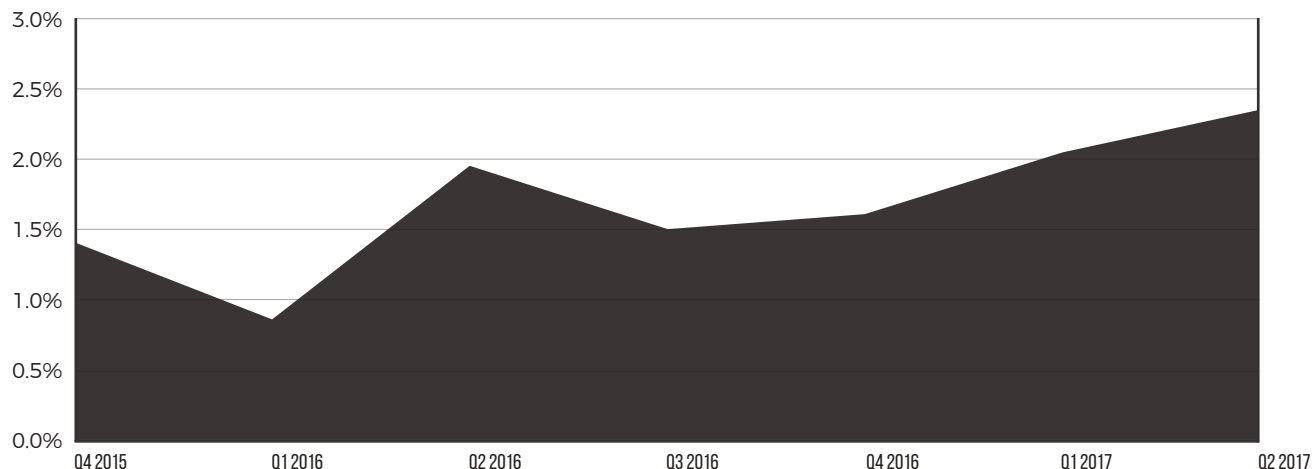
**D**epartment Stores are classified here as eCommerce merchants selling a wide variety of household products intended to save the consumer a trip to his or her local grocery store and/or the Department Store. As such, the products sold may overlap with merchants in the Apparel, Cosmetics and Perfumes, Consumer Electronics, or Furniture, Appliances and Home Improvement categories.

While 2017 has seen dramatic shifts in the epic battle between Amazon and Walmart for market share, most U.S. Department Stores have been losing market share to their online competitors. [Macy's, Kohl's and JCPenney](#) reported declines in same-store sales. Nordstrom, meanwhile, reported a 1.7 percent increase as well as a 3.5 percent gain in its online store sales during Q2 2017. Target also saw a rise in Q2 sales, with same-store sales up 1.3 percent and online sales growing much faster over the past year.



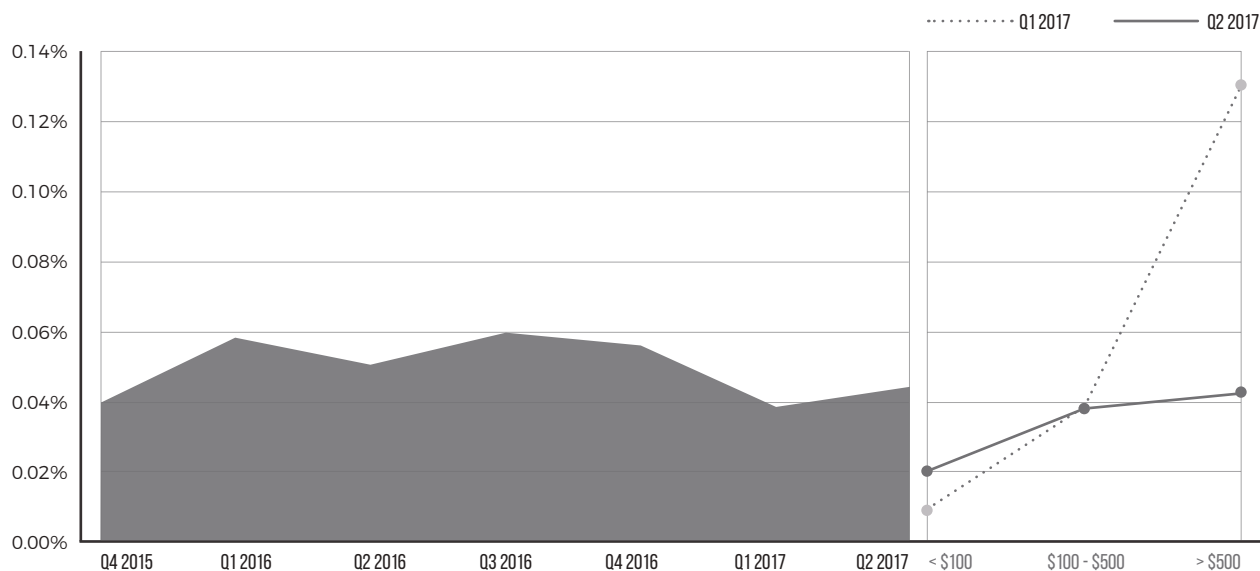
Department Stores are seeing an increase in online shoppers collecting orders in-store and a growing demand for same-day delivery. Shoppers still love their Department Stores, though, and we have some good news for them. Overall, Department Stores can boast having the lowest fraud rates. Though those rates did climb slightly this quarter, the industry also saw a huge amount of growth. The fraud rates may just be a byproduct.

FIGURE 16. TOTAL FRAUD — DEPARTMENT STORES



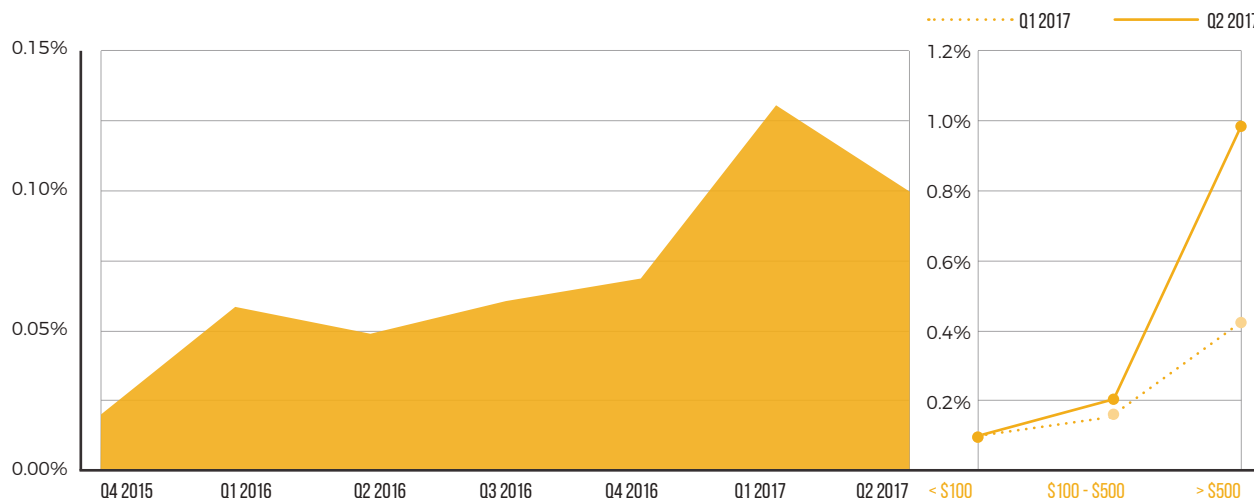
### FRIENDLY FRAUD

Friendly fraud remained steady this quarter. Moreover, fraud on orders exceeding \$500 decreased significantly, dropping from 0.13 percent to 0.04 percent.



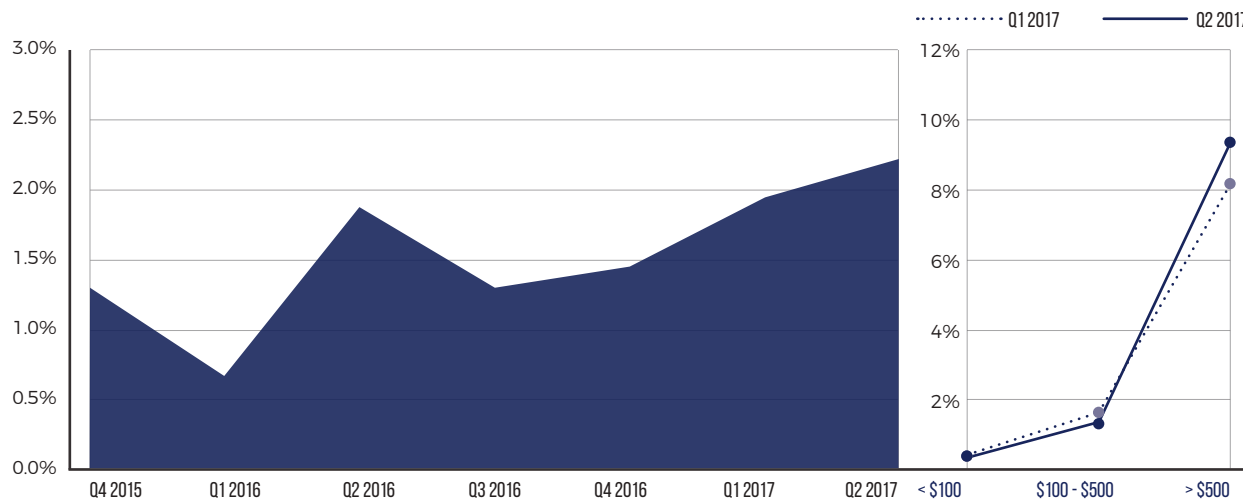
## ACCOUNT TAKEOVER

At first glance, it seems account takeover fraud is growing steadily — and fraud doubled between Q2 2016 and Q2 2017, increasing from 0.05 percent to 0.10 percent. However, keep in mind that department stores have the lowest account takeover rate. We also have some bad news for shoppers, though. Transactions exceeding \$500 saw the largest growth in fraud rates, with account takeover rates more than doubling from 0.42 percent to 0.99 percent.



## STOLEN FINANCIALS

Stolen financials frauds have been on the rise since Q3 2016. They increased from 1.84 percent during Q2 2016 to 2.21 percent during Q2 2017. The highest fraud rates, as per usual, were for orders exceeding \$500, which had a stolen financials fraud rate of 9.29 percent. However, this is the lowest stolen financials rate of any industry.



# +16.7%

Increase in **Average Chargeback**  
Amount for orders between \$100  
and \$500 from Q1 2017 to Q2 2017

31



## FURNITURE, APPLIANCES AND HOME IMPROVEMENT

**F**urniture, Appliances and Home Improvement includes all major purchases for the home or other properties, as well as purchases intended for the repair or improvement of such properties.

There have been some sobering headlines for this industry this year. HHGregg filed for bankruptcy while [Sears](#) — which virtually owned the appliance sector for decades — reported disastrous sales along with its decision [to close 265 stores](#). Yet, overall, appliance sales are doing splendidly. Appliances are on a replacement cycle thanks to the 2004 to 2006 boom in sales. Meanwhile, “aspirational” and forward-looking “smart” products are prompting consumers to buy new appliances [because they want to instead of because they have to](#).

What does this mean for online sales? It indicates massive growth, continuing from 2016 when U.S. consumers spent \$4 billion on online appliances, [a 38 percent increase](#) over 2015. Growth continued unabated between Q1 and Q2 2017. Internationally, Vietnam recorded the largest growth globally, as online retailers worked hard to solve delivery challenges. Online is an attractive option for consumers in both Vietnam and India because appliance prices cost 15 to 20 percent less online than at brick-and mortar shops. Meanwhile, in China, [online sales of consumer appliances](#) has grown 37 percent over the last five years.

By contrast, the furniture industry is still transitioning to online sales. According to [Furniture Today](#), 70 percent of furniture retailers have yet to try eCommerce, but things are changing. Furniture is the [second-fastest growing segment](#) of online retail in the United States. In fact, the only industry growing faster is online grocery. Furniture is projected to [surpass even electronics in online sales](#) by 2018, and higher end retailers like Williams-Sonoma and Restoration Hardware are investing substantial sums into their online businesses. Brick-and-mortar stores that aren't going multichannel are losing market share to them, according to research, and Wayfair is the only publicly traded online pure-play furniture company that has achieved significant size and continued growth — 66 percent growth from 2015 to 2016.

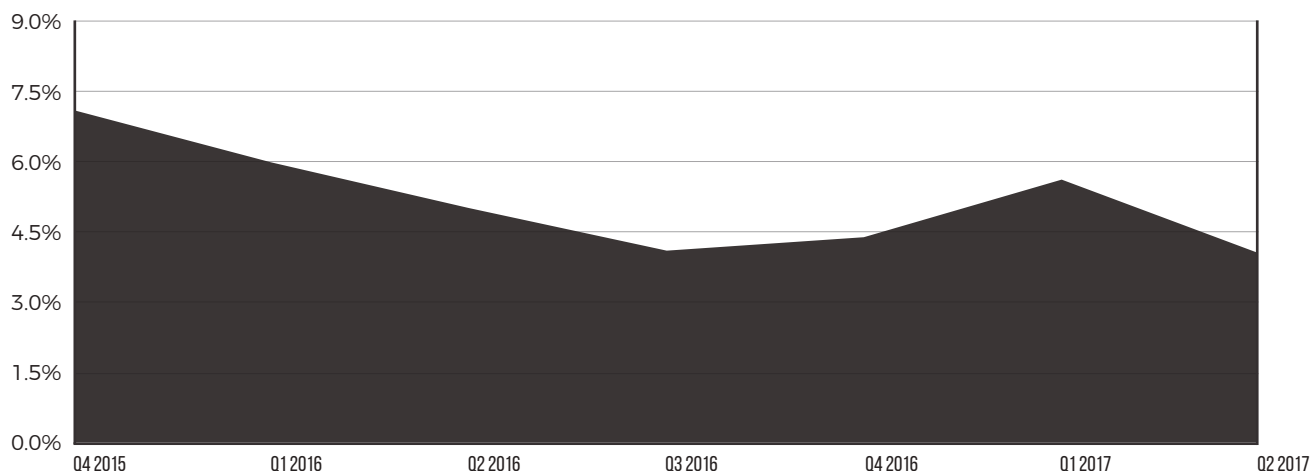
Furniture customers are hungry for innovation, and that is driving up the average price of a sale. Power reclining chairs or sofas are especially popular, while consumers — particularly millennials — want sleep tracking technology in their mattresses.

eCommerce has also been a major success story for home improvement. Online sales of [home improvement products](#) grew 41 percent in the 12 months ending March 2017, reaching \$10.9 billion in the U.S. [According to the NPD Group](#), almost every online category within home improvement saw double-digit increases, and the largest growth was seen in plumbing pipes and fittings, light bulbs and ceiling fans.

Traditional retailers are incorporating click-and-collect options and 45 percent of Home Depot's online orders were picked up at traditional stores. Millennials are driving the online boom, but Generation X and baby boomers are also accelerating their eCommerce shopping habits, accounting for almost two-thirds of home improvement sector sales in the last 12 months.

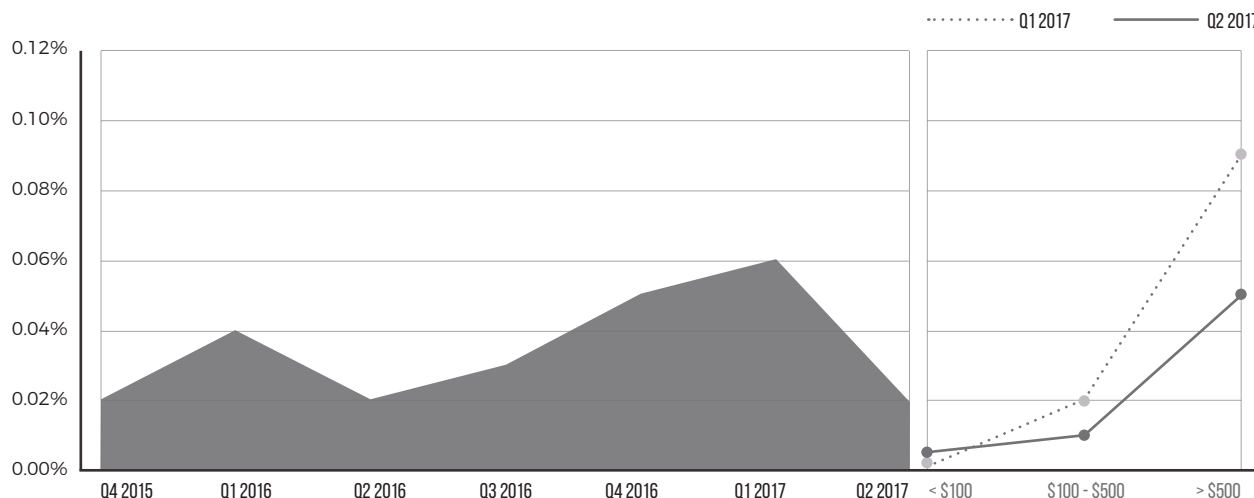
Other than a slight bump last quarter, fraud has been on a downward trend for these industries. This quarter, fraud dropped to an all-time low of 4.02 percent. However, not all the news is good. Furniture, Appliances and Home Improvement merchants with orders between \$100 and \$500 have the highest average chargeback amount, and it's increased from \$288 last quarter to \$336 this quarter.

FIGURE 17. TOTAL FRAUD — FURNITURE, APPLIANCES AND HOME IMPROVEMENT



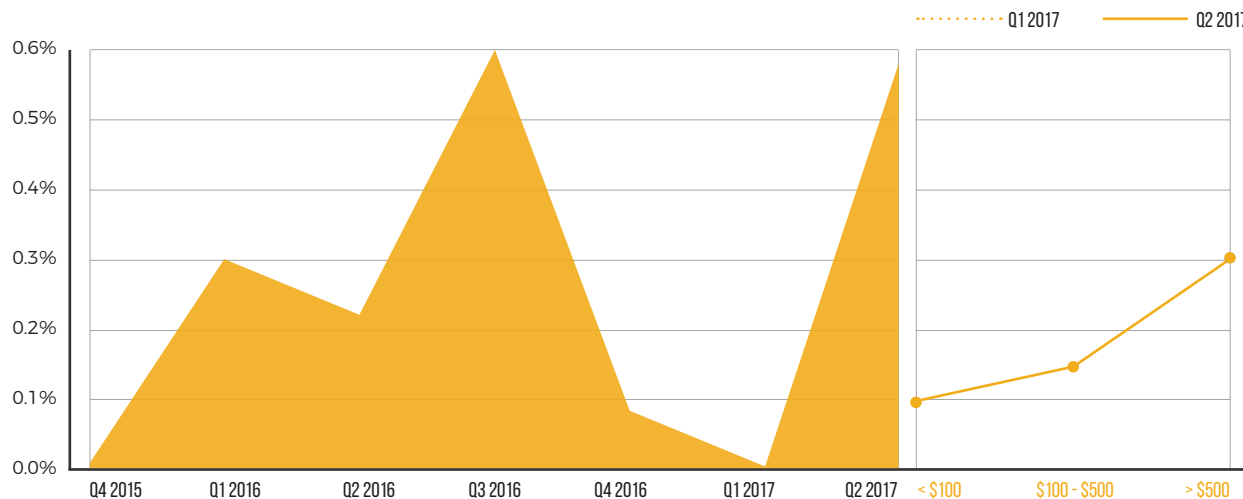
## FRIENDLY FRAUD

Friendly fraud dropped from 0.06 percent to 0.02 percent, reaching its lowest rate since Q2 2016. Both orders between \$100 and \$500 and orders exceeding \$500 nearly halved their friendly fraud rates. Orders between \$100 and \$500 saw the rates drop from 0.02 percent to 0.01 percent, and orders exceeding \$500 saw a dip from 0.09 percent to 0.05 percent.



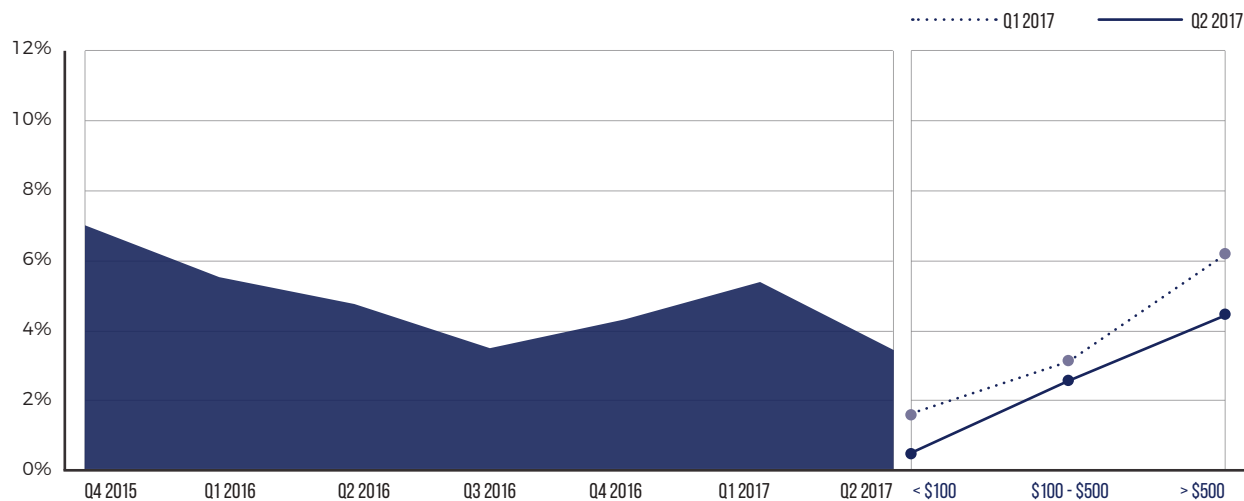
## ACCOUNT TAKEOVER

Account takeover rates are turbulent in this industry. One quarter they're nearly non-existent, the next they've shot back up to approximately 0.5 percent (which, to be fair, is not very high). Last quarter, account takeover just about vanished, but this quarter it's back again at 0.58 percent.



## STOLEN FINANCIALS

Stolen financials have been on a roughly downward trend and dropped from 4.80 percent during Q2 2016 to 3.41 percent this quarter. For orders exceeding \$500, the industry has the second lowest rate at 4.40 percent (Alcohol, Tobacco and Cannabis comes in at 0.01 percent, making it hard for any other sector to beat it), down from 6.62 percent during last quarter.



# +583.8%

Increase in **Account Takeover**  
fraud for orders over \$500  
from Q1 2017 to Q2 2017

35



## HEALTH, LEISURE AND HOBBIES

**H**ealth, Leisure and Hobbies (which include Outdoors, Fitness, Sporting Goods and Weapons) covers many disparate subcategories of merchants who sell items such as fishing equipment, swords, training weights and even board games.

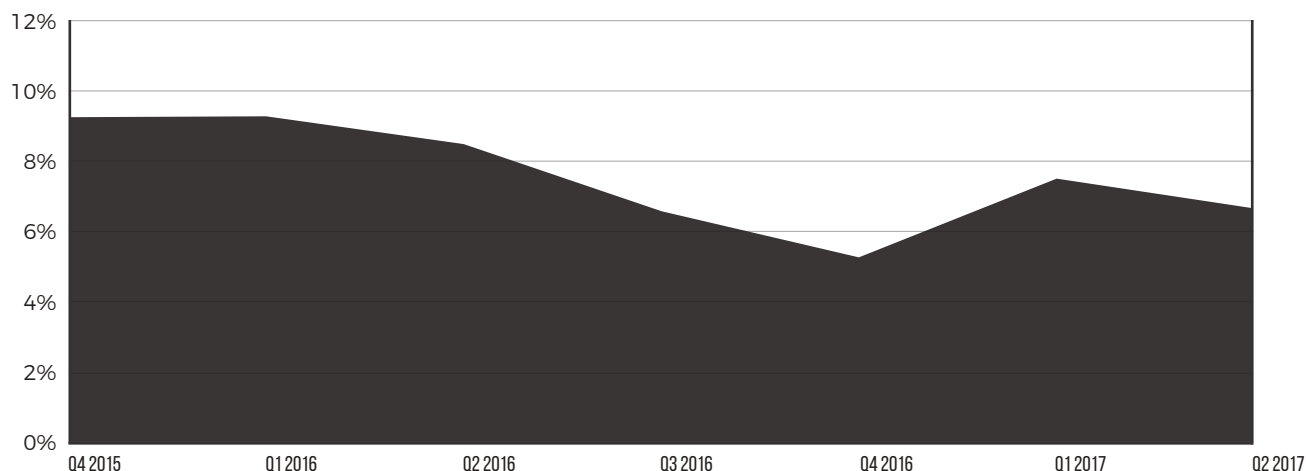
The star of the sporting goods industry has been Dick's Sporting Goods. It acquired Sports Authority and Golfsmith over the past year, converting some of these stores and closing others, but the primary driver of growth was online sales. eCommerce represented 11.9 percent of the company's total sales in 2016, up from 10.3 percent from a year earlier. In the [first quarter of 2017](#), Dick's saw an additional gain of 11 percent in eCommerce sales with the launch of its new website. Other sporting goods retailers are still catching up. For example, [Hibbett Sports](#) just launched its first eCommerce site earlier this year after seeing an estimated 10 percent decline in second-quarter sales.

The toy story is more dismal. The toy industry saw long-time giant [Toys R Us](#) file for Chapter 11 bankruptcy after losing online market share to Amazon and Walmart for more than a decade. [Toys R Us](#) serves as an important lesson for brick-and-mortar retailers: Without aggressive online growth or a strong omnichannel strategy, it is only a matter of time before modern shoppers move their business to Amazon or other online stores, thus saving time and possibly money on each purchase.



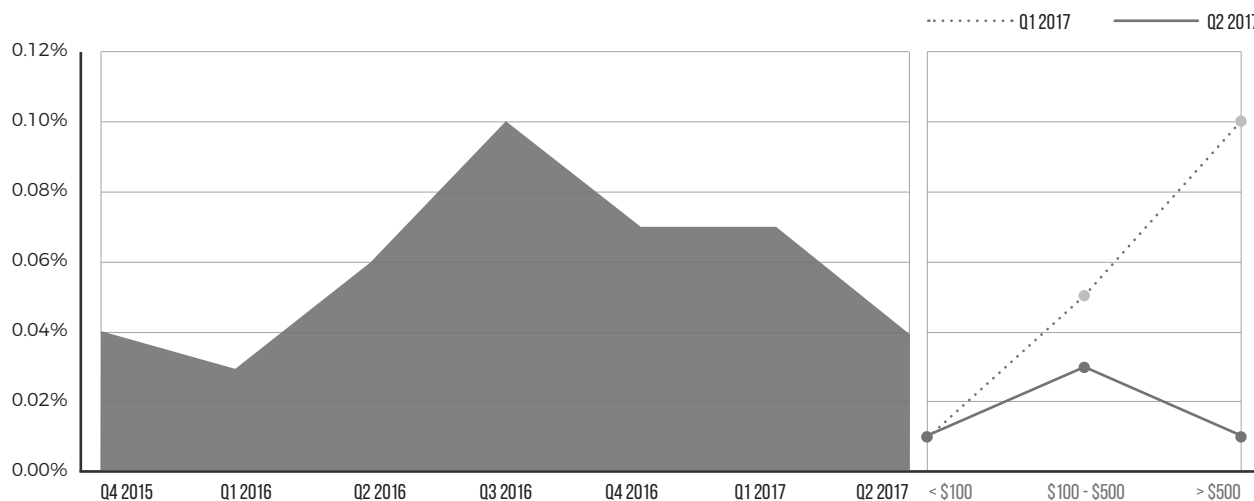
Overall the Health, Leisure and Hobbies industry appears to have a healthy fraud rate this quarter, and total fraud dropped from 8.60 percent to 6.67 percent over the last year. While this industry used to have the second highest chargeback rates, the average chargeback rate dropped from \$693 to \$311 this quarter. This is much more in line with the average chargeback rate of other industries.

FIGURE 18. TOTAL FRAUD — HEALTH, LEISURE AND HOBBIES (OUTDOOR, FITNESS, SPORTING GOODS AND WEAPONS)



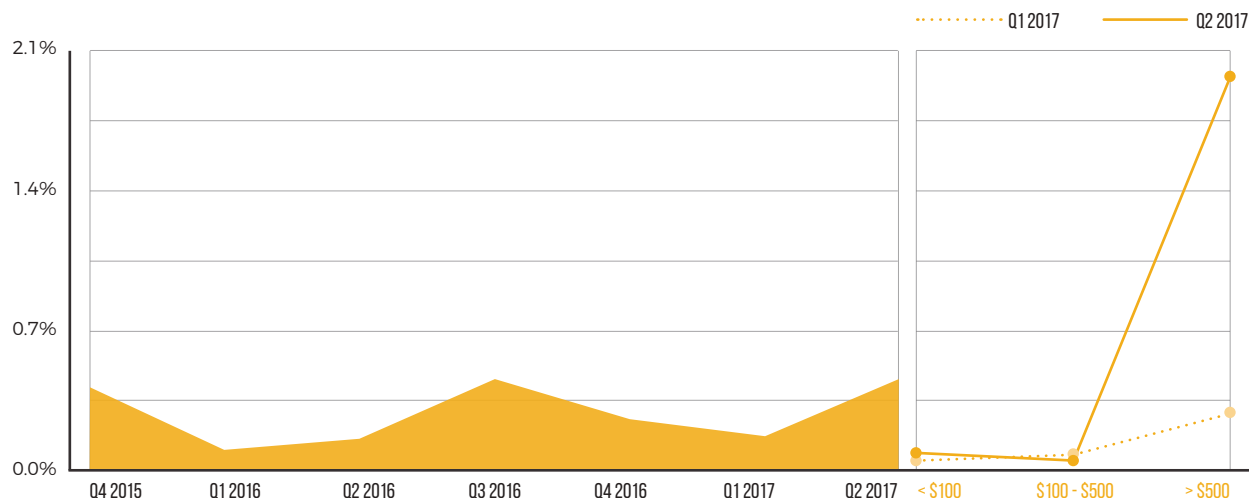
## FRIENDLY FRAUD

Last quarter, friendly fraud stayed stagnant. This quarter, though, friendly fraud dropped from 0.07 percent to 0.04 percent. Friendly fraud for orders exceeding \$500 decreased enormously, dropping from 0.10 percent to 0.01 percent.



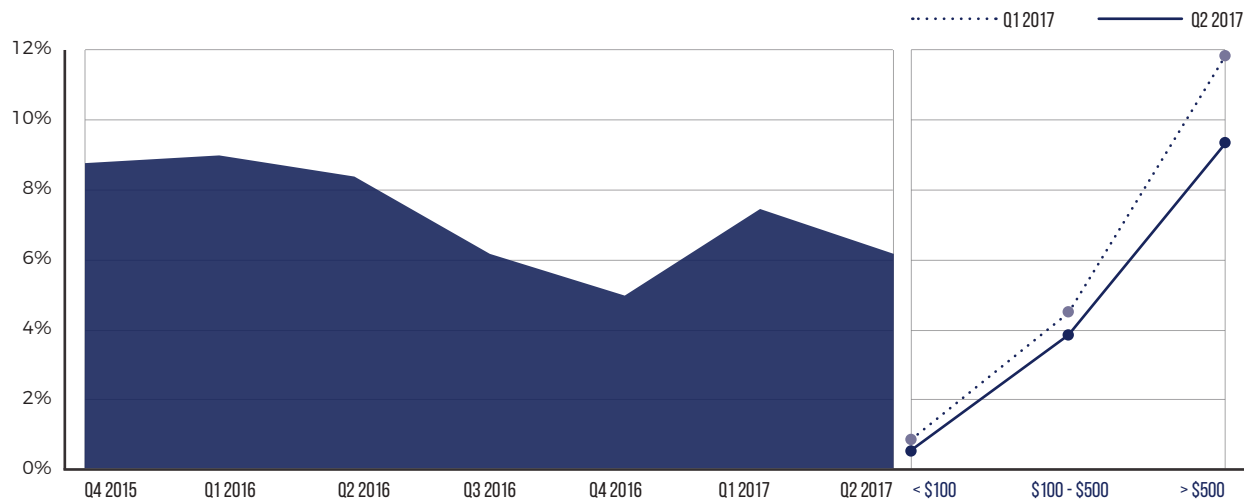
### ACCOUNT TAKEOVER

Account takeover has no discernible trend. Instead, it vacillates between 0.1 percent to 0.43 percent. This quarter it's on the rise at 0.43 percent, up from last quarter's 0.16 percent. But, perhaps next quarter it'll drop back down again? One can only hope. Fraud for purchases exceeding \$500 was significantly higher than in other industries with a rate of 1.99 percent, a sevenfold increase compared to last quarter.



### STOLEN FINANCIALS

The good news is that stolen financials fraud has dropped from 8.40 percent to 6.19 percent since Q2 2016. The bad news is that it remains higher for orders exceeding \$500, which came in at 9.20 percent.



# +36.7%

Increase in **total eCommerce** fraud  
from Q2 2016 to Q2 2017

38



## JEWELRY AND PRECIOUS METALS

**J**ewelry and Precious Metals includes designer and personalized jewelry of varying values, luxury watches, precious metals and coins for collectors.

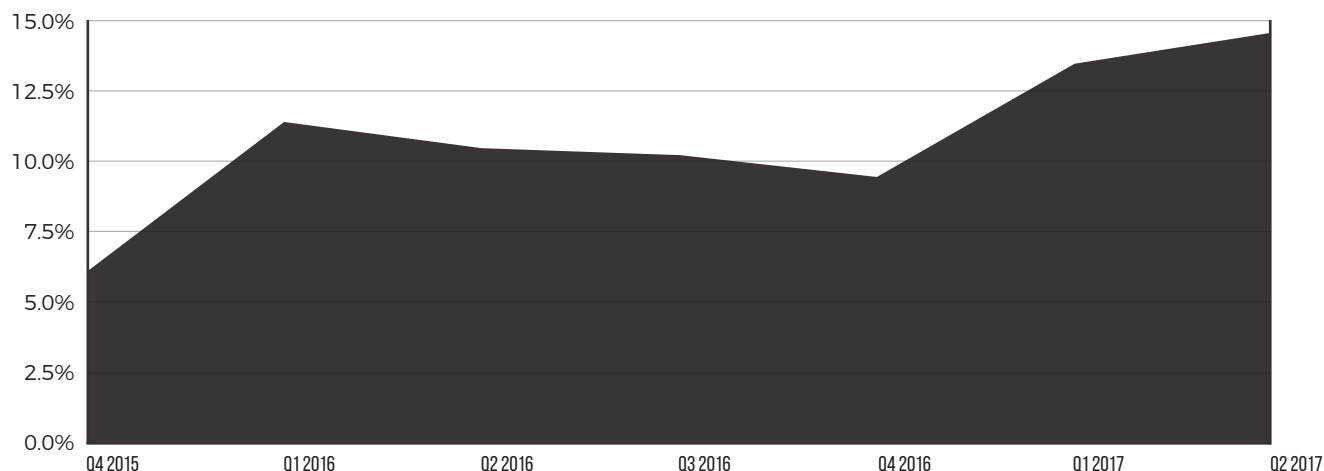
The Jewelry industry faced mixed fortunes. Most traditional retailers had yet another year of lackluster sales while others got a boost from their online numbers. Larger brands, such as [Tiffany & Co.](#) and [Signet](#) — which owns Zales, Kay Jewelers and Jared the Galleria of Jewelry — saw a decline in both brick-and-mortar stores and online sales. De Beers pointed out a growing trend in which millennials are purchasing smaller diamonds, and saw an increase in self-purchases for diamond jewelry.

Luxury watches faced similar challenges. The online resale market for Swiss watches continues to grow, though. After years of growth built upon supplying wholesalers and retailers, but without growing sales to consumers, luxury watchmakers may be forced to supply online resale sites selling genuine merchandise at steep discounts. Whenever possible, manufacturers will require sites to remove newer models from sales and ensure they're not offered at reduced discounts.

Unsurprisingly, fraudsters love this industry. Fraud rates have been rising since Q4 2016, and they continue to do so this quarter. Jewelry and Precious Metals also wins the dubious honor of having the highest average chargebacks for orders below \$100 and exceeding \$500 (and the second highest for orders between

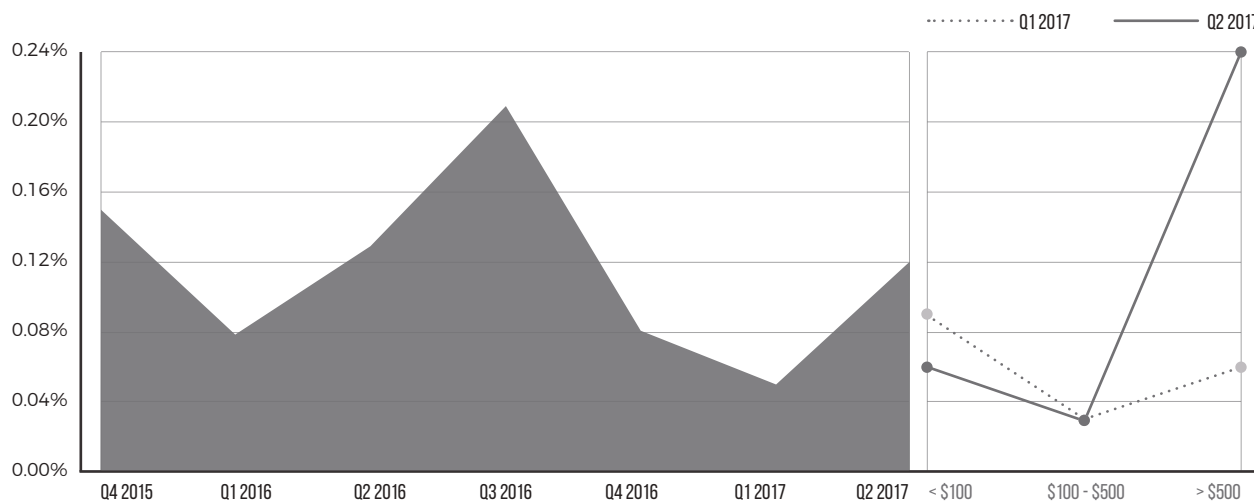
\$100 and \$500). Overall, the average chargeback was \$684, the average for orders below \$100 was \$84 and average chargebacks for orders exceeding \$500 came in at a whopping \$2,359.

FIGURE 19. TOTAL FRAUD — JEWELRY AND PRECIOUS METALS



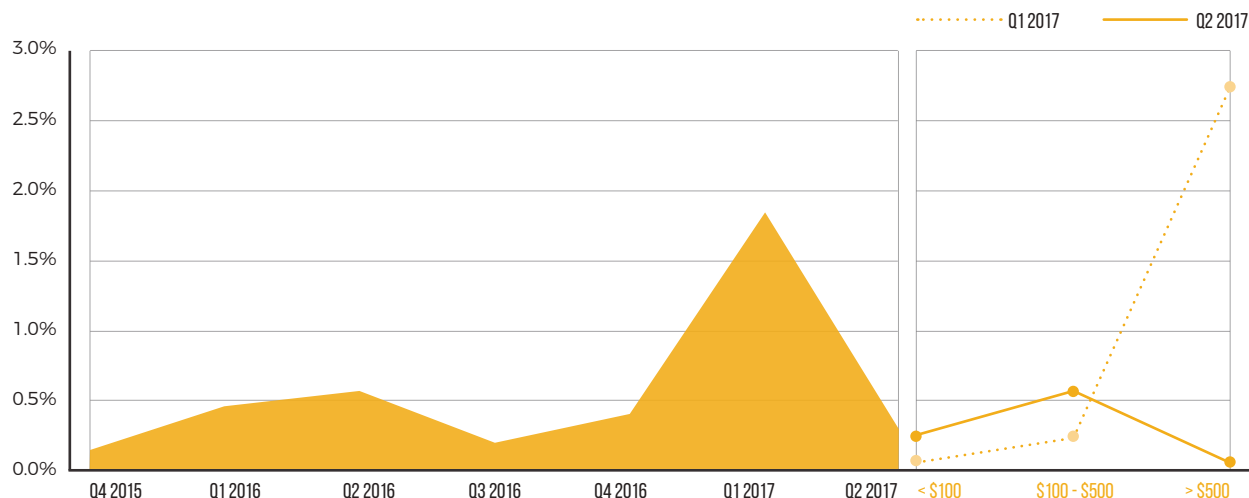
### FRIENDLY FRAUD

Last quarter, friendly fraud dropped, but this quarter it's back up and even higher at 0.12 percent. The industry also has the highest friendly fraud rates for orders exceeding \$500 at approximately 0.24 percent.



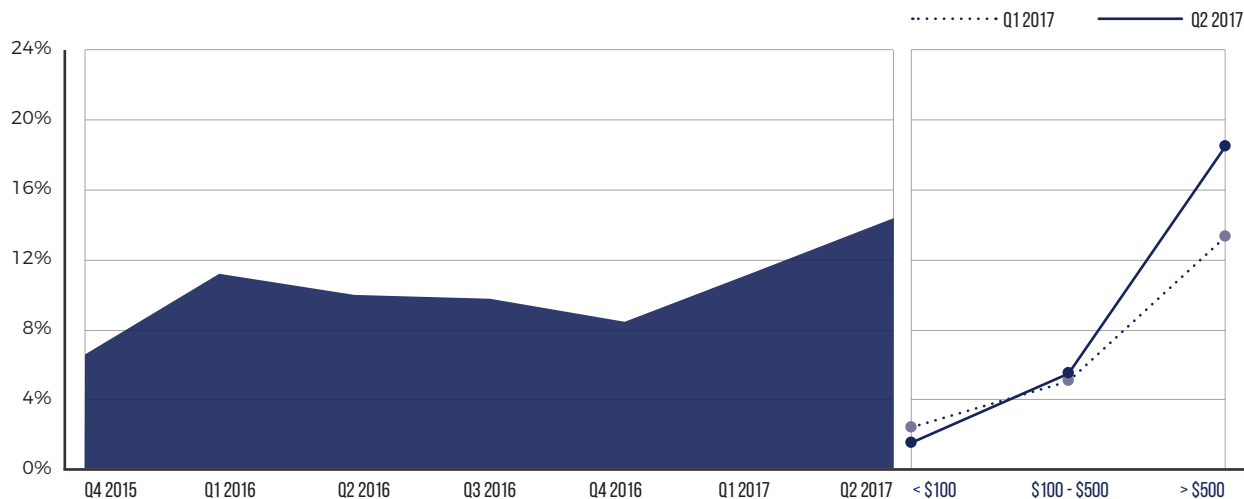
## ACCOUNT TAKEOVER

Some good news at last. Account takeover has dropped, after an exceptionally high quarter during our last report. It is now at 0.28 percent, down from 1.86 percent — which was an all-time high. For orders exceeding \$500, account takeover dropped dramatically from 2.73 percent to 0.01 percent.



## STOLEN FINANCIALS

However, stolen financials fraud has reached new heights. This industry has had the highest stolen financials fraud rates since Q1 2016, and this quarter saw them rise even higher — to 14.23 percent, to be precise. Fraud for purchases exceeding \$500 is even higher at 18.32 percent, the highest rate of any industry.



# FEATURE COUNTRY

## AUSTRALIA





## FEATURED COUNTRY: AUSTRALIA

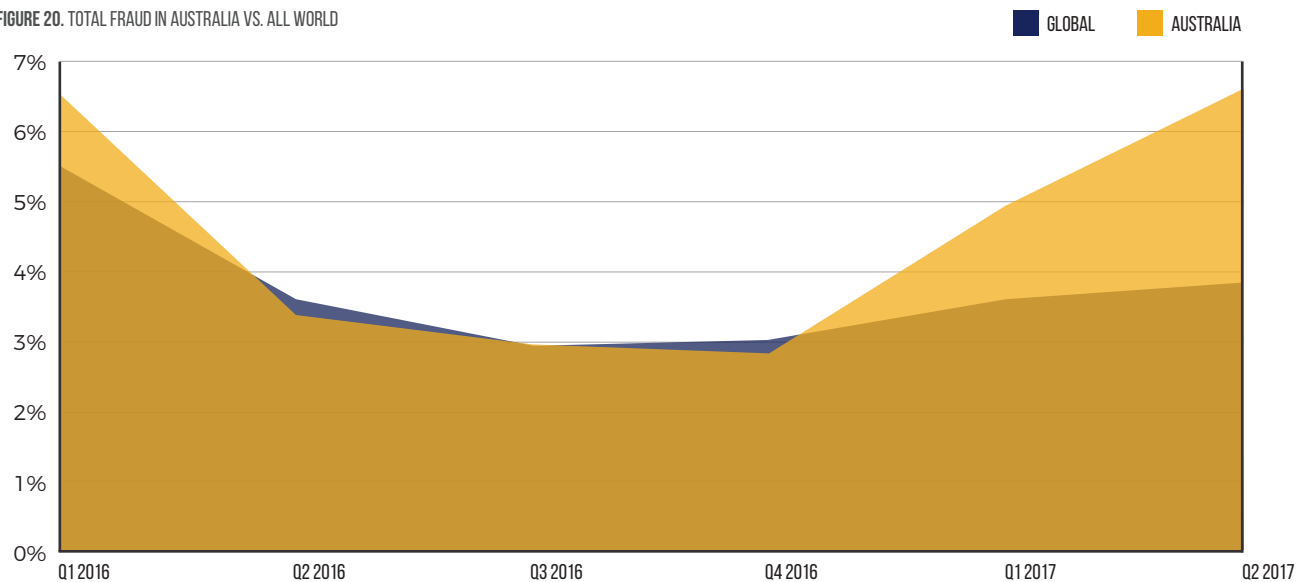


### INTRODUCTION

**T**his quarter, we're going Down Under and examining the state of fraud in Australia — and there's a lot to discuss.

Until Q4 2016, Australia seemed to be in line with fraud patterns for the rest of the world. However, starting Q1 2017, Australia's fraud rate rose and continues to rise. During Q1 2017, Australia's fraud rate was at 4.8 percent and it jumped to 6.6 percent this quarter. By comparison, the rest of the world's fraud rate was 3.6 percent and rose to 3.8 percent this quarter.

FIGURE 20. TOTAL FRAUD IN AUSTRALIA VS. ALL WORLD



The rise in Australia's fraud was driven by some specific sectors. In particular, Australia's fraud rate for Furniture, Appliances and Home Improvement was more than double the fraud rate for the rest of the world at 9.23 percent compared to 4.02 percent. This was also true for Alcohol, Tobacco and Cannabis, in which the fraud rate was 6.96 percent compared to the rest of the world's 3.32 percent. Australia's fraud rate was lower than the rest of the world in only three industries: Apparel, Cosmetics and Perfumes and Department Stores.





## FURNITURE, APPLIANCES AND HOME IMPROVEMENT

**9.23%**

Australia's fraud rate

**4.02%**

Global fraud rate



## ALCOHOL, TOBACCO AND CANNABIS

**6.96%**

Australia's fraud rate

**3.32%**

Global fraud rate

**Fraud rate  
LOWER  
than Global:**

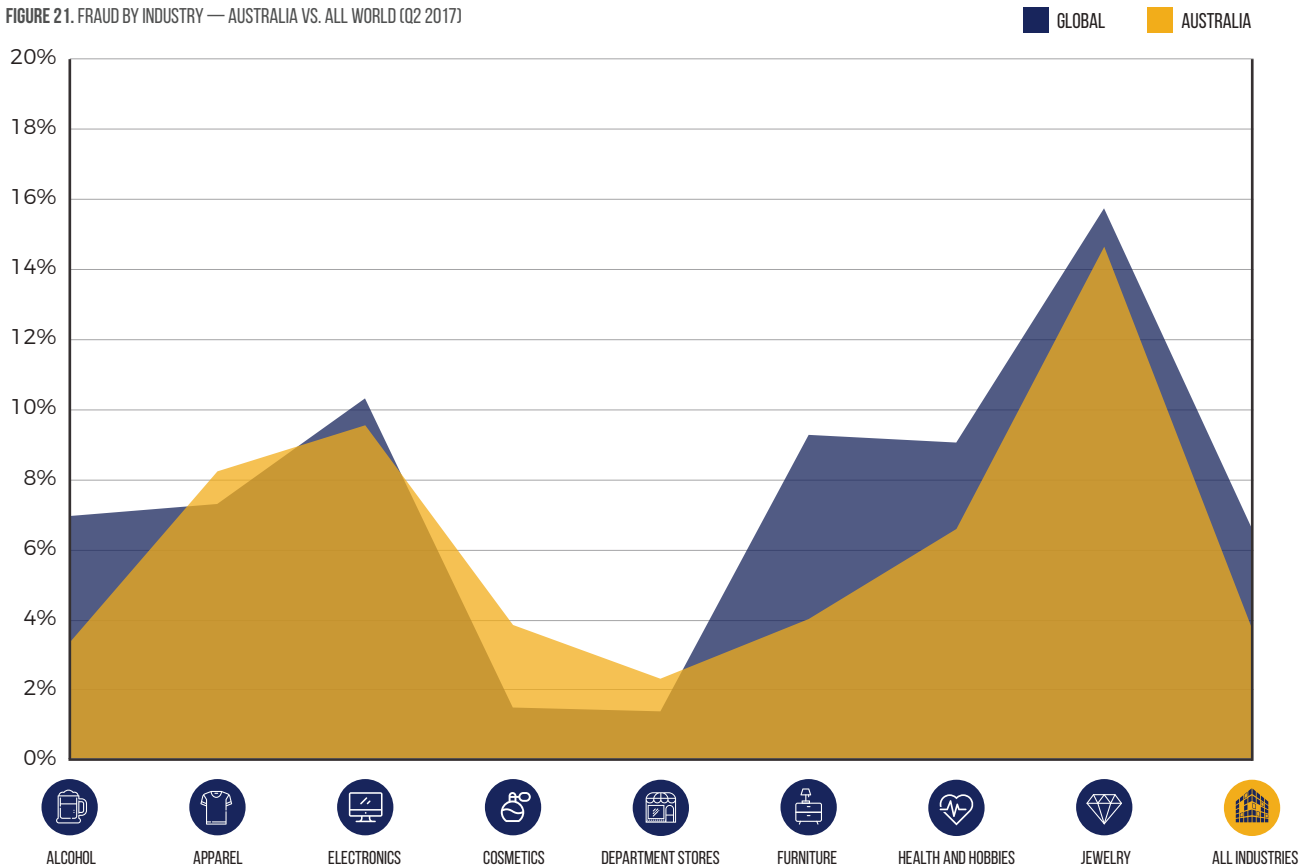


APPAREL


 COSMETICS AND  
PERFUMES

 DEPARTMENT  
STORES

FIGURE 21. FRAUD BY INDUSTRY — AUSTRALIA VS. ALL WORLD (Q2 2017)



However, on the bright side, even though Australia's fraud rate was higher than the rest of the world, its average chargeback was much lower. Chargebacks for Jewelry and Precious Metals and Furniture, Appliances and Home Improvement are particularly higher than in the rest of the world at \$684 and \$507, respectively. In Australia, however, they are \$386 and \$180, respectively.

The only industry in which Australia's average chargeback rate is significantly higher than the rest of the world was the Alcohol, Tobacco and Cannabis industry, in which Australia's average chargeback was \$345 and the average for the rest of the world was \$123.

FIGURE 22. AVERAGE CHARGEBACKS — AUSTRALIA VS. ALL WORLD

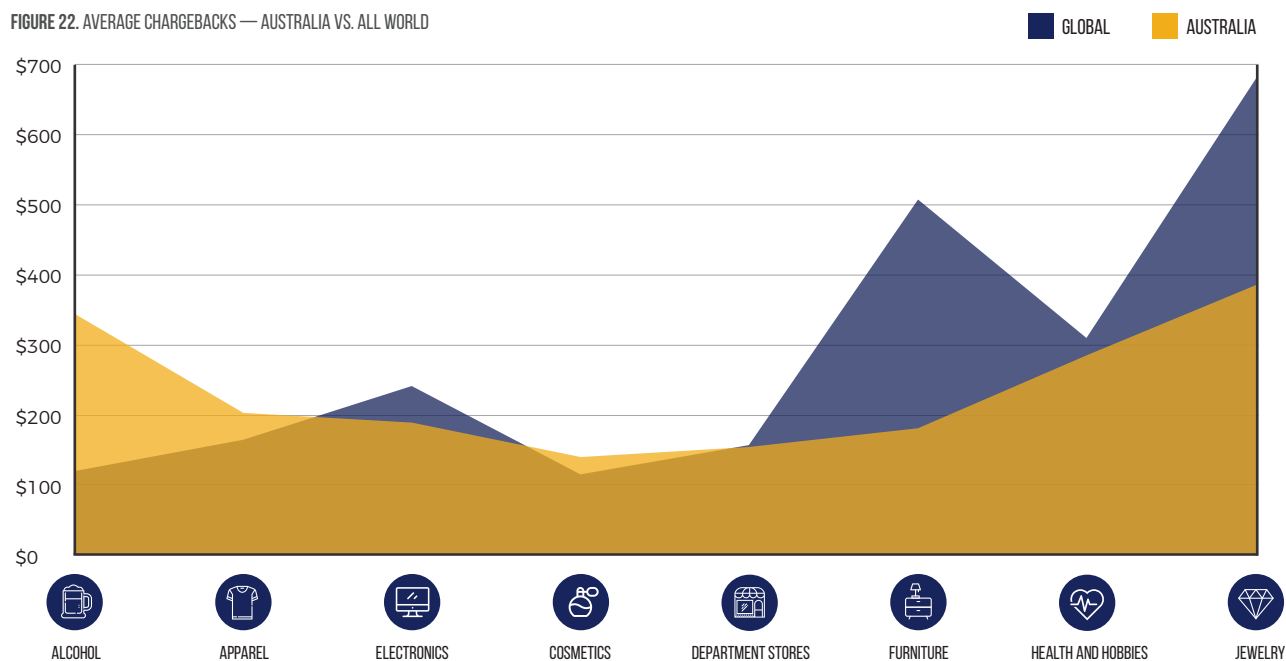
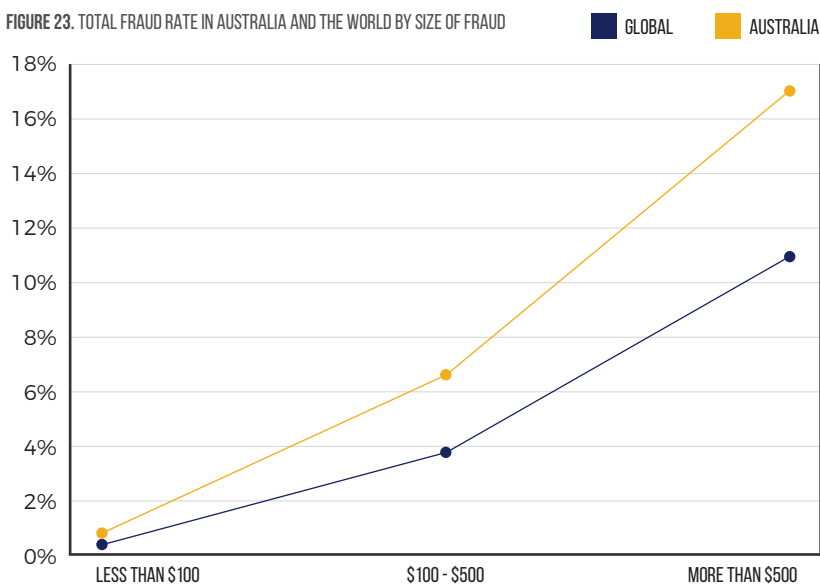


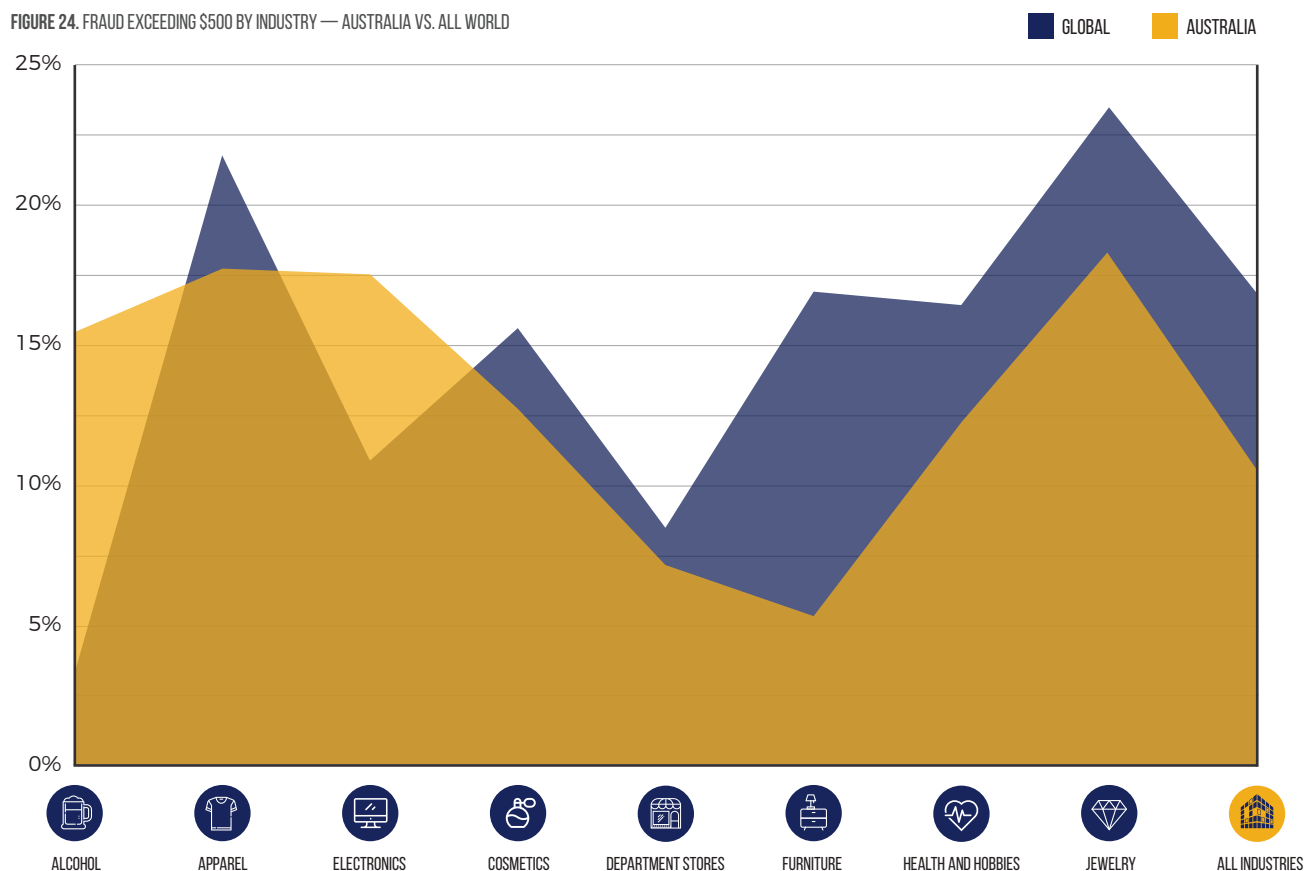
FIGURE 23. TOTAL FRAUD RATE IN AUSTRALIA AND THE WORLD BY SIZE OF FRAUD



However, Australia's fraud rate was exceptionally high for transactions exceeding \$500 at 17.07 percent compared to the rest of the world at 10.93 percent. A warning to merchants: A high-value order from Australia might be risky.

We took a closer look at the industry breakdown for fraud in transactions exceeding \$500. Fraud rates for transactions exceeding \$500 were almost five times as high in Australia for Alcohol, Tobacco and Cannabis compared to the rest of the world. There were only two industries where Australia's fraud rate for transactions exceeding \$500 was lower than the world average: Apparel and Cosmetics and Perfume.

FIGURE 24. FRAUD EXCEEDING \$500 BY INDUSTRY — AUSTRALIA VS. ALL WORLD

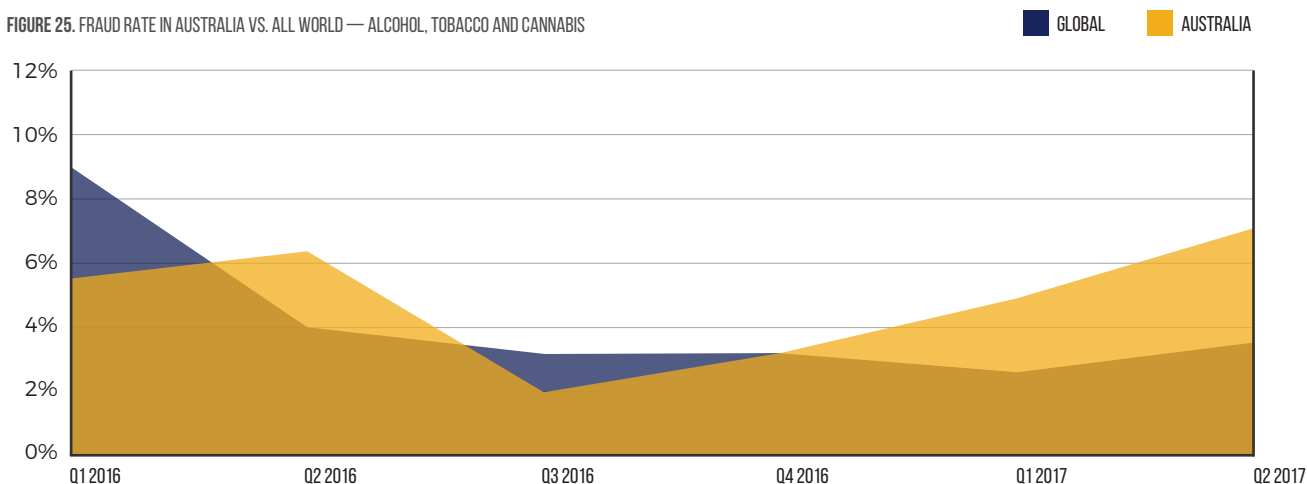




## ALCOHOL, TOBACCO AND CANNABIS

Australia's fraudsters behave differently in this industry than those in the rest of the world. While overall fraud in this sector is declining, it is steadily rising in Australia.

FIGURE 25. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — ALCOHOL, TOBACCO AND CANNABIS



Australia's fraud rates were higher in this industry for transactions of all sizes. However, they were particularly high for transactions greater than \$500, 15.59 percent compared to the global average of 3.10 percent.

While the average chargeback rate for this industry was stagnant with a slight decline starting in 2017, in Australia, the pattern has been upwards and onwards — not very good news for customers who like to get their fix of a little something in this sector.

FIGURE 26. FRAUD RATE BY SIZE — ALCOHOL, TOBACCO AND CANNABIS

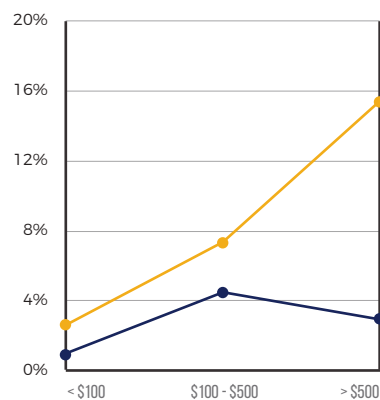
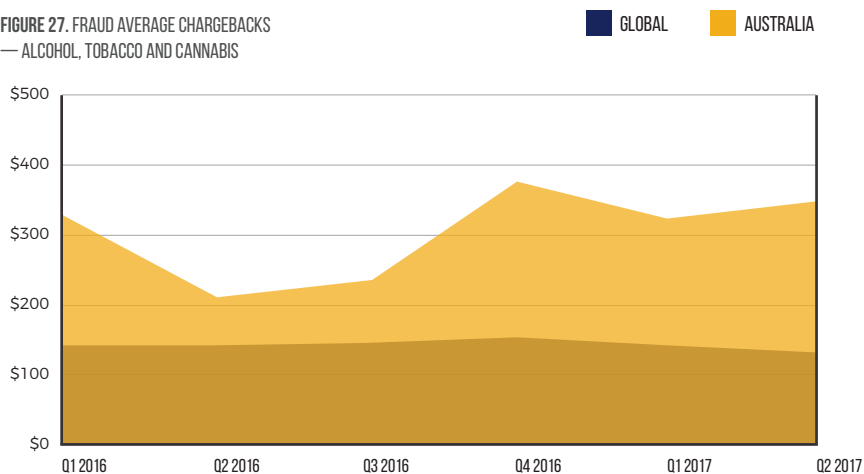


FIGURE 27. FRAUD AVERAGE CHARGEBACKS — ALCOHOL, TOBACCO AND CANNABIS

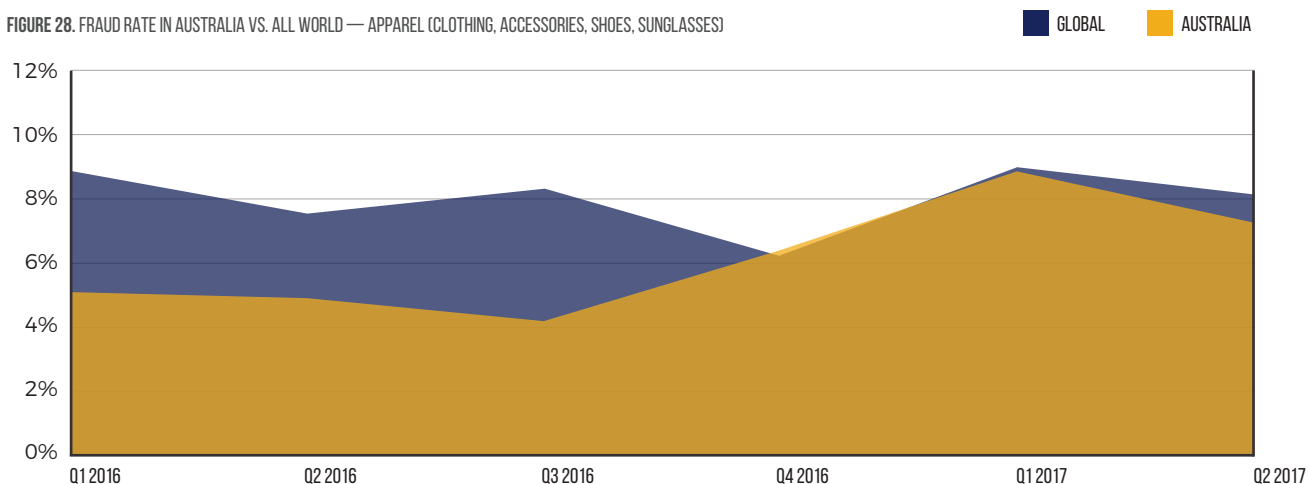




## APPAREL

Until Q2 2016, Australia's Apparel fraud rates were lower than the rest of the world. During Q1 2017, Australia's fraud rate zoomed up to be on par with the rest of the world. However, this quarter it's sunk to slightly lower.

FIGURE 28. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — APPAREL (CLOTHING, ACCESSORIES, SHOES, SUNGLASSES)



In this industry, Australia's fraud rates were slightly lower than the rest of the world for transaction sizes across the board.

Surprisingly, when Australia's fraud rates were lower than the rest of the world during Q3 2016, the average chargeback rates were higher compared to the world average. However, beginning in Q4 2016, Australia's average chargeback rate has since been more in line with global trends.

FIGURE 29. FRAUD RATE BY SIZE — APPAREL (CLOTHING, ACCESSORIES, SHOES, SUNGLASSES)

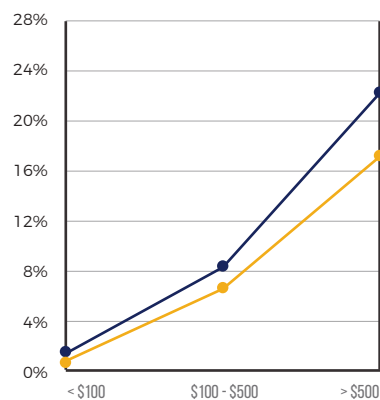
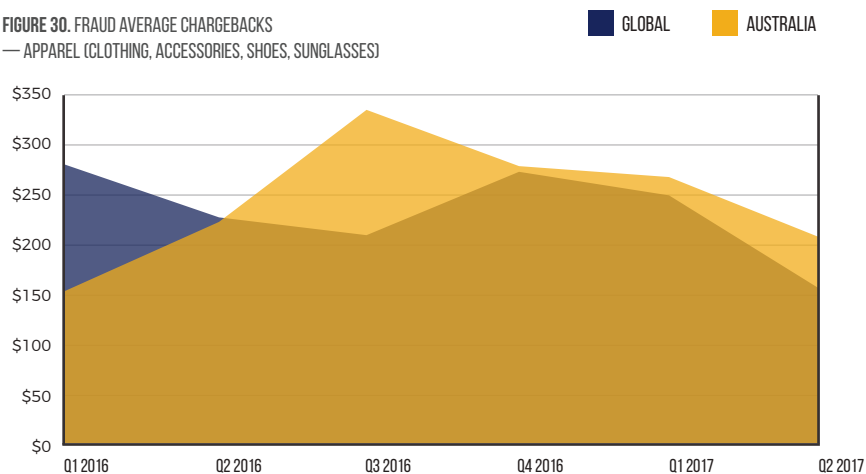


FIGURE 30. FRAUD AVERAGE CHARGEBACKS — APPAREL (CLOTHING, ACCESSORIES, SHOES, SUNGLASSES)

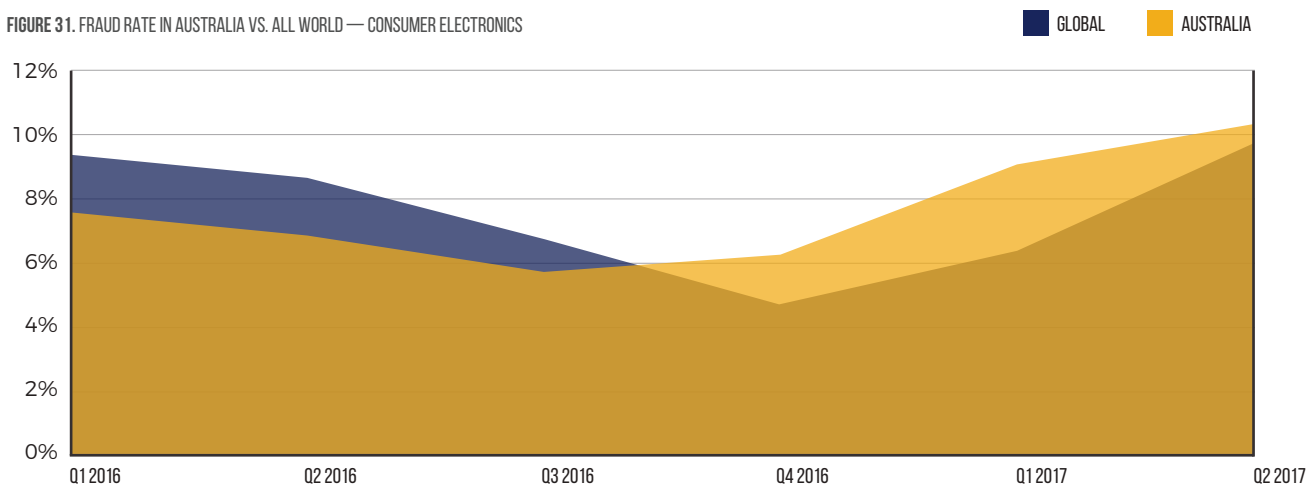




## CONSUMER ELECTRONICS

In general, Australia's fraud rate for Consumer Electronics followed the general world trend. Beginning in Q4 2016, however, Australia's fraud rate was higher than the rest of the world.

FIGURE 31. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — CONSUMER ELECTRONICS



Australia's fraud rate for purchases exceeding \$500 was much higher than the rest of the world at 17.48 percent compared to 11.15 percent.

Australia's average chargeback rate for Consumer Electronics was quite a bit lower than the rest of the world until Q3 2016, when it suddenly began to perfectly mirror world trends.

FIGURE 32. FRAUD RATE BY SIZE — CONSUMER ELECTRONICS

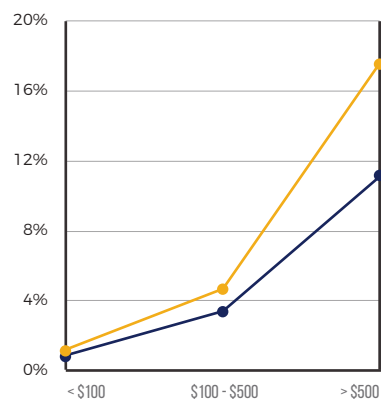
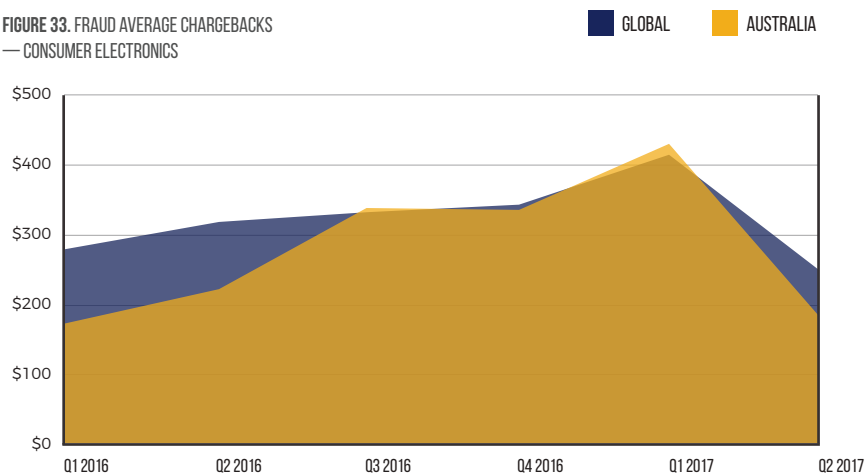


FIGURE 33. FRAUD AVERAGE CHARGEBACKS — CONSUMER ELECTRONICS

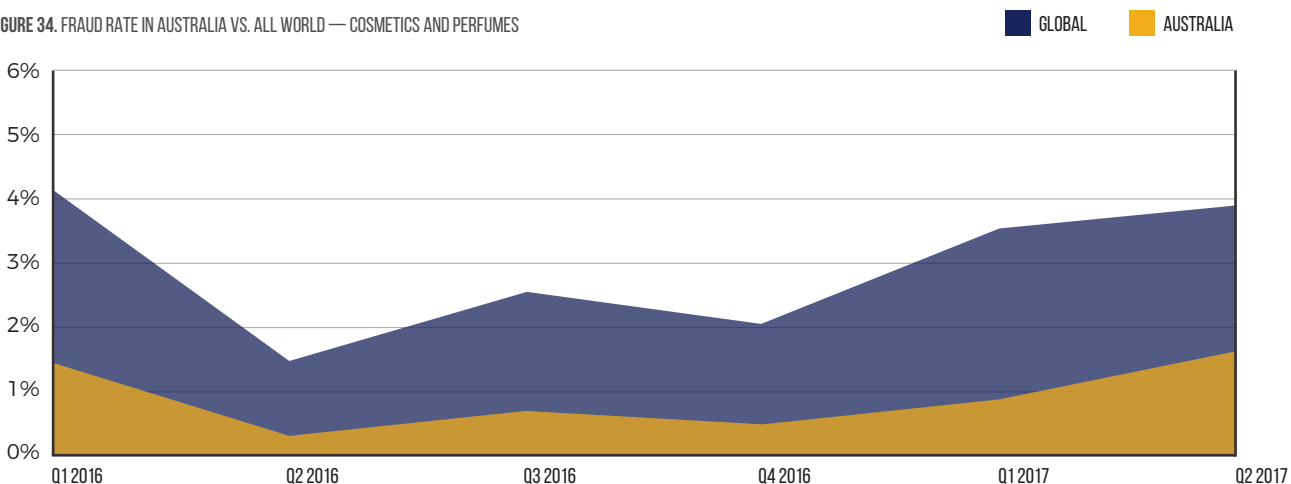




## COSMETICS AND PERFUMES

Overall, Australia's fraud trends mirrored the rest of the world, rising and dropping during the same periods of time. However, this is one industry in which Australia's overall fraud rate has been much lower than the global average.

FIGURE 34. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — COSMETICS AND PERFUMES



Australia's lower fraud rate is reflected in fraud rates across transaction sizes. Fraud rates across all transaction sizes are lower than the rest of the world.

Surprisingly, however, the average chargeback size has been on par with global trends or quite a bit higher — especially after Q3 2016.

FIGURE 35. FRAUD RATE BY SIZE — COSMETICS AND PERFUMES

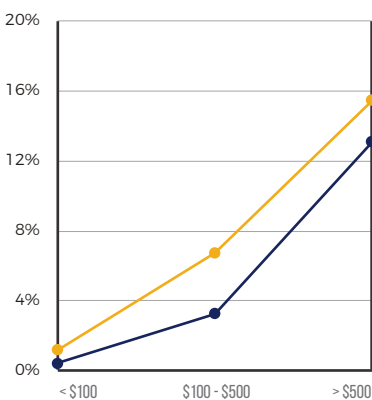
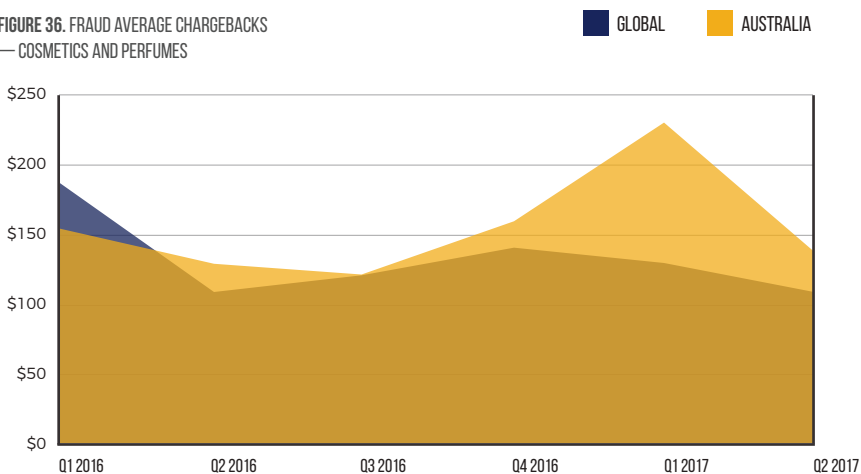


FIGURE 36. FRAUD AVERAGE CHARGEBACKS — COSMETICS AND PERFUMES



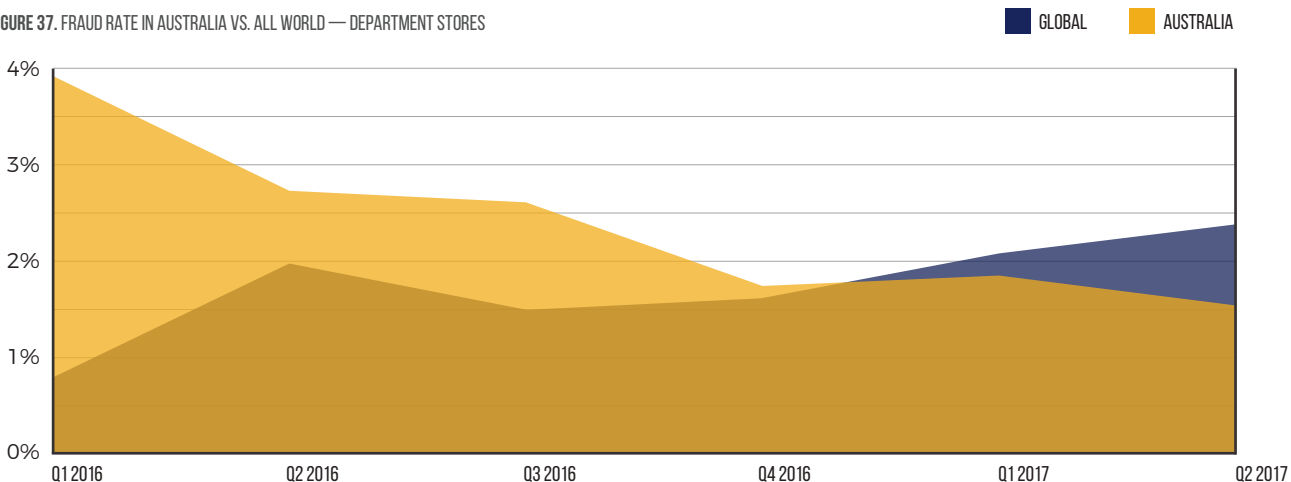




## DEPARTMENT STORES

While overall fraud has globally been on the rise for Department Stores, in Australia the opposite has happened: Fraud rates have steadily dropped. Whatever Australia's doing, there's a lesson to be learned.

FIGURE 37. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — DEPARTMENT STORES



Given the steady drop in Australia's Department Store fraud rates, it makes sense that fraud on the whole is lower in Australia than it is in the rest of the world across all transaction sizes.

Australia's average chargeback rate is also lower than the rest of the world, but it rose to the same amount as the global average this quarter.

FIGURE 38. FRAUD RATE BY SIZE — DEPARTMENT STORES

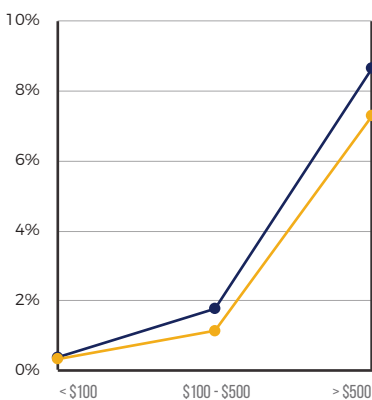
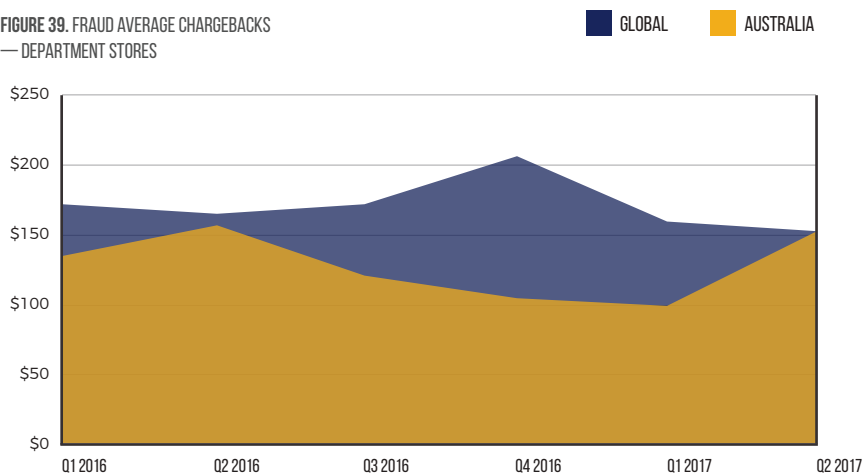


FIGURE 39. FRAUD AVERAGE CHARGEBACKS — DEPARTMENT STORES

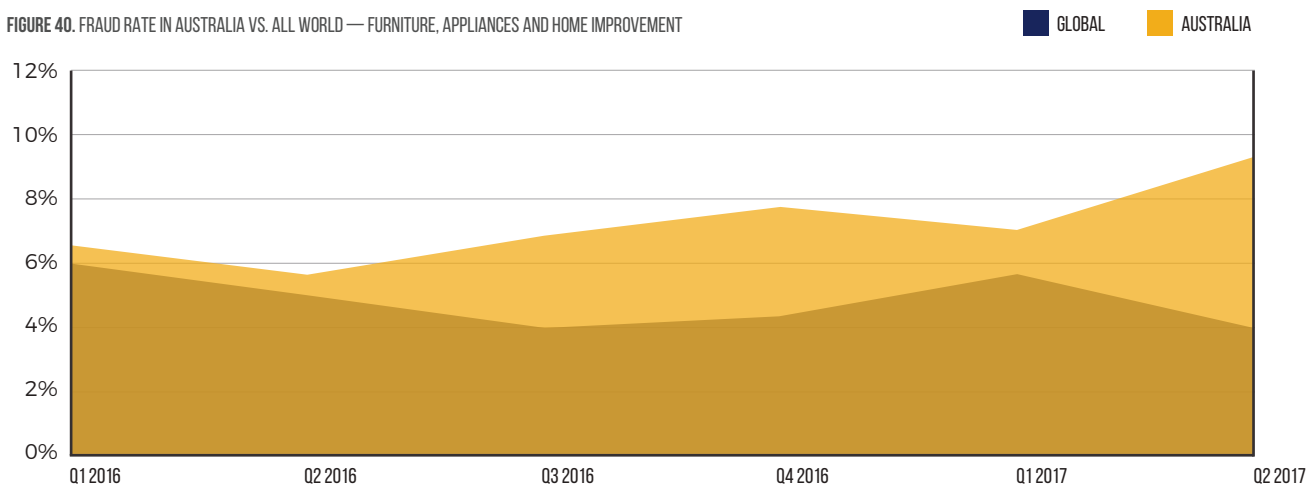




## FURNITURE, APPLIANCES AND HOME IMPROVEMENT

Overall, Australia's fraud rate has been consistently higher than the rest of the world. This quarter, it's nearly double the global average.

FIGURE 40. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — FURNITURE, APPLIANCES AND HOME IMPROVEMENT



The major difference in Australia's fraud rate compared to the rest of the world is driven by transactions exceeding \$500. Australia's fraud rate for transactions exceeding \$500 is almost triple compared to the global average at 17.13 percent compared to 6.71 percent.

However, though Australia's fraud rates have consistently been higher in this industry, its chargeback rates have consistently been much lower than the global average.

FIGURE 41. FRAUD RATE BY SIZE — FURNITURE, APPLIANCES AND HOME IMPROVEMENT

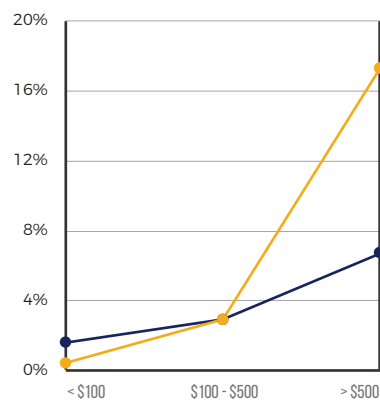
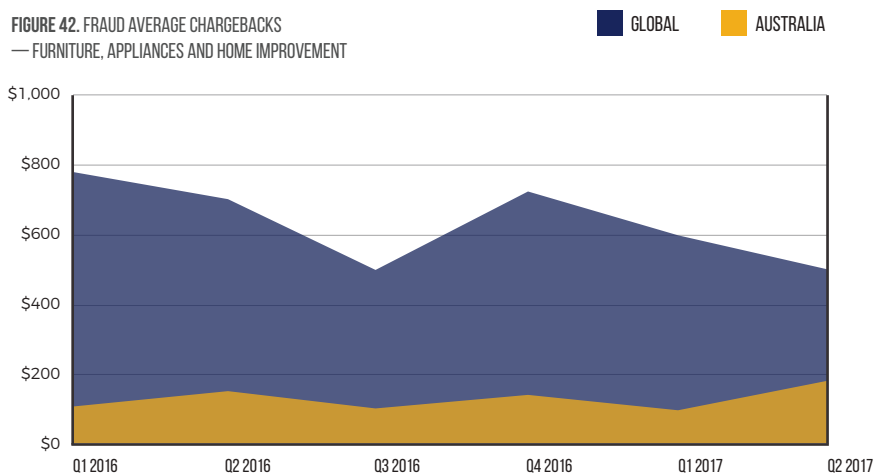


FIGURE 42. FRAUD AVERAGE CHARGEBACKS — FURNITURE, APPLIANCES AND HOME IMPROVEMENT

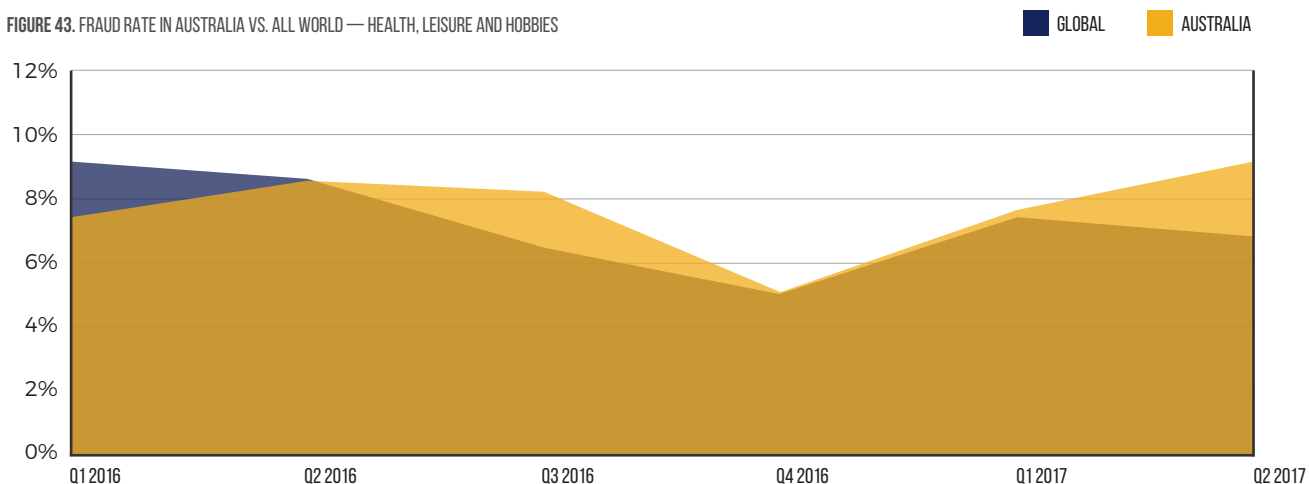




## HEALTH, LEISURE AND HOBBIES

Except during this quarter, Australia's fraud rates have followed the global trend. This quarter, though, Australia's fraud rates have zoomed up.

FIGURE 43. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — HEALTH, LEISURE AND HOBBIES



Again, the rise in fraud rates seems to be driven by fraud on transactions exceeding \$500. Australia's fraud rate here is 16.82 percent compared to 12.29 percent.

Meanwhile, Australia's chargeback rate has been much lower than the global average. That said, Australia's chargeback rate this quarter has climbed up while that of the rest of the world has dipped down to a point where they are nearly the same.

FIGURE 44. FRAUD RATE BY SIZE — HEALTH, LEISURE AND HOBBIES

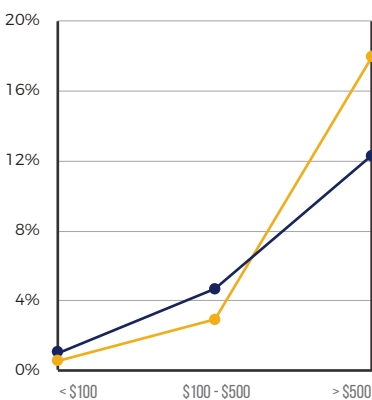
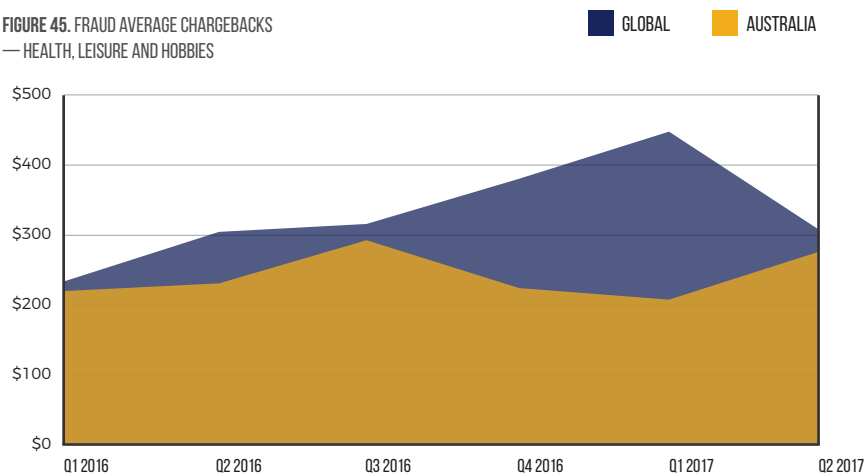


FIGURE 45. FRAUD AVERAGE CHARGEBACKS — HEALTH, LEISURE AND HOBBIES

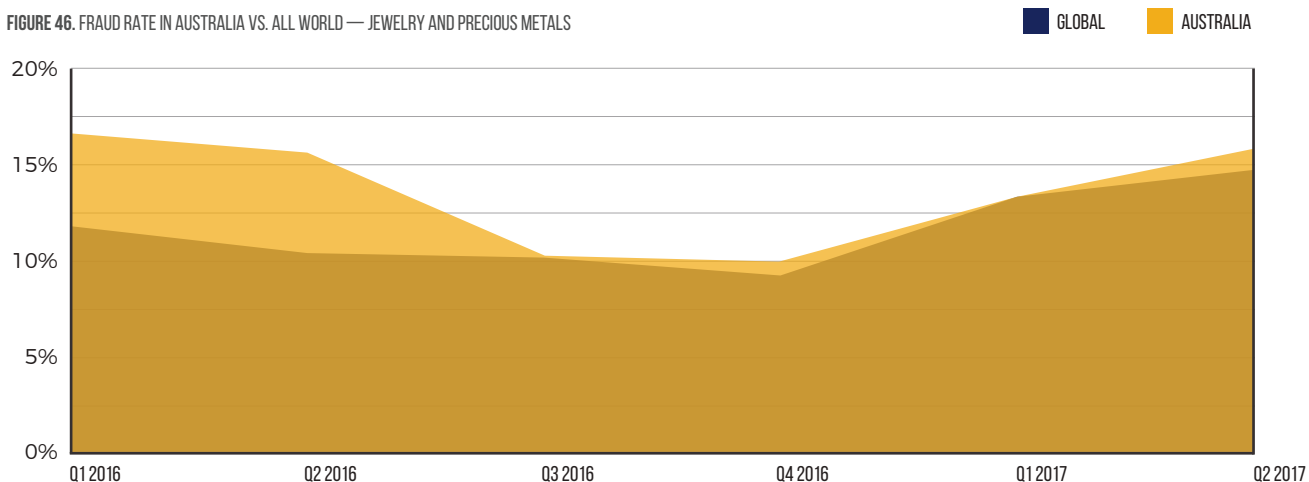




## JEWELRY AND PRECIOUS METALS

Australia's doing rather well here. While its fraud rate started off much higher than that of the rest of the world during Q1 2016, it's dipped down compared to the global average as of Q3 2016. It has since kept pace with the global fraud rate.

FIGURE 46. FRAUD RATE IN AUSTRALIA VS. ALL WORLD — JEWELRY AND PRECIOUS METALS



Overall, Australia's fraud rate is lower than the global average for transactions below \$100 and between \$100 and \$500. However, its fraud rate is much higher than the global average for transactions exceeding \$500.

Australia's average chargeback rate has stayed stagnant overall, while also remaining much lower than the global average.

FIGURE 47. FRAUD RATE BY SIZE — JEWELRY AND PRECIOUS METALS

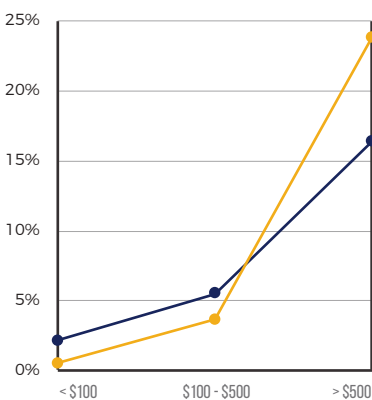
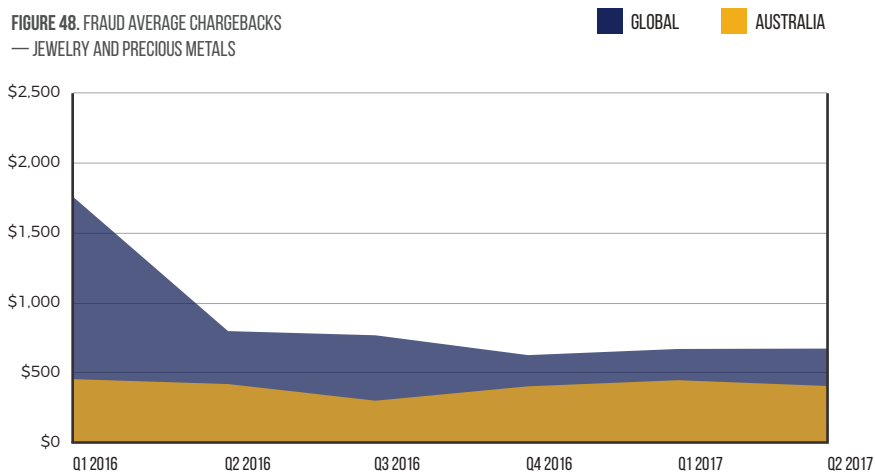


FIGURE 48. FRAUD AVERAGE CHARGEBACKS — JEWELRY AND PRECIOUS METALS





## MONEY LAUNDERING IN THE ANTIPODES

**F**raud is up in Australia, but what happens to the fruits of it all? The Commonwealth Bank of Australia (CBA), the largest lender in the country,<sup>7</sup> has recently come under fire for money laundering. According to the Australian Transactions Reports and Analysis Center (AUSTRAC), the bank failed to comply with laws on 53,700 occasions.<sup>8</sup>

In fact, according to AUSTRAC, the bank did not report cash transactions of \$10,000 or more totaling \$624.7 million, some of which were facilitated by criminal gangs. Three of the bank's nine directors have stepped down, and its CEO will resign in 2018. The CBA, however, maintains claims that the transactions were unreported because of a coding problem.<sup>9</sup>

While the scandal has made international headlines, though, it may be more of a one-off than an indication of money laundering trends in Australia. Reports from the Financial Action Task Force (FATF), an inter-governmental organization which combats money laundering and terrorist financing, paint a brighter picture. In its latest report on Australia, the FATF commented that "Australia has strong legal, law enforcement and operational measures for combating money laundering and terrorism financing."<sup>10</sup> The report did also note, however, that "important improvements are needed in key areas."<sup>11</sup>

In addition, the FATF report pointed out that while Australia has made progress implementing FATF standards, compliance isn't closely monitored, and in particular, real estate agents and lawyers were under-monitored. The report concluded that anti-money laundering regulations do not clearly state their objectives, thus making it difficult to understand how risks are being addressed.<sup>12</sup>

In other words, Australia is trying, and while it may not be a hot-bed of money laundering activity, there are certainly gaps in the system that allowed for the CBA scandal to occur. However, given Australia's fraud rates are higher compared to those of the rest of the world, it might be a good time for the country to preemptively examine its anti-money laundering mechanisms.

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<sup>7</sup> Author unknown. Australia's Commonwealth Bank is being sued over money laundering disclosures. Fortune. Sept. 4, 2017. <http://fortune.com/2017/09/04/commonwealth-bank-australia-sued/>. Accessed Sept. 2017.

<sup>8</sup> Ryan, Peter. CBA risks massive fines over anti-money laundering, terrorism financing law breaches. ABC Net News. Aug 3, 2017. <http://www.abc.net.au/news/2017-08-03/cba-risks-massive-fines-over-law-breaches/8770992>. Accessed Sept. 2017.

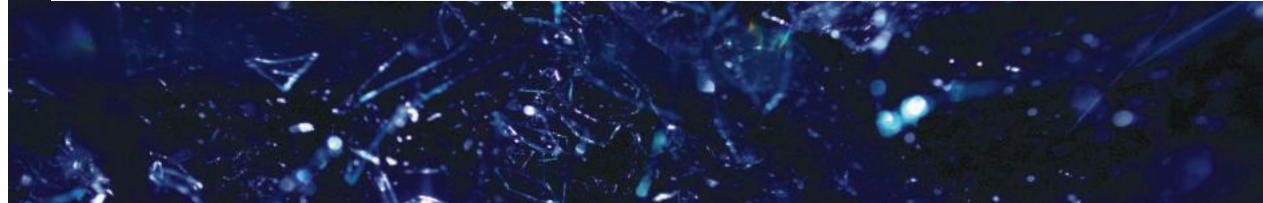
<sup>9</sup> Author Unknown. Coding error to blame in breaches at Commonwealth Bank?. PYMNTS. August 8, 2017. <http://www.pymnts.com/news/security-and-risk/2017/human-coding-error-behind-commonwealth-bank-breach/>. Accessed Sept. 2017.

<sup>10</sup> Author Unknown. Australia has a mature regime...remain unaddressed, says FATF. FATF. April 21, 2015. <http://www.fatf-gafi.org/countries/a-c/australia/documents/australia-mature-regime-to-combat-money-laundering-terrorist-financing-key-areas-remain-unaddressed.html>. Accessed Sept. 2017.

<sup>11</sup> Author unknown. Australia has a mature regime...remain unaddressed, says FATF. FATF. April 21, 2015. <http://www.fatf-gafi.org/countries/a-c/australia/documents/australia-mature-regime-to-combat-money-laundering-terrorist-financing-key-areas-remain-unaddressed.html>. Accessed Sept. 2017.

<sup>12</sup> Author Unknown. Anti-money laundering and counter-terrorist financing measures – mutual evaluation report. FATF. April 2015. <http://www.fatf-gafi.org/media/fatf/documents/reports/mer4/Mutual-Evaluation-Report-Australia-2015.pdf>. Accessed Sept. 2017.

## METHODOLOGY



### What is the Index?

The Global Fraud Index™ measures the growth (or decline) of attempted fraud<sup>13</sup> on eCommerce merchant websites. It also lays out the potential cost of these attempts.

The Index is created by comparing the current quarter's fraud rate to the average fraud rate during the most recent four quarters. For example, eCommerce fraud as a portion of \$100 in sales for the four quarters of 2016 were \$5.51, \$3.64, \$2.98 and \$3.07. The average of those quarterly results is \$3.80, and this becomes the Index baseline. Since the eCommerce fraud for the first quarter of 2017 increased to \$3.60, it is 5.26 percent lower than the \$3.80 Index baseline. We calculate our Index baseline to be 100, and therefore the Index value of the first quarter of 2017 is 94.74.

### Index Development

We base our analysis on data we have collected on the fraud rate, plus the total amount of eCommerce sales in the market since Q1 2016. For Q1 2017, we segmented the data based on the geographic location of the fraudster, the merchant's industry, the value of the order and by the fraud type.

### Average Chargeback Amount

Signifyd also provided data on the average chargeback amounts for three categories of orders: less than \$100, \$100 to \$500 and greater than \$500.

### Total eCommerce Revenues

The total value of eCommerce sales for each of the product categories was based on data from the U.S. Census Bureau. Detailed eCommerce data is only available by year and only through 2014. Total quarterly eCommerce sales, however, are available quarter-by-quarter through Q4 2016.

The U.S. Census Bureau provides data at a three-digit North American Industry Classification System (NAICS) level and a break-out of sales by product type for all "non-store retailers" based on NAICS code 454. Some of the product groups fall into more detailed categories than the three-digit level, however. In these cases, we use six-digit data from the economic census (which provides data for total sales in addition to eCommerce sales). This data is made available once every five years and is currently available through 2012.

Because sales at the 3-6-digit level are constant

<sup>13</sup> Attempted fraud is defined as all sales transactions identified as potential fraud, including both successful and unsuccessful fraud attempts.

and follow consistent trends over time, we assumed the ratio of total eCommerce sales followed consistent patterns as well. We estimated segment sales using a two-step process.

First, we estimated the annual segment ratio for each year since 2014:

$$\text{Segment Ratio}_{2014} = \text{Segment sales in 2014} / \text{Total ecommerce sales in 2014}$$

$$\text{Segment Ratio}_{2013} = \text{Segment sales in 2013} / \text{Total ecommerce sales in 2013}$$

$$\text{Segment Ratio}_{2015} = \text{Segment Ratio}_{2014} + (\text{Segment Ratio}_{2014} - \text{Segment Ratio}_{2013})$$

$$\text{Segment Ratio}_{2016} = \text{Segment Ratio}_{2015} + (\text{Segment Ratio}_{2015} - \text{Segment Ratio}_{2014})$$

Next, we used the ratio to estimate the segment sales for each quarter:

$$\text{Segment Ecommerce Sales}_{\text{current quarter}} = \text{Total Ecommerce sales}_{\text{current quarter}} * \text{Segment Ratio}_{\text{current year}}$$

## Merchant Segments

The total fraud rate and fraud index calculated in this report cover all merchant segments. This report also identifies the following merchant segments for more detailed analysis, however:



### ALCOHOL, TOBACCO AND CANNABIS:

Covers merchants selling these substances and their related accessories and paraphernalia. For Cannabis specifically, the data includes more vendors selling accessories and paraphernalia, as they are much greater in number than those selling actual dry herb or its derivatives directly to consumers online.



### APPAREL:

A broad category which covers all clothing, shoes and accessories such as belts, hats and sunglasses. Given the universal market for such goods, the range of products and brands included varies greatly from discount stores to global luxury brands.



### CONSUMER ELECTRONICS:

Covers items as varied as televisions, laptops, digital cameras, flash drives, drones, electric scooters, hover boards and wireless earbuds. Excepting vehicles, if it's powered by batteries, it will likely fall into this category.



### COSMETICS AND PERFUMES:

Covers fragrances, make-up, wigs and skincare products for both men and women.





#### DEPARTMENT STORES:

Classified as eCommerce merchants selling a wide variety of household products intended to save the consumer a trip to his or her local grocery store and/or the brick-and-mortar department store. Given the selection of items at such stores, the products sold by these merchants may overlap with Apparel, Cosmetics and Perfumes and/or Consumer Electronics merchants.



#### FURNITURE, APPLIANCES AND HOME IMPROVEMENT:

Covers all major purchases for the home or other properties, including those purchases intended to repair/improve such properties.



#### HEALTH, LEISURE AND HOBBIES:

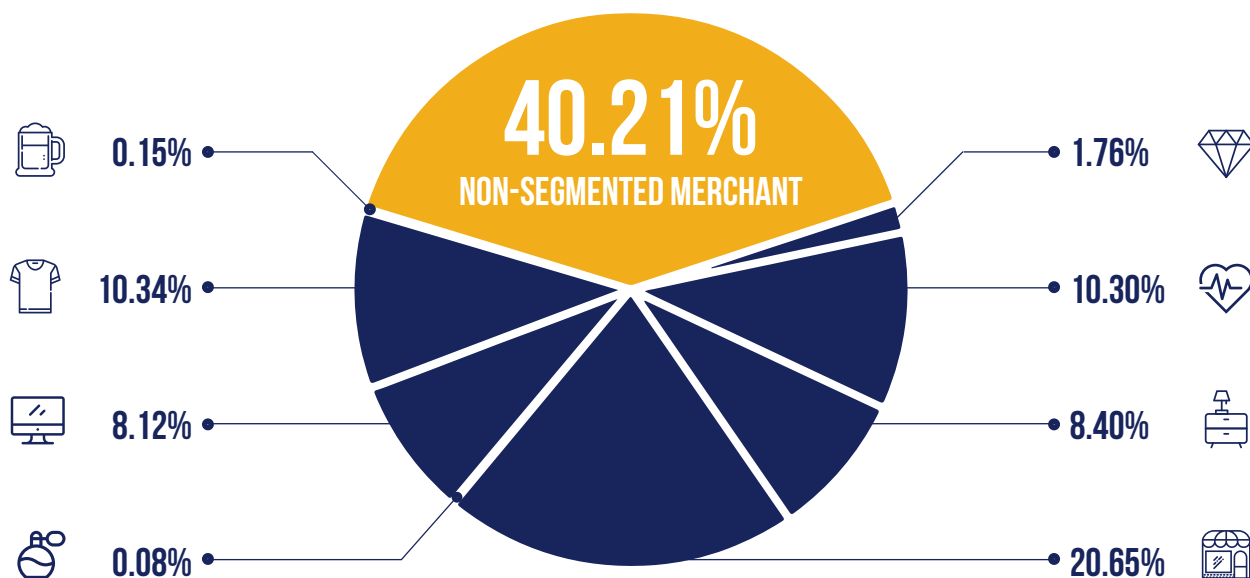
Covers many disparate sub-categories of merchants selling items such as fishing equipment, swords, training weights and board games.



#### JEWELRY AND PRECIOUS METALS:

Includes designer and personalized jewelry of varying values and precious metals and coins for collectors.

These selected industries specifically identify higher-risk targets for analysis. They account for approximately 59.6 percent of the dollars for all eCommerce sales, but only about one-quarter of all eCommerce transactions.



## ABOUT

### About Signifyd

Signifyd was founded to make fraud-free eCommerce available to every business. Signifyd solves the challenges that growing eCommerce businesses persistently face: billions of dollars lost in chargebacks, customer dissatisfaction from mistaken declines, and operational costs due to tedious, manual transaction investigation.

As the world's largest provider of Guaranteed Fraud Protection, Signifyd provides a 100% financial guarantee against fraud and chargebacks on every approved order. This effectively shifts the liability for fraud away from eCommerce merchants allowing them to increase sales and open new markets while reducing risk. The company has integrations and partnerships with Salesforce Commerce Cloud, Magento, Shopify, BigCommerce, ThreatMetrix and TSYS. Signifyd is also available through the Interceptas® platform offered by Accertify, an American Express company.

Signifyd is in use by multiple companies on the Fortune 1000 and Internet Retailer Top 500 list. Signifyd was recognized by Forbes as one of the "50 Most Innovative Companies in Fintech", by Bloomberg as one of the "50 Most Promising Startups You've Never Heard Of" and as the Fraud Innovation Firm of the Year at the Finance Monthly Fintech Awards. Signifyd benefits from its location in the heart of San Jose's AI/machine learning hotbed, where it has cultivated an award-winning culture that earned it a spot in Entrepreneur's Top Company Cultures in America list for 2017 and as one of the Bay Area's Best Places to Work as recognized by the San Francisco Business Times and Silicon Valley Business Journal .

### About PYMNTS.com

PYMNTS.com is reinventing the way in which companies in payments share relevant information about the initiatives that shape the future of payments and commerce and make news.

This powerful B2B platform is the No. 1 site for the payments and broader commerce ecosystem by traffic and the premier source of information about "what's next" in payments. C-suite and VP level executives turn to it daily for these insights, making the PYMNTS.com audience the most valuable in the industry. It provides an interactive platform for companies to demonstrate thought leadership, popularize products and, most importantly, capture the mindshare of global decision-makers. PYMNTS.com... where the best minds and best content meet on the Web to learn "what's next" in payments and commerce.

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