

The 2Checkout Fraud Index Report

1st Quarter, 2014



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Methodology

2Checkout monitors a sample of one million online transactions for its Fraud Index every quarter across the world, using a sophisticated tiered defense system that automatically flags fraudulent purchase activity at the time of sale. The company sits between the buyer and seller, intercepting fraudulent transactions before they cause financial harm to the seller.

The data collected and interpreted in this report refers to instances in which a fraudulent party attempted to commit fraud, but was prevented from doing so by 2Checkout's state-of-the-art fraud technology. This report captures those fraud instances and normalizes them into a standard index so that cross-category comparisons can be made.

Fraud occurs frequently on the Internet because of the anonymity it provides to bad actors. 2Checkout's identification technologies reduce the anonymity of the parties on the Internet, providing visibility into fraudulent activity. 2Checkout identifies fraud in real-time using a variety of methods: direct observation, network intelligence, and system heuristics.

Through direct observation, 2Checkout intercepts questionable buyer behavior and flags it for intense review. 2Checkout also analyzes information from beyond its network based on patent-pending technology that connects merchants, issuing banks, and credit card associations in an online network of trusted, reliable relationships.

The company also applies 300+ heuristics to every transaction in order to assess its veracity. One of the technologies employed, the "tagless device ID," reads myriad variables across 600+ million devices, arriving at a unique fingerprint identity describing each device. If nefarious activity is observed from the same fingerprint, 2Checkout flags the transaction as potential fraud.

The 2Checkout Fraud Index is calculated from a “fraud rate,” assessed by dividing the number of fraud incidents by the total number of transactions. Then, the average fraud rate worldwide is set equal to zero, and all other fraud rates are normalized to this index. Therefore, a country with a Fraud Index of -100 is considered twice as ‘risky’ as the average fraud rate, and another country with an Index of 50 is considered to be half as ‘risky.’ The Fraud Index is then cross tabulated against other observed buyer characteristics, such as credit card type, billing address, IP address, email domain, and transaction characteristics such as currency, product type, and transaction value.

Key Findings

- Discover Card buyers are twice as likely to commit fraud as MasterCard buyers, and three times more likely than PayPal buyers.
- Though MasterCard is one of the most commonly used credit cards in the world, it holds the lowest fraud rate of all credit cards; users of the card are 21% less likely to conduct a fraudulent transaction.
- Using PayPal is safer than most credit cards. Some credit cards experience 3x the fraud rate of others.
- Indonesia, Pakistan, and Romania consistently demonstrate high fraud rates, when evaluated by both the buyer's billing address or IP address.
- Conversely, Scandinavian countries (Norway, Finland, and Denmark) and Belgium demonstrate the lowest fraud rates. This is consistent whether these countries are evaluated by buyer billing address or IP address.
- Regarding the value of transactions, the highest fraud rates occur at the most expensive and least expensive tiers. Transactions over \$400 experience the highest fraud, followed by transactions valued at \$19 and below.
- Across all product categories, the highest global fraud rates are experienced by the cable, satellite and pay television segment, which experiences more than three times the average fraudulent activity. The lowest fraud rates are experienced in home furnishings, sewing and needlework products, as well as books and periodicals, which exhibit one tenth the typical fraud rates.
- Across all fraud categories examined, the greatest predictor of fraud is the buyer's country and the seller's product category. Fraud rates can vary by 1000% from one country to the next and by 400% between different product categories.
- The Russian Ruble is the safest currency in the world.

fraud ranking by

Payment Method Used

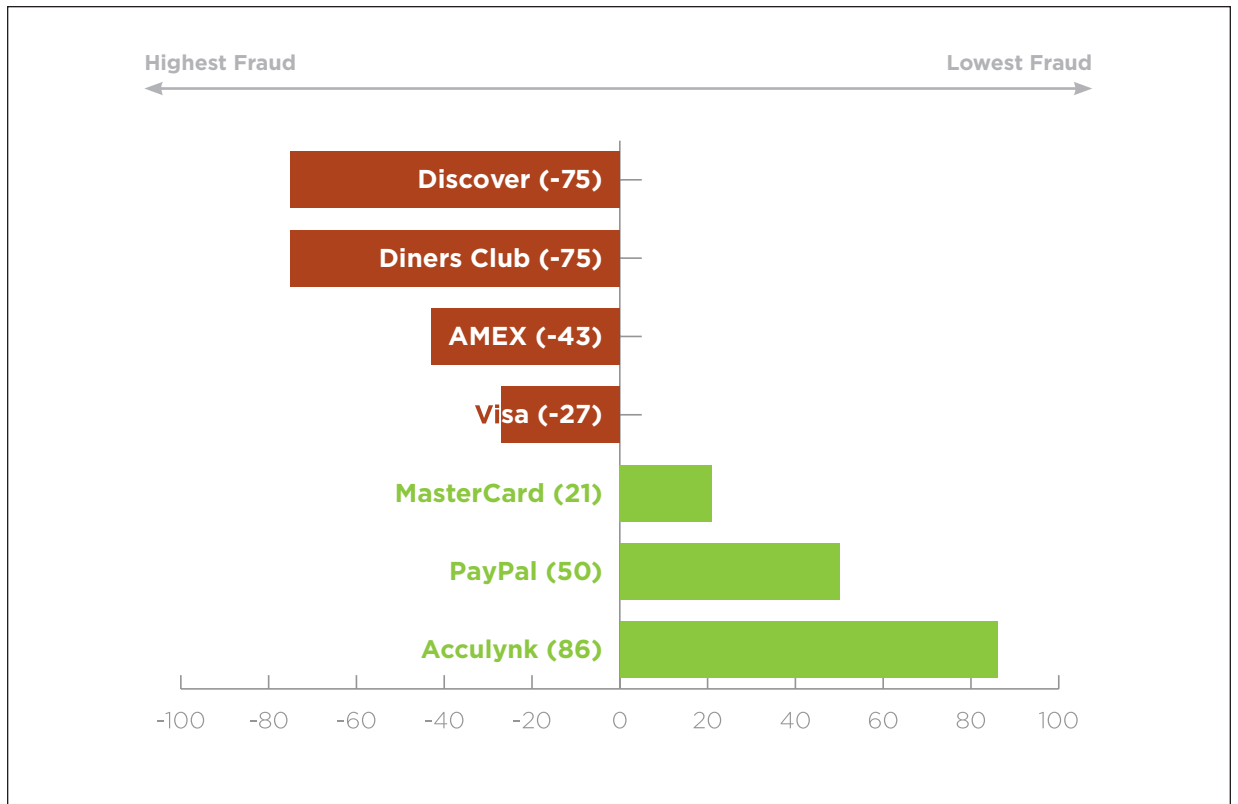
This section looks at differences in fraud rates according to payment method used.

Highlights

- Discover and Diners Club demonstrate the highest fraud with an index rank of -75, indicating that consumers that use these cards are more than .75% more likely to initiate a fraudulent transaction than the average buyer.
- Though MasterCard is one of the most commonly used credit cards in the world, it holds the lowest fraud index of all credit cards with an index of 21.
- Merchants assume the lowest level of risk when accepting MasterCard, PayPal, and Acculynk.

Discover Card holds the highest fraud index rank out of all credit cards.

The Credit Cards that Experience the Most and Least Fraudulent Activity



| Credit Card | Fraud Index |
|--------------------|--------------------|
| Discover | -75 |
| Diners Club | -75 |
| AMEX | -43 |
| Visa | -27 |
| MasterCard | 21 |
| PayPal | 50 |
| Acculynk | 86 |

fraud ranking by

Buyer Billing Address

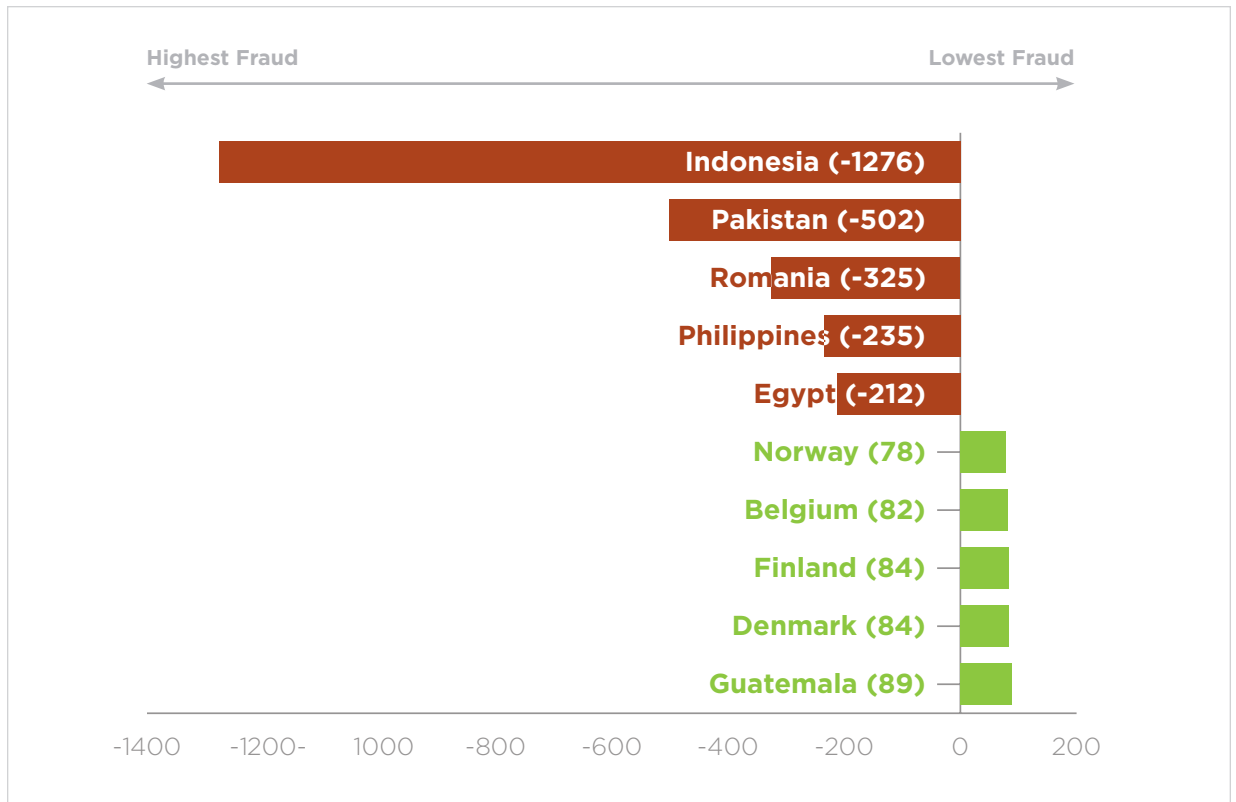
This section looks at differences in geographic fraud rates according to buyer billing addresses.

Highlights

- Buyer billing address offers a strong predictor of potential fraud.
- The top countries for fraud based on the buyers' billing addresses are Indonesia, Pakistan, Romania, Philippines, and Egypt.
- Indonesian buyers are 12 times more likely to commit fraud than buyers from another country.
- Fraud is least likely to occur when the buyer's billing address is from Norway, Belgium, Denmark, Finland, or Guatemala.

Indonesian buyers are 12 times more likely to commit fraud.

The Countries that Experience the Most and Least Fraudulent Activity Ranked By Buyer's Billing Address



| Country | Fraud Index |
|---------------|-------------|
| Indonesia | -1276 |
| Pakistan | -502 |
| Romania | -325 |
| Philippines | -235 |
| Egypt | -212 |
| Turkey | -154 |
| Malaysia | -149 |
| Chile | -79 |
| Lebanon | -71 |
| Nigeria | -58 |
| Israel | -54 |
| Italy | -45 |
| Spain | -16 |
| India | -13 |
| Brazil | -8 |
| United States | -5 |
| Thailand | -1 |

| Country | Fraud Index |
|----------------------|-------------|
| Bulgaria | 1 |
| Qatar | 2 |
| Czech Republic | 4 |
| Ukraine | 7 |
| Peru | 14 |
| France | 19 |
| United Arab Emirates | 21 |
| Kuwait | 21 |
| Saudi Arabia | 22 |
| Argentina | 25 |
| Japan | 25 |
| Croatia (Hrvatska) | 28 |
| Panama | 30 |
| Korea, Republic of | 42 |
| Colombia | 43 |
| Canada | 46 |
| Ecuador | 48 |
| Greece | 49 |
| Australia | 50 |
| Singapore | 50 |
| Portugal | 53 |
| Hong Kong | 53 |
| Costa Rica | 53 |
| Germany | 56 |
| United Kingdom | 60 |
| Netherlands | 61 |
| Mexico | 67 |
| Ireland | 68 |
| Poland | 70 |
| South Africa | 70 |
| Sweden | 70 |
| Russian Federation | 71 |
| China | 72 |
| New Zealand | 76 |
| Switzerland | 76 |
| Norway | 78 |
| Belgium | 82 |
| Finland | 84 |
| Denmark | 84 |
| Guatemala | 89 |

fraud ranking by

Buyer IP Address

This section looks at differences in geographic fraud rates according to buyer IP Address.

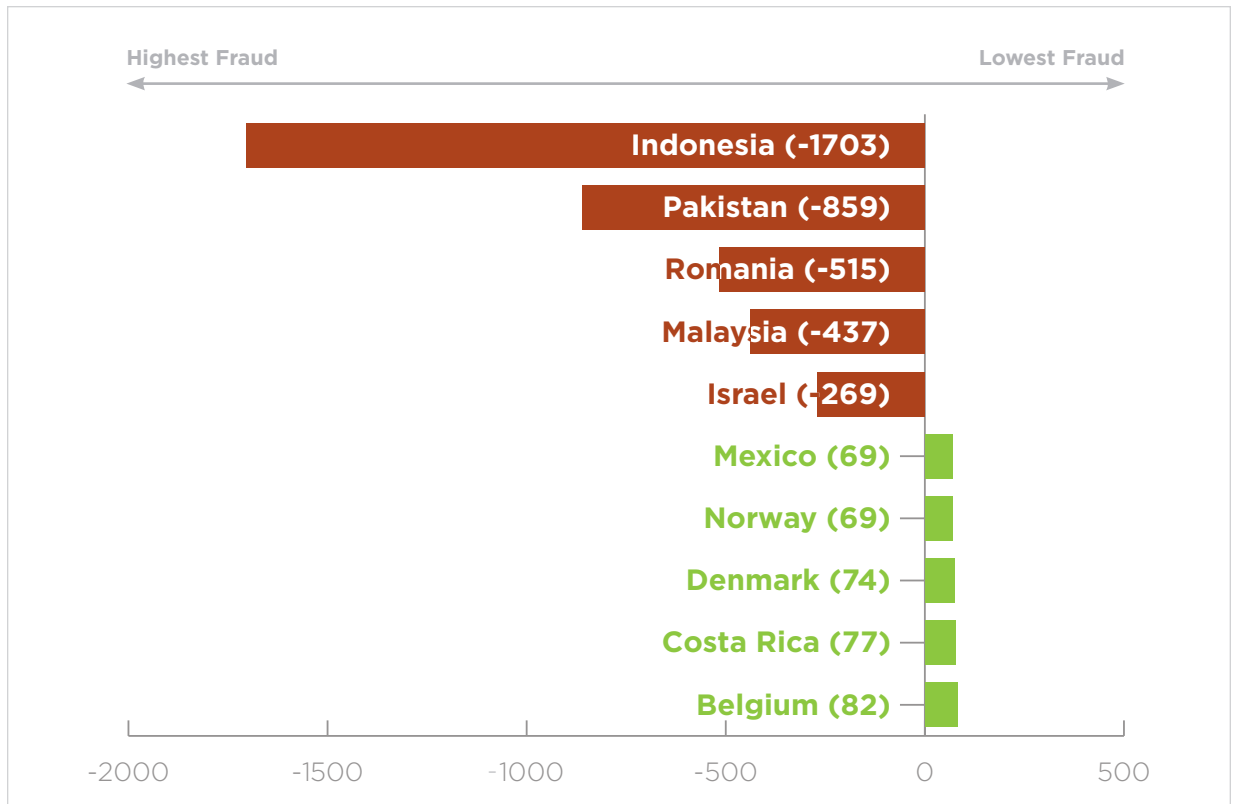
Highlights

- Examination of a Buyer IP Address offers a strong indicator of fraud.
- The top five highest countries for fraudulent activity based on buyer IP Address are Indonesia, Pakistan, Romania, Malaysia, and Israel.
- Indonesia holds more than 17 times as much fraudulent activity per buyer address as the average country.

Buyers with a Belgian IP Address attempt the least amount of fraud.

- The countries with the lowest fraudulent activity based on IP Address are Mexico, Norway, Denmark, Costa Rica, and Belgium.

The Countries that Experience the Most and Least Fraudulent Activity Ranked By Buyer’s IP Address



| Country | Fraud Index |
|---------------------|--------------|
| Indonesia | -1703 |
| Pakistan | -859 |
| Romania | -515 |
| Malaysia | -437 |
| Israel | -269 |
| Turkey | -217 |
| Philippines | -165 |
| Nigeria | -147 |
| Mauritius | -146 |
| Chile | -102 |
| Lebanon | -65 |
| Unknown | -64 |
| India | -46 |
| Kuwait | -34 |
| Saudi Arabia | -29 |
| Qatar | -28 |
| Asia/Pacific Region | -25 |
| Czech Republic | -13 |
| Ukraine | -12 |
| Spain | -10 |
| Argentina | -9 |

| Country | Fraud Index |
|----------------------|-------------|
| Peru | 0 |
| Japan | 1 |
| Korea, Republic of | 2 |
| Brazil | 6 |
| Panama | 10 |
| Thailand | 10 |
| France | 29 |
| Taiwan | 29 |
| Netherlands | 32 |
| United States | 34 |
| South Africa | 38 |
| United Arab Emirates | 38 |
| Ireland | 38 |
| Colombia | 44 |
| Russian Federation | 46 |
| Switzerland | 46 |
| Poland | 46 |
| Germany | 46 |
| Ecuador | 47 |
| Italy | 48 |
| Portugal | 49 |
| Sweden | 50 |
| Hong Kong | 53 |
| United Kingdom | 57 |
| Singapore | 59 |
| Australia | 61 |
| Greece | 62 |
| Canada | 63 |
| China | 67 |
| Mexico | 69 |
| Norway | 69 |
| Denmark | 74 |
| Costa Rica | 77 |
| Belgium | 82 |

fraud ranking by **Currency**

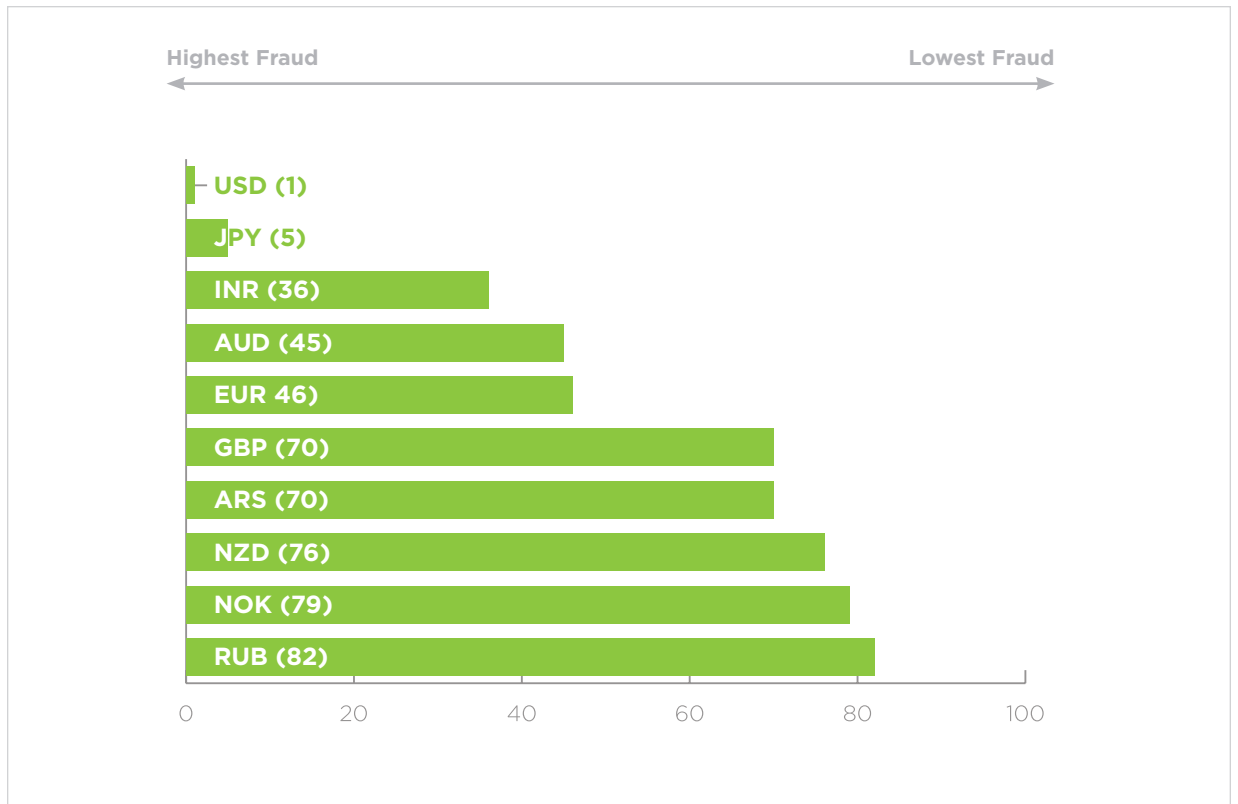
This section looks at differences in fraud rates according to currency.

Highlights

- The currency used in a transaction offers a weak predictor of fraudulent activity compared to other categories within the 2Checkout Fraud Index.
- Transacting in the United States Dollar offers average risk overall, but is the currency targeted by most fraudsters.
- The Russian Ruble is the currency that experiences the least amount of fraudulent activity, with 82% less fraud than other currencies.

The Russian Ruble experiences the least amount of fraudulent activity of all currencies.

The Countries that Experience the Most and Least Fraudulent Activity Ranked By Currency



| Country | Fraud Index |
|----------------|--------------------|
| USD | 1 |
| JPY | 5 |
| INR | 36 |
| AUD | 45 |
| EUR | 46 |
| AED | 50 |
| MXN | 63 |
| CAD | 66 |
| DKK | 67 |
| SEK | 70 |
| GBP | 70 |
| ARS | 70 |
| NZD | 76 |
| NOK | 79 |
| RUB | 82 |

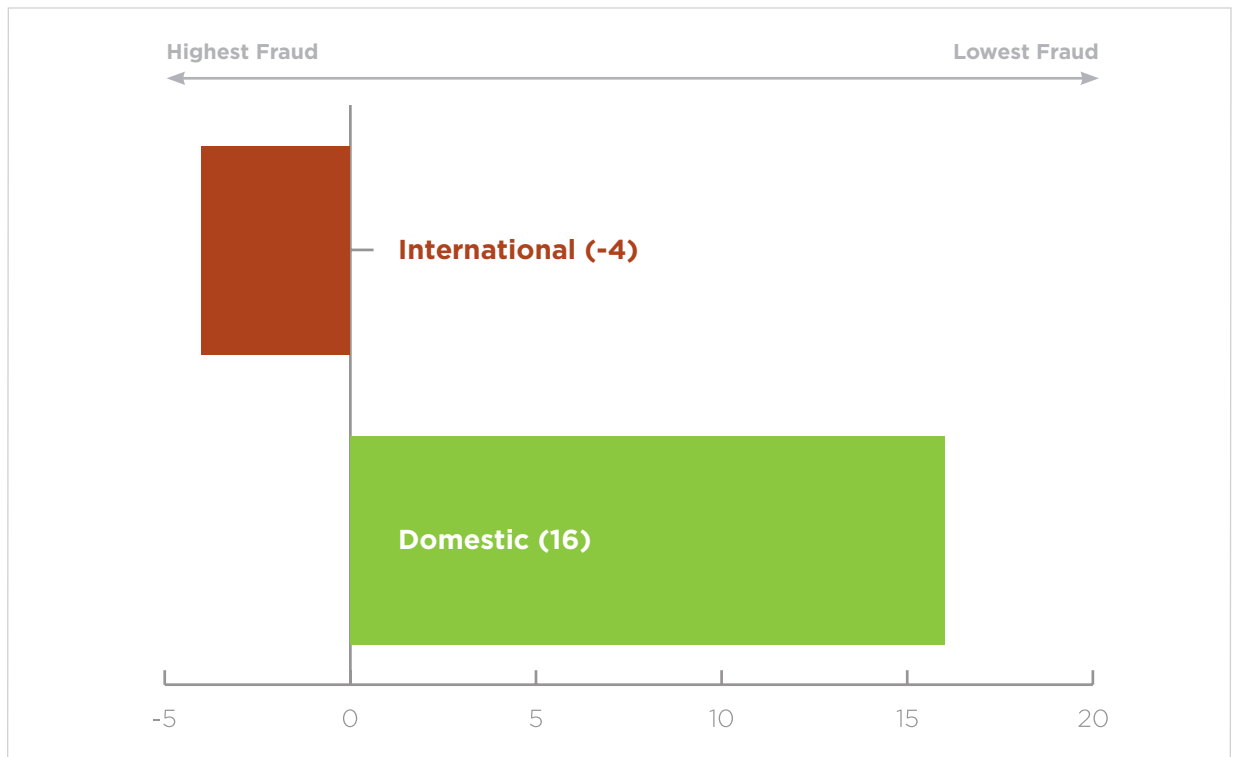
fraud ranking by

Cross-Border Status

This section looks at differences in fraud rates by cross-border status vs. in-country purchases.

Highlights

- There is little difference in fraudulent activity between transactions that were attempted by domestic buyers within a merchant’s home country and international buyers buying from the same merchant.
- Domestic buyers demonstrate 20% less fraud than their international counterparts.



| Cross-Border | Fraud Index |
|---------------|-------------|
| International | -4 |
| Domestic | 16 |

fraud ranking by

Product Type

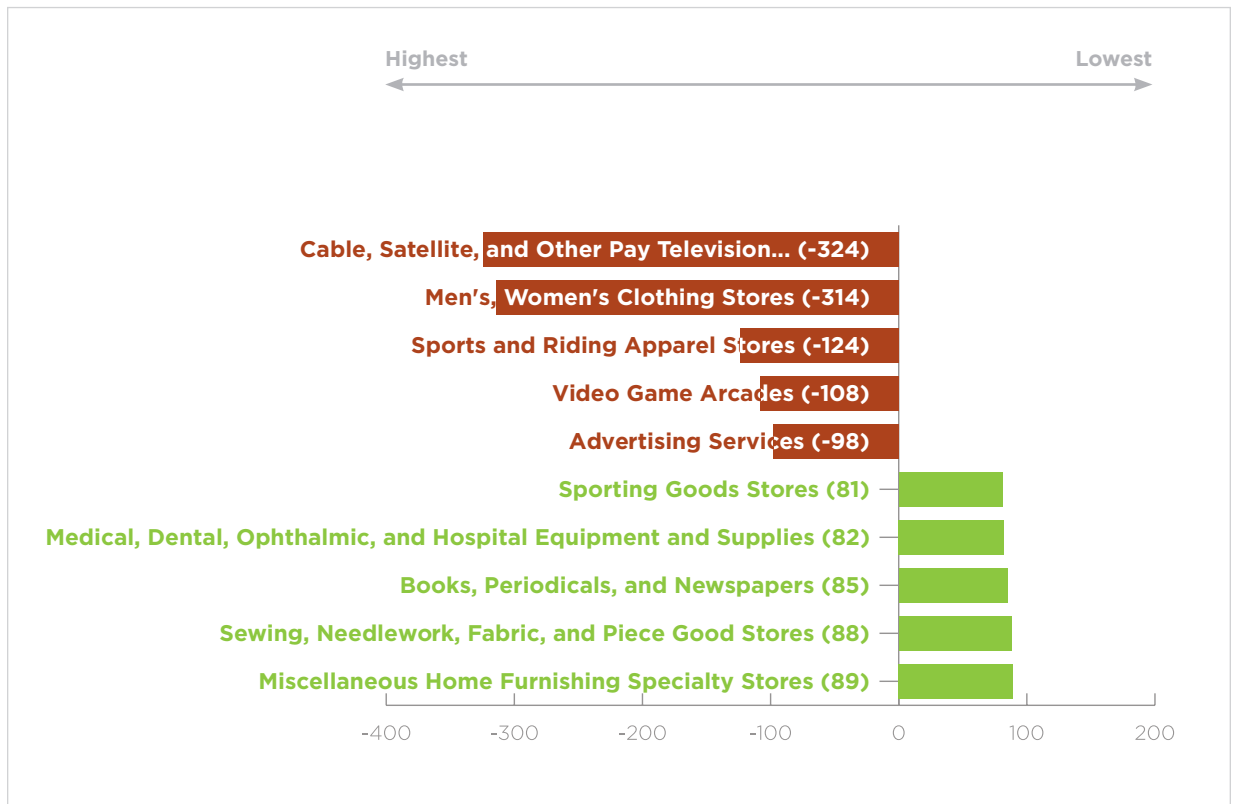
This section looks at differences in fraud rates according to product type.

Highlights

- Fraud rates can vary by as much as 400% across product categories.
- The highest fraud rates are found amongst the following product categories: Cable, Satellite, and Other Pay Television and Radio; Men’s, Women’s Clothing Stores; Sports and Riding Apparel Stores.
- The lowest fraud rates for product type are in Miscellaneous Home Furnishing Specialty; Sewing, Needlework, Fabric, and Piece Goods; and Books, Periodicals, and Newspapers.

Fraudulent parties target the ‘Cable, Satellite, and Other Pay Television and Radio’ product category more than any other.

The Product Types that Experience the Most and Least Fraudulent Activity



| Product Type | Fraud Index |
|-----------------------------------|-------------|
| Cable, Satellite, and Other Pay | -324 |
| Men's, Women's Clothing Stores | -314 |
| Sports and Riding Apparel | -124 |
| Video Game Arcades | -108 |
| Advertising Services | -98 |
| Computer Network Services | -39 |
| Motorcycle Shops and Dealers | -23 |
| Florists Supplies, Nursery Stock, | -21 |

| Product Type | Fraud Index |
|-----------------------------------|-------------|
| Travel Agencies, Tour Operators | 3 |
| Hobby, Toy, and Game Shops | 8 |
| Women's Ready-To-Wear Stores | 11 |
| Florists | 13 |
| Women's Accessory and | 14 |
| Sports Clubs/Fields | 24 |
| Educational Services | 30 |
| Computer Software Stores | 30 |
| Computer Programming | 31 |
| Jewelry Stores, Watches, Clocks, | 33 |
| Professional Services | 37 |
| Information Retrieval Services | 41 |
| Electronics Stores | 42 |
| Miscellaneous General Services | 44 |
| Membership Organizations | 44 |
| Music Stores-Musical | 50 |
| Dating/Escort Services | 54 |
| Secretarial Support Services | 56 |
| Miscellaneous Recreation | 56 |
| Miscellaneous Publishing and | 57 |
| Gift, Card, Novelty, and Souvenir | 57 |
| Miscellaneous General | 58 |
| Miscellaneous Business Services | 62 |
| Computers, Peripherals, and | 63 |
| Cosmetic Stores | 64 |
| Precious Stones and Metals, | 64 |
| Miscellaneous Specialty Retail | 66 |
| Family Clothing Stores | 71 |
| Miscellaneous Apparel and | 71 |
| Commercial Photography, Art | 71 |
| Record Stores | 73 |
| Art Dealers and Galleries | 74 |
| Correspondence Schools | 74 |
| Consulting, Public Relations | 78 |
| Miscellaneous Food Stores | 80 |
| Book Stores | 80 |
| Sporting Goods Stores | 81 |
| Medical, Dental, Ophthalmic, | 82 |
| Books, Periodicals, and | 85 |
| Sewing, Needlework, Fabric, and | 88 |
| Miscellaneous Home Furnishing | 89 |

fraud ranking by

Value of Transaction

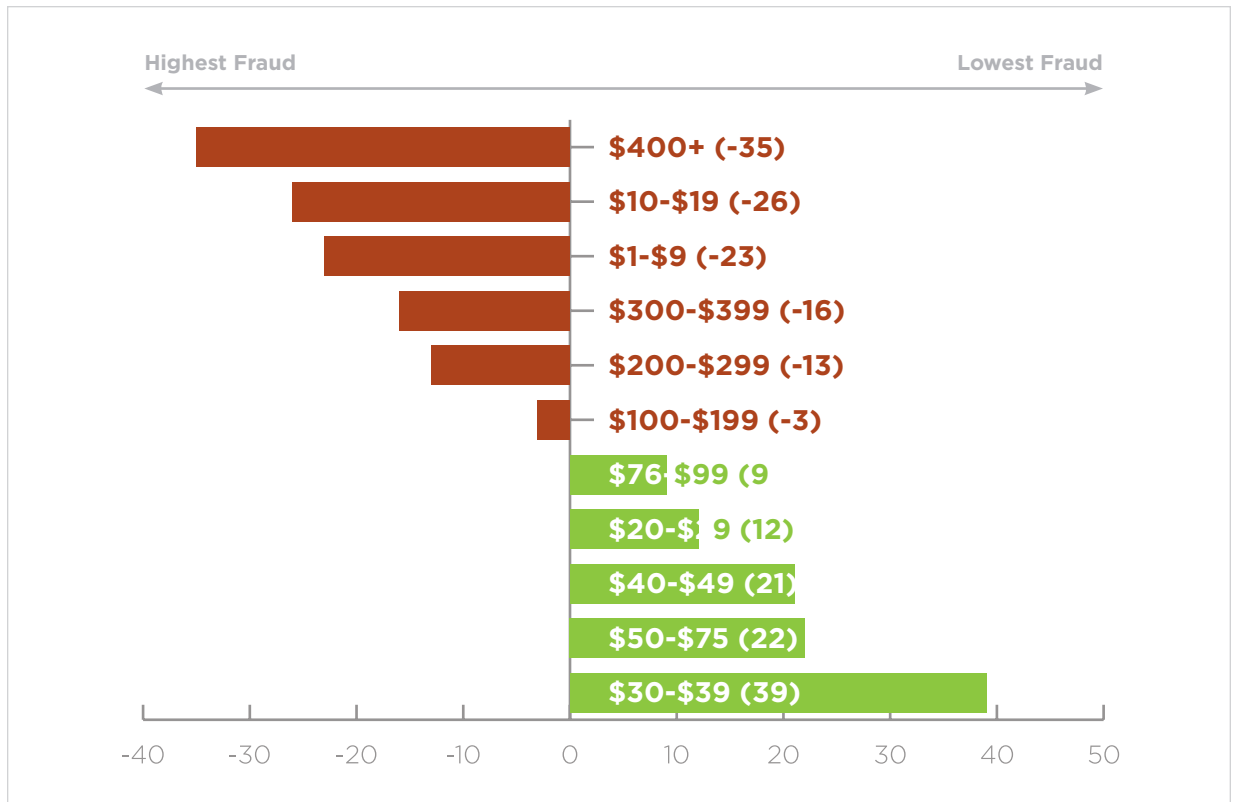
This section looks at differences in fraud rates according to Value of Transaction.

Highlights

- Fraud rates can vary by 74% between different transaction values.
- The highest fraud activity occurs in the most expensive product price range — over \$400 — while the second highest fraud rates occur between \$10 - \$19.
- The lowest fraud rates fall within the \$30-\$39 price range, with 39% less fraud.

The highest fraud activity occurs in products priced over \$400.

The Transaction Values that Experience the Most and Least Fraudulent Activity



| Value of Transaction | Fraud Index |
|----------------------|-------------|
| \$400+ | -35 |
| \$10-\$19 | -26 |
| \$1-\$9 | -23 |
| \$300-\$399 | -16 |
| \$200-\$299 | -13 |
| \$100-\$199 | -3 |
| \$76-\$99 | 9 |
| \$20-\$29 | 12 |
| \$40-\$49 | 21 |
| \$50-\$75 | 22 |
| \$30-\$39 | 39 |

About 2Checkout

Accept Payments, Globally

A worldwide leader in payment services, 2Checkout maximizes online sales conversions by giving global buyers localized payment options. Trusted by over 50,000 merchants, 2Checkout supports transactions in 196 countries through 8 payment methods, 26 currencies, and 15 languages, forming one of the leading processors of online transactions in the world. The service is simple to implement, including a pre-integrated payment gateway, a merchant account, PCI compliance, international fraud prevention, and plug-ins for 100 of the most popular carts.

A Worldwide Leader in Fraud Prevention

2Checkout wields an array of state-of-the-art tools that stops fraud before it starts.

- Our fraud network employs a patent-pending technology that connects consumers, merchants, issuing banks, and credit card associations in an online network of trusted relationships
- We currently detect 600 million devices using a unique, patented tagless device identification technology
- We use patented link analysis tools to correlate seemingly-unrelated events that other solutions might miss.

These technologies eliminate the anonymity of the Internet, protecting sellers from fraud from every angle possible.

Premier Technology & A Zero Tolerance Promise

Our fraud prevention technology uses a rules-based risk engine that works on a fire-and-continue methodology to prevent fraud. We allow good transactions to process as quickly as possible while screening unwanted intrusions.

Our technology analyzes every transaction to determine its level of risk, combing through data for signs of intentional deception. Once a transaction is flagged as suspicious, our technology alerts our internal fraud team to rapidly assess the transaction.

Sell Securely

Our patented tagless device ID technology removes anonymity for 600 million devices. Fraud thrives on the World Wide Web because of the anonymity it can provide to scammers and fraudulent parties. Our fraud technologies are designed to create a transparent and controlled environment, effectively holding each buyer responsible for his or her actions. Our tagless device ID analyzes myriad variables on each device, ascribing a unique fingerprint to each variant of device. If we see nefarious activity from the same fingerprint, it's automatically flagged and detained.

Connect with 2Checkout and learn more about how our services can enable you to implement these principles.

Contact Our Sales Team:

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Connect >> www.2checkout.com

connect

