



2018 Check Sample Survey

Federal Reserve Bank of Atlanta

Retail Payments Risk Forum Working Paper

Abstract: The 2018 Check Sample Survey (CSS) is designed to gain an understanding of the payer, payee, and purpose of checks written by business, government, and consumers in the United States. It includes shares by number and value and average values of checks paid and checks returned based on items that the Federal Reserve System processed in 2018. Data tables (appendix A), technical appendix (appendix B), remotely created checks augmentation (appendix C), and check interrogation forms (appendix D) are available for download at frbatlanta.org.

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This work is a collaborative effort of staff in the Retail Payments Risk Forum at the Federal Reserve Bank of Atlanta and the GCI Analytics office of McKinsey & Company.

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Introduction

Check usage in the United States has trended downward for several years. According to the 2004 Federal Reserve Payments Study (FRS 2004), there were 41.9 billion check payments in 2000.¹ The 2019 Payments Study (FRS 2019) found that check payments in the United States had fallen to 14.5 billion by 2018 and declined at an annual rate of 7.2 percent a year from 2015 to 2018.

These data sources have traced the decline in the use of paper checks over the last 20 years. This report examines the use of checks by U.S. consumers and businesses in 2018, using a sample of checks cleared through the Federal Reserve System. This sample does not represent the full population of checks. For example, it excludes checks written and paid to account holders of the same institution (“on-us” checks) and checks settled directly between two banks or through a private clearinghouse. Nevertheless, this snapshot gives some insights into consumers’ and businesses’ evolving use of checks through analysis of more than 64,000 checks drawn on commercial banks, savings institutions, and credit unions in the United States, from the smallest to the largest institutions.

The Check Sample Survey (CSS), administered with the help of the GCI Analytics office of McKinsey & Company, is conducted by the Retail Payments Risk Forum of the Federal Reserve Bank of Atlanta with assistance from staff members of the Retail Payments Office and Board of Governors of the Federal Reserve System. The purpose is to contrast business and consumer check usage patterns and to provide current data on the use cases for those who still pay by check.

Research design

The researchers collected data for this report monthly from February 2018 through January 2019 from the Federal Reserve check image archive.² We catalogued random samples of forward items (called “checks paid” in this report) and return items according to an assessment of the nature of the payer, payee, and purpose. For each check, we collected as many as 26 data elements, including routing number, value, and indicators that the payee or payer was a consumer or business (for example, inclusion of “Inc.,” “Corp.,” or “Association” in the payer name or whether or not the check was handwritten) and then assigned payer, payee, and purpose classifications.³ We sampled a total of 54,609 forward items and 9,785 returns.

Forward items are checks written, collected, and paid as checks. Therefore, the survey included remotely created checks and excluded checks converted and collected through ACH.^{4,5} Returns are unpaid checks the paying bank returns to the depositing bank. By number in the United States, the Federal Reserve processes an estimated one-third of all forward items and about half of the total of return checks.

¹ The estimate for the number of checks paid in 2000 was revised downward to 41.9 billion from 42.5 billion. Revisions to paid check estimates followed discussions with financial institutions that reported significant changes in check totals measured by the 2001 and 2004 FRS depository institution studies, as reported in the 2004 FRS.

² The sampling process was not in place in time to include checks from January 2018. Checks from January 2019 were sampled to cover a full 12-month period.

³ We retained no sensitive information; we saved only the metadata. Each analyst’s work was checked and inconsistencies were resolved. For more information, see the Technical Appendix and the CSS check interrogation forms.

⁴ Remotely created checks are checks issued on a payer’s behalf. They are authorized by the payer and drawn on the payer’s account but do not bear the payer’s signature. See [federalreserve.gov/newsevents/pressreleases/files/bcreg20170531a1.pdf](https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20170531a1.pdf).

⁵ We did not exclude U.S. Treasury items such as Treasury checks, postal money orders, and savings bonds but their numbers have diminished to the point that they do not bear on the results in any meaningful way.

Because the number of items sampled did not change from month to month, we weighted the data for seasonality. In addition, we used weighting to account for the disparate sizes and processing volumes among Federal Reserve check depositors.⁶

The population used for the 2018 check sample differs from all previous iterations.⁷ Consequently, we do not compare the 2018 data set to any previous CSS efforts. We recommend against such comparisons because results could owe to the differing approaches in sampling and characteristics of the dissimilar populations rather than from actual changes in check usage trends. Moreover, return information integral to this study was not present in previous CSS iterations.

Researchers should also avoid using the distributions presented here to draw conclusions about the number and volume of check payments in the United States. Estimates of noncash payments volume including checks, based on survey data gathered from a nationally representative survey of depository and financial institutions, are available in the Federal Reserve Payments Study (FRS 2019).

Checks cleared by the Federal Reserve, 2018

By number, consumers wrote just more than half of checks: 53 percent in 2018. By value, businesses wrote the bulk: 75 percent. By both number and value, businesses received most checks: 66 percent (number) and 76 percent (value). For this report, we grouped federal, state, and local government agencies as well as nonprofit organizations with businesses because they are able to accept payment types that businesses accept and vice versa.

Consumers wrote three-quarters of their checks, by both number and value, to businesses (C2B). Businesses wrote 56 percent of their checks by number and 76 percent by value to other businesses (B2B).

By number, C2B payments were the most common category, making up 40 percent of checks. B2B payments made up 26 percent; business-to-consumer (B2C), 20 percent; and consumer-to-consumer (C2C), 14 percent.

By value, almost 60 percent of checks were B2B payments. B2C and C2B each were about 18 percent by value. C2C payments were 7 percent by value.

Check purpose

We evaluated payments to businesses according to purpose, which could include the following:

- Bill: Payments to a business that did not occur at the point of sale. Such payments include regularly recurring payments, such as utility bill payments; nonrecurring bill payments made by consumers, including medical bills; and commercial bill payments, such as payments of B2B invoices for materials or supplies.
- Point of sale (POS): Payments to a business that occurred at the POS.
- Indeterminate: Payments to a business where we could not be certain if the transaction occurred at the POS or elsewhere.

Because of the difficulty of further discernment, the category of the payer determined the purpose of payments to consumers:

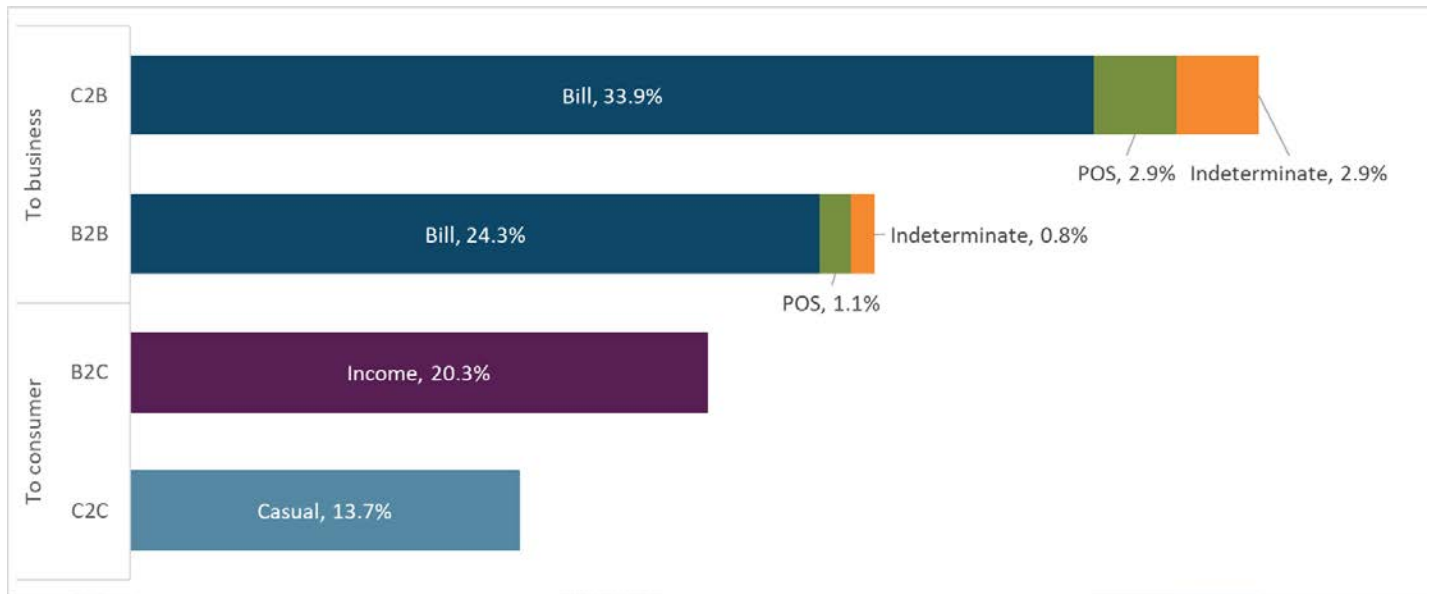
⁶ A disproportionate number of small banks clear checks via the Federal Reserve System but an overwhelming number of checks come from the largest depositors and represent the majority of items processed and cleared by the Federal Reserve. For more information, see the Technical Appendix.

⁷ See section 2 of the Technical Appendix for more information.

- We categorized all C2C payments as casual. The term *casual*, implying informal or irregular usage, reflects the wide variety of uses in this broad group. C2C payments include informal payments to family, friends, and acquaintances, such as for gifts, babysitting, lawn mowing, and reimbursements.
- We categorized all B2C payments as income. Such payments can include payroll; pension; benefits and entitlements; rebates, promotions, and refunds; expense reimbursements; tax refunds; investment disbursements; and bill payments to small businesses that cannot be distinguished from consumers.⁸

By number, bill payments, whether written by a business or a consumer, comprised the majority of the total checks processed: 58 percent. Payments at the POS accounted for just 4 percent of processed checks. As noted above, B2C payments, all of which were classified as income, made up 20 percent of check payments, and C2C payments, all of which were classified as casual, equaled about 14 percent.

Figure 1: 2018 checks paid by purpose, shares by number

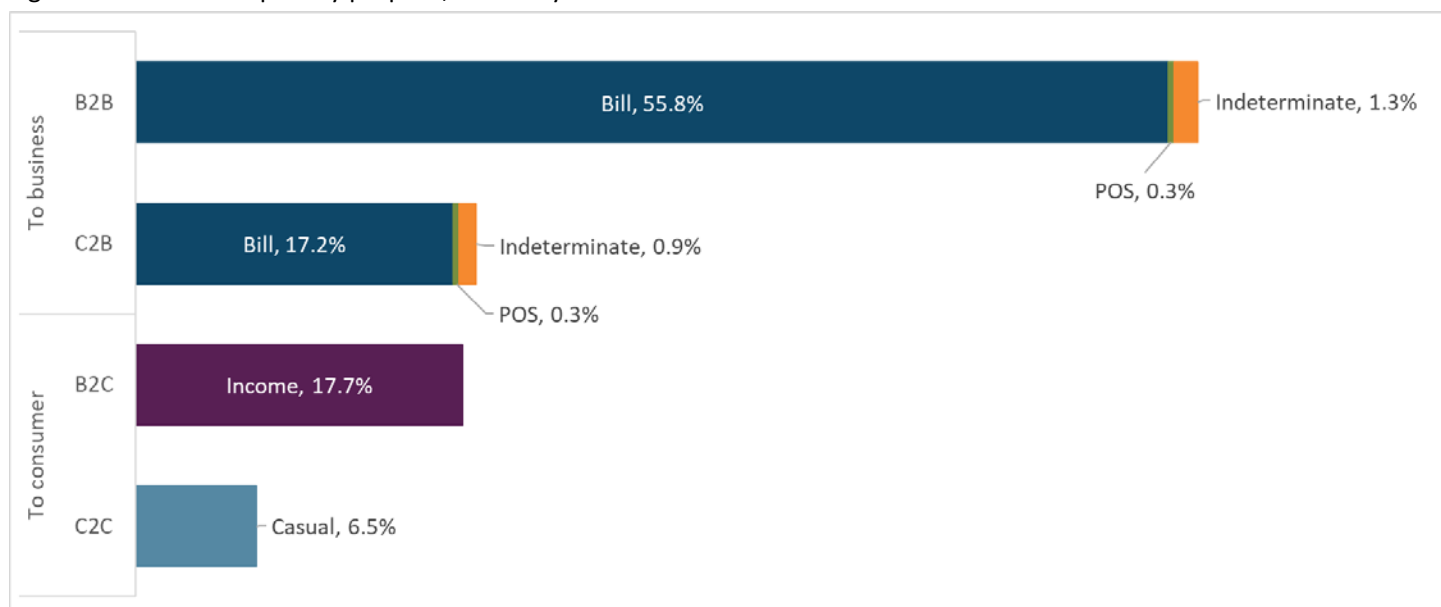


Source: 2018 Check Sample Survey, Appendix A: Data Tables, Checks Paid

By value, bills paid (to businesses, by definition) by consumers and businesses, at 73 percent, also comprised the majority of processed checks. Income payments (from businesses, by definition) to consumers were about 18 percent of check payments by value. Note that, by value, payments at the point of sale were less than 1 percent of checks.

⁸ For example, a small-business owner is using a consumer checking account to manage the business finances.

Figure 2: 2018 checks paid by purpose, shares by value



Source: 2018 Check Sample Survey, Appendix A: Data Tables, Checks Paid

Returned checks

Returned checks, or checks returned to the bank of first deposit unpaid, occur for a variety of reasons. The most common return reason is nonsufficient funds (NSF), or insufficient funds. By number, consumers wrote two-thirds of returned checks. By value, that relationship is reversed: businesses wrote two-thirds. On the receiving side, businesses received three-quarters of checks, by number and value, that were returned unpaid.

Just over half of returned checks by number were from a consumer to a business—C2B—followed by 18 percent B2B, 16 percent C2C, and 15 percent B2C. By value, most returned checks—53 percent—were B2B, followed by 23 percent C2B, 13 percent B2C, and 11 percent C2C. These shares by payer and payee differed from the patterns reported above for forward checks. As table 1 shows, checks that consumers wrote were more prevalent in the sample of checks returned than in the sample of checks paid.

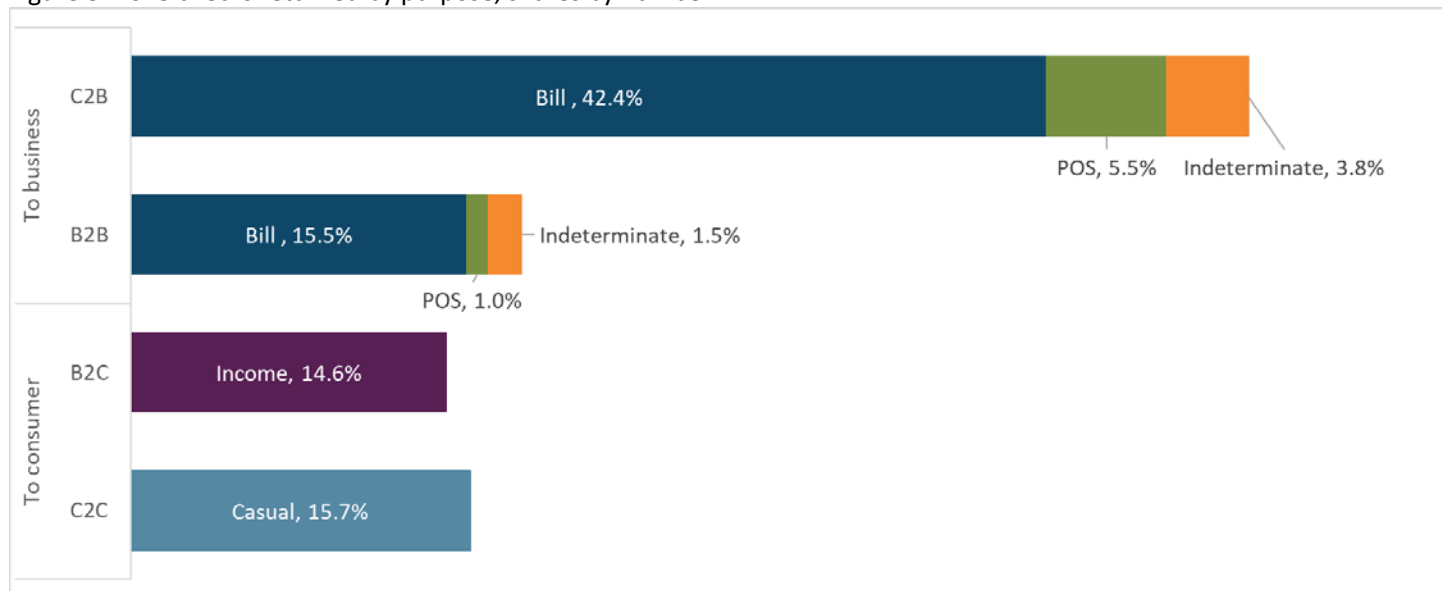
Table 1: Percentage shares of checks paid versus returned, by number and value

		Number paid	Number returned	Value paid	Value returned
Paid to business	B2B	26.2%	18.0%	57.4%	53.2%
	C2B	39.8%	51.7%	18.4%	22.9%
Paid to consumer	B2C	20.3%	14.6%	17.7%	12.7%
	C2C	13.7%	15.7%	6.5%	11.2%

Source: 2018 Check Sample Survey. Cells where the percentage of returns exceeds the percentage of checks paid for payer and payee pairings are highlighted

By purpose and number, bills were the greatest share of checks paid and also the greatest share of checks returned: 58 percent for both checks paid and checks returned. Both checks paid and checks returned at the POS were small, and the share of checks returned at the POS outweighs the share paid: 6.5 percent returned compared to 4.0 percent paid. As noted above, C2C checks (classified as “casual”) were more prevalent in the sample of checks returned than in the sample of checks paid.

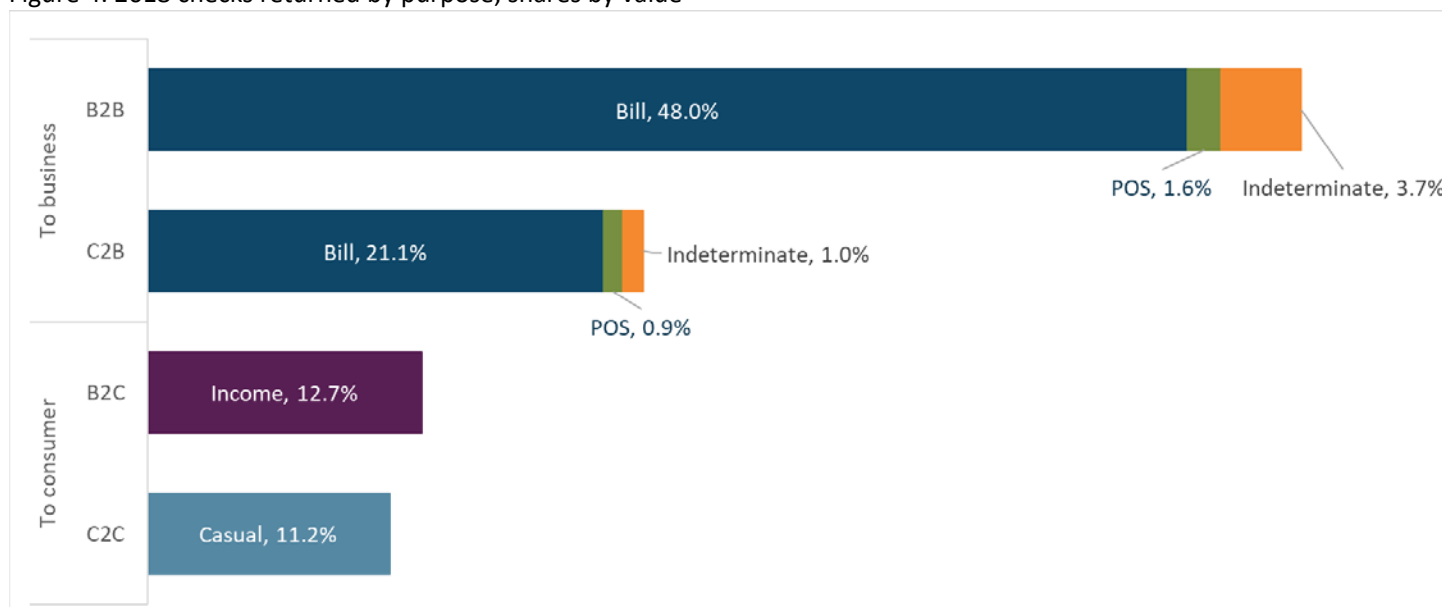
Figure 3: 2018 checks returned by purpose, shares by number



Source: 2018 Check Sample Survey, Appendix A: Data Tables, Checks Returned

Bills, at 69 percent, also made up the greatest share of returned checks by purpose and value, similar to bills' 73 percent share of paid checks by value. By value, the shares of returned POS checks (2.5. percent) written by businesses and consumers and returned casual checks (11.2 percent) were more prevalent compared to their shares in the checks paid sample.

Figure 4: 2018 checks returned by purpose, shares by value



Source: 2018 Check Sample Survey, Appendix A: Data Tables, Checks Returned

Reasons for return

Checks are returned unpaid by the payer banks for many reasons, including NSF, stop payments and closed accounts, and images that fail quality tests. The CSS identifies 30 return codes; Appendix A: Data Tables details the proportions for each. Table 2 below summarizes them into three broad categories. Most checks, by both number and value, were returned NSF: two-thirds by number and half by value.

Table 2: Percentage shares of checks returned by reason code

Checks returned by reason	Number	Value
NSF	67.2%	50.7%
Stop payment and similar (closed, blocked, can't locate account)	21.2%	24.9%
Possible fraud	10.2%	15.1%

Source: 2018 Check Sample Survey, Appendix A: Data Tables, Checks Returned

Conclusion

It seems certain that check usage will continue to decline in the United States. However, evidence from this study suggests that despite other payment options and the ongoing decline in check volume, checks continue to meet the needs of businesses and consumers in some circumstances.

As long as this continues to be the case, the Retail Payments Risk Forum of the Federal Reserve Bank of Atlanta plans to continue to provide data contrasting business and consumer check usage and will track trends for those that continue to pay by check.

References

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FRS. 2019 (updated January 2020). *2019 Federal Reserve Payments Study* (report). Available at federalreserve.gov/paymentsystems/2019-December-The-Federal-Reserve-Payments-Study.htm.

[Appendix A: Data Tables](#)

[Appendix B: Technical Appendix](#)

[Appendix C: Remotely Created Checks](#)

[Appendix D: Check Interrogation Forms](#)