



Potential Adverse Effects of the Basel III Capital Proposal on Consumer Credit Card Lines

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In July 2023, the U.S. banking agencies proposed a new capital charge for the unused portion of consumer credit card lines, as part of the Basel III Endgame package. The proposal introduced a new 10-percent Credit Conversion Factor (CCF), which functions largely as a risk weight applied to the unused credit line amount. Although this element is part of the Basel agreement, its U.S. implementation could have a uniquely major effect given the fact that about 80 percent of available credit among U.S. bank credit card lines are currently unused.¹ This note elaborates on how the CCF is calibrated to overstate risk and demonstrates that with this overstatement, consumers across all income ranges would be vulnerable to significant credit line reductions, especially on accounts on which they do not revolve balances. The latter analysis is carried out using a new, robust dataset comprising 1 million credit card consumers.

As detailed in a previous [BPI post](#) and expanded on later in this post, the proposed 10 percent CCF overstates the credit risk of such unused lines and would increase the cost for banks to maintain credit card lines that are infrequently or lightly used. As a result, banks would be incentivized to reduce credit limits or possibly close these accounts. This could be detrimental to the financial well-being of households, especially those with low to moderate incomes. These households often depend on the unused portion of their credit card lines as a critical source of backup liquidity when facing unexpected expenses such as medical bills.

Furthermore, a reduction in a consumer's credit line would increase that consumer's credit utilization rate, which is the ratio of the credit card balance to the credit limit. A higher credit utilization rate often

¹ A [2019 report](#) from the European Banking Authority provides indirect evidence that U.S. consumers hold significantly larger unused line amounts compared to those in Europe, and therefore the proposed CCF would be more consequential for U.S. consumers. The study projects a 90-basis-point reduction in risk-weighted assets for European banks as a result of reducing the CCF from 10 percent to zero (p. 91). We estimate the effect for U.S. banks is more than three times higher.

reduces a consumer's credit score. Consequently, the proposed capital charge could indirectly harm consumers' credit scores, making it more difficult for them to access credit in the future.

This post presents an initial analysis of credit card utilization patterns, focusing on consumers' vulnerability to decreased credit lines by income range and account activity history. The analysis reveals that around half of credit card lines are issued to credit card accounts that are paid off in full every month (Transactors) and that credit card line utilization rates are relatively low for these accounts. Credit card utilization rates are low for Transactor accounts in all income groups, including low- and middle-income consumers who, on average, use less than 30 percent of their available total credit line. As a result, the repercussions of banks' increased costs from the proposed new risk weight would not be limited to higher-income consumers.

These results support implementing a lower CCF for all Transactor accounts, especially since the proposed rule already assigns differential risk weights to Revolver and Transactor accounts, acknowledging that the latter are lower-risk. A reduced CCF is further justified because the 10 percent CCF contained in the U.S. proposal (and the Basel standard) is not supported by relevant public data or analysis. As documented in the previous BPI blog post, it is about double the amount suggested by historical loss experience for this risk parameter, even before considering how the annual stress tests in the United States already account for stress exposure-at-default.

Given these findings, the agencies must carefully consider the potential consequences of this new capital charge before reaching a final decision on its calibration. Further research is necessary to assess how extensively consumers may lose access to the low-utilization accounts they use to manage their monthly finances and meet liquidity needs. In particular, we need to determine the extent to which consumers who have revolving balances also have low utilization rates, leaving them at risk of line reductions under the proposal, and whether additional steps are needed to mitigate that risk.

Data Source and Descriptive Statistics

Our analysis uses a dataset containing anonymized consumer-level characteristics derived from credit card account data, provided by TransUnion, a global information solutions company. TransUnion and its affiliated entities or employees did not sponsor or participate in this analysis. The dataset has a total of 1 million observations, each representing a unique, anonymized U.S. consumer with at least one active credit card. This sample was taken randomly and represents approximately 0.5 percent of the U.S. population in TransUnion's consumer credit database with an active credit card.

The dataset consists primarily of consumer-level characteristics, including information on the number of credit cards held by each consumer, their aggregate card balance and aggregate credit limit as of Feb. 29, 2024. In addition, the dataset includes an estimated income and credit score for each consumer. At the individual card account level, it reports the current balance on up to five individual cards per consumer, with the accounts ranked by balance from highest to lowest.²

Furthermore, the data includes credit card activity history for up to 24 months for a maximum of five individual credit card accounts per consumer.³ The activity history categorizes each consumer's monthly card activity on an individual card as Revolver (R), Transactor (T) or Inactive (I). Revolvers are individuals who carry a balance on the card from month to month, while Transactors pay their card balance in full

² Individual card balances are provided specifically for the card with the highest current balance, the card with the second highest balance and so on up to five cards.

³ Individual activity histories are provided specifically for the card with the highest current balance, the card with the second highest balance and so on up to five cards.

each month. Consumers who have had no balance or activity on the credit card for a sufficiently long period are reported Inactive for that month.

Our analysis explores consumer utilization rates by types of activity and income. However, Basel risk weights are assigned at the account level, while our data do not include the credit limit for each account. As a result, we can only calculate a consumer's overall utilization rate across all credit card accounts held by the consumer, precluding direct comparison of utilization rates based on account activity type.

Instead, we conduct the analysis at the consumer level. We infer the difference in utilization rates between the typical Transactor and typical Revolver account by comparing utilization rates between consumers whose main account is a Transactor or a Revolver. For this purpose, we construct and use a consumer-level activity measure, categorizing individual consumers as Transactors, Revolvers or Inactive based on the activity history of their highest-balance credit card in the previous 12 months.

Specifically, Transactors are defined as individuals who, on their highest-balance credit card, paid their balance in full at each scheduled repayment date for the previous 12 months. Conversely, individuals who carried over a balance on their highest balance credit card account at any point during the previous 12 months are classified as Revolvers for the purposes of our analysis. Obviously, this is not a perfectly precise way to compare utilization rates between the typical Transactor and Revolver accounts, since some consumers who are Transactors by this definition might be Revolvers on lower-balance accounts and vice versa. However, we believe it presents a reasonable first take.⁴

Basic characteristics of the credit card consumer population, as reflected in the sample, include the distribution of the consumer population by income (Figure 1). Our analysis focuses on four income segments: less than or equal to \$50,000, \$50,000 to \$75,000, \$75,000 to \$100,000, and greater than \$100,000 per year. The consumers are roughly evenly distributed across the four income groups: approximately 19 percent in the less than \$50,000 group, 28 percent in the \$50,000 to \$75,000 group, 18 percent in the \$75,000 to \$100,000, and nearly 35 percent of consumers with income greater than \$100,000.

⁴ Note that a typical consumer holds different credit cards from more than one bank and the capital charge is calculated at the account level.

Figure 1: Distribution of Consumers by Income Group

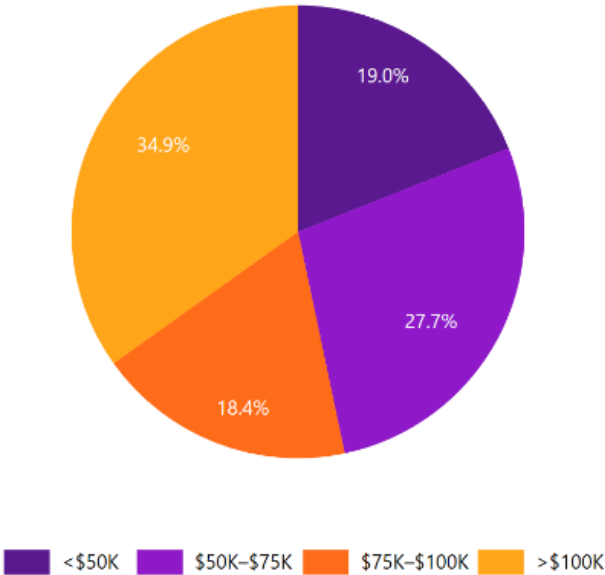
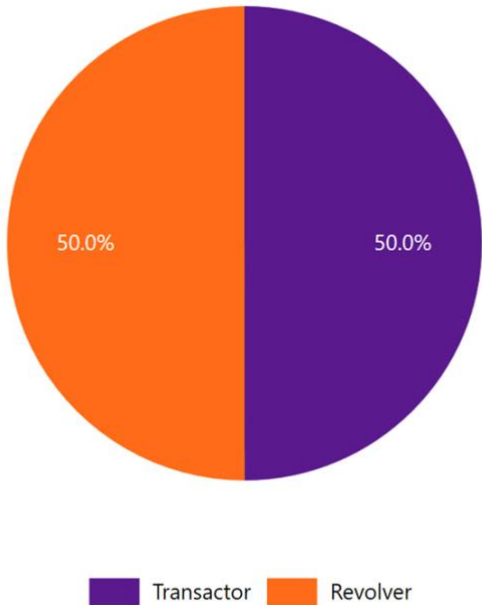


Figure 2: Distribution of Consumers by Pattern Type



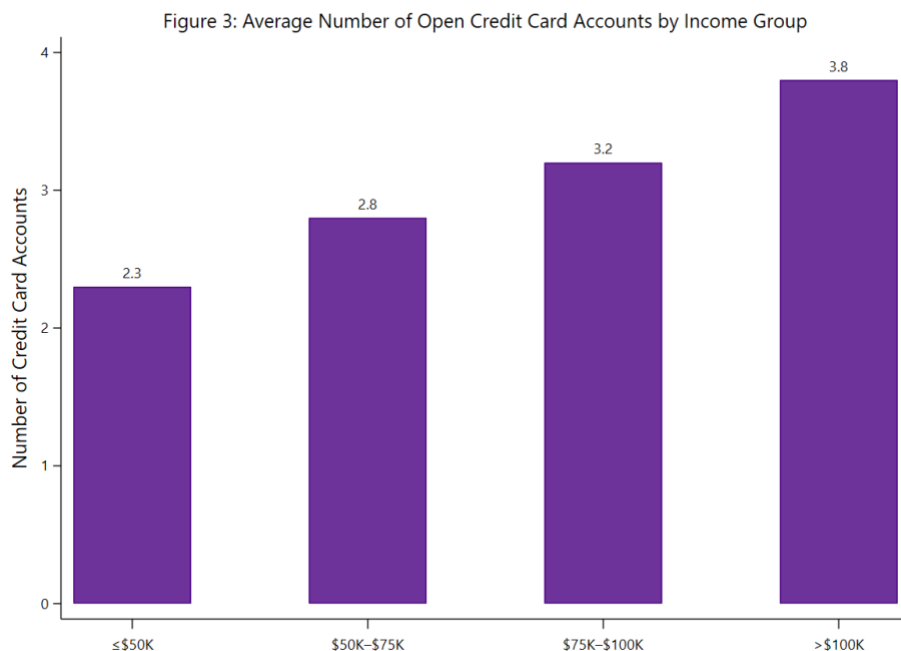
Note: Transactors and Revolvers are determined by the individual's pattern type on the highest balance card.

Figure 2 reports the distribution of consumers by their credit card usage behavior. Our sample consists of 50 percent of consumers defined as Transactors and 50 percent defined as Revolvers.⁵ When

⁵ Accounts that are Inactive in the previous 12 months are treated as Transactors, because they would likely be treated as zero-utilization Transactor accounts by the capital rule.

examining the distribution of Transactors and Revolvers by income level, we find that the percentage of Transactors generally increases with higher income levels, reaching about 60 percent for consumers with income greater than \$100,000. Nonetheless, about 39 percent of consumers with an income less than \$50,000 are Transactors.

Figure 3 illustrates the relationship between income level and the average number of open credit card accounts. As expected, there is a positive correlation between income and the number of credit cards held by consumers. Consumers in the highest income segment (greater than \$100,000 per year) have an average of 3.8 credit card accounts. In contrast, consumers in the lowest income segment (less than or equal to \$50,000 per year) have an average of 2.3 credit card accounts.



Utilization Rate Patterns

To understand the potential unintended consequences of the new capital charge for unused credit lines, consider the benefits associated with credit card unused line amounts. Maintaining a low utilization rate on at least one credit card can offer significant financial advantages for consumers. One clear benefit is the available liquidity, to cushion a major unexpected expense or temporary drop in income. Another financial benefit from holding at least one low-utilization credit card line may be to minimize a consumer's interest costs. Simple economic logic dictates that if a household can pay off some but not all of their total balance due in a given month, they can lower their monthly interest costs by splitting their expenditures between two cards, using one as a Transactor and reserving the other for revolving balances.⁶

In addition to interest savings, maintaining relatively low utilization rates across multiple cards allows households to manage their budgeting and expense tracking more efficiently. As demonstrated by [Gelman and Roussanov \(2023\)](#), associating different expense categories with separate cards can

⁶ The increased interest expense derives from the fact that they will lose the grace period for ongoing expenditures once they no longer pay in full each month, even if they continue to pay more than the minimum payment amount.

mitigate the complexity of monitoring various expenditures and enable more informed consumption decisions at the overall household level.

We use our sample data to examine consumers' credit card utilization patterns. The analysis reveals potential unintended adverse effects on consumers, stemming from increased capital charges that banks would face for maintaining unused credit card lines.

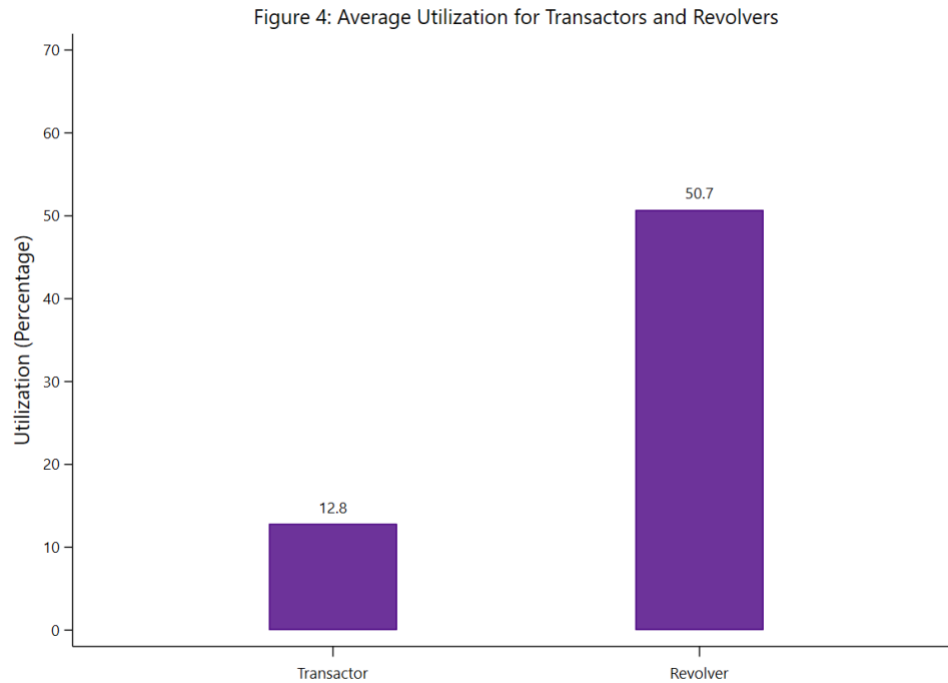


Figure 4 displays the average credit card utilization rate segmented by consumer usage behavior: Transactors versus Revolvers.⁷ As expected, the utilization rate for Transactors, at nearly 13 percent, is significantly lower than for Revolvers, who average nearly 51 percent utilization. This result indicates that the introduction of a capital charge on unused credit lines would have a more pronounced impact on Transactor accounts. Since Transactors maintain much lower utilization by regularly paying balances in full, they inherently have a larger proportion of their total credit limits going unused compared with Revolvers.

⁷ The consumer's utilization rate is total balance as a percentage of total credit limit across all accounts. Specifically, this is the utilization rate provided in the data for "open bankcard accounts verified in the past 12 months."

Figure 5: Average Utilization by Income Group for Transactors and Revolvers



Figure 5 displays the average credit card utilization rate segmented by both income level and usage behavior (Transactors versus Revolvers). The data reveal that utilization rates tend to decline as income increases. For consumers with annual incomes of up to \$50,000, the average utilization rate is 26 percent for Transactors and a much higher 72 percent for Revolvers. In contrast, consumers earning over \$100,000 per year have significantly lower utilization rates of 12 percent for Transactors and 35 percent for Revolvers.

Figure 6: Average Utilization by Number of Open Credit Card Accounts for Transactors and Revolvers

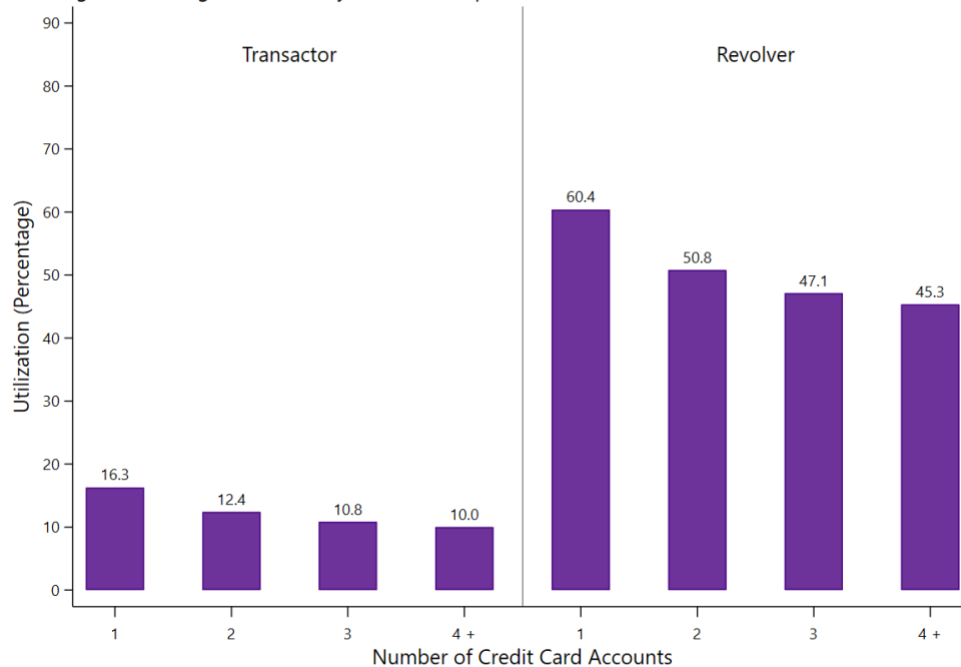


Figure 6 shows average utilization rates segmented by the number of active credit card accounts and by usage behavior. Similar to the relationship between utilization rates and income, the data show that utilization rates decline as the number of credit card accounts increase, but Transactors have considerably lower utilization rates. For consumers with just one credit card account, the average utilization rate is 16 percent for Transactors and a much higher 60 percent for Revolvers. In contrast, consumers with four or more credit card accounts have significantly lower utilization rates of 10 percent for Transactors and 45 percent for Revolvers.

In summary, the data demonstrate that Transactors across various income levels and with differing numbers of credit cards tend to maintain a substantial amount of undrawn credit lines. This inclination to keep sizeable unused portions of their total credit limits is evident regardless of economic status or number of open card accounts. Therefore, the data support assigning a lower CCF to Transactor accounts, which by definition are accounts for which balances are paid in full each month. Applying a lower conversion factor for undrawn Transactor lines also would appropriately reflect the lower risk profile associated with their credit usage behavior.

It is also important to note that, for the purpose of this analysis, we have defined Transactor accounts based on the consumer's behavior type in the previous 12 months on the credit card account with the highest balance. However, some lower-income consumers who are considered Revolvers may still have many low utilization transacting accounts on their second or third credit card, and these accounts may be at risk of line reductions under the proposed rule. We will investigate consumer behavior patterns across multiple credit card accounts in a follow-up post.

Estimation of Implied CCFs Using Advanced Approaches Data

The 10-percent CCF specified by the proposed rule is excessive, because it implies a risk weight of 5.5 percent for Transactor accounts and 8.5 percent for Revolver accounts for the unused portions of a credit card line (given the proposed rule's risk weights for drawn balances).

One reason to believe that the 10-percent CCF is excessive is that the resulting risk weights seem to be much larger than those implied by the internal models of Advanced Approaches banks. As we will describe, we roughly estimate the average risk weight for the unused portion based on these models to be 2.4 percent across both Transactor and Revolver accounts. This implies that the Transactor account risk weight is no greater than (and presumably less than) that. This low average risk weight reflects the small default probabilities assigned to low-utilization accounts by the banks' internal models. Without data or analysis from the agencies to support the higher proposed CCF, this presents an informative comparative basis for setting the weights much lower.

This estimate of the average risk weight implied by these banks' internal models can be obtained using data from the end-of-year FFIEC 101 reports they submit to the regulatory agencies. These reports include data on risk-weighted assets (RWA) for qualifying revolving exposures, balance sheet amount, total undrawn amount, and exposure at default. As a result, the data indicate how RWA change as the unused portion of credit lines (relative to the total committed line) varies over time. By estimating a panel data-regression equation (across banks and over time), we can infer the contribution to total RWA of the unused portion of the credit card line, which yields an estimate of the average risk weight applied to the unused portion.

Specifically, we regress RWA as a proportion of the exposure at default amount (the Advanced Approaches risk weight concept) on the line undrawn amount (current undrawn amount as a proportion

of total committed amount).⁸ The regression equation is estimated on annual data from 2015 through 2022 for the four banks with a full time series of data for this period (Bank of America, Citigroup, JPMorgan Chase and Wells Fargo), with inclusion of bank fixed-effect terms.

Table 1: Regression Results of Implied CCF Estimates

	Dependent Variable: Ratio of Risk-Weighted Assets to Exposure at Default				
Explanatory Variables	Unused Amount (% of Total Commitment)	Bank FE 1	Bank FE 2	Bank FE 3	Bank FE 4
Coefficient Estimates	-1.746 [-4.8]	1.818 [6.3]	1.753 [-4.6]	1.695 [-8.4]	1.816 [-0.1]
Adj. R ²	0.90	0.90	0.90	0.90	0.90

Regression results are shown in Table 1. The average of the fixed effect terms is 1.770, which corresponds to the risk weight applied to a fully drawn line (i.e., when the undrawn amount is zero). The estimated slope coefficient -1.746 corresponds to the reduction in risk weight per unit increase in the undrawn percentage of the credit card line. The implied point estimate for the average risk weight on undrawn amount is equal to (1.770 - 1.746), or 2.4 percent.

Please note that this calculation is based on a rough extrapolation from how each bank’s aggregate risk weight varies over time in relation to the aggregate percent used. We do not directly observe the bank’s segment-level risk weight calibrations. Although the fit of the data appears to be reasonable (the R-squared of the regression is about 90 percent), the sample size is quite small, and the linear extrapolation is applied to a wider range of banks than those included in the sample. Therefore, this calculation is intended primarily to suggest that the proposed CCF is higher than what seems empirically justified. Further analysis using account-level data is needed to determine the appropriate CCF.

Final Thoughts

The analysis we presented in this post highlights the importance of carefully considering the potential consequences of introducing a new capital charge on unused credit card lines, as proposed in the Basel III Endgame capital rules. The findings reveal that consumers across all income levels and with varying numbers of credit cards consistently maintain substantial amounts of available unutilized credit lines. As the agencies review public comments on the proposal, it is crucial that they fully assess the risk of disrupting established consumer credit practices.

Transactors, in particular, represent a lower-risk segment that could be unduly affected by the proposed changes. This impact is not limited to higher-income consumers but would also affect low- and middle-income cardholders. At a minimum, the agencies should strongly consider assigning a lower CCF to Transactor accounts to reflect their lower credit-risk profile, which is substantiated by the data.

The agencies should also consider shortening the 12-month lookback period for determining Transactor accounts to six months. A six-month lookback period is sufficient to capture obligors who generally

⁸ EAD equals current balance plus the expected additional draw by borrowers who transition to default.

repay their balances in full and present a lower credit risk. If the 12-month lookback period for Transactor accounts were maintained in any final rule, it would be important for the agencies to address the much larger population of creditworthy accounts that would then be excluded from the Transactor definition. This could also be achieved by reducing the CCF for revolving accounts.

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