

Sustained Credit Card Borrowing

Daniel Grodzicki – The Pennsylvania State University & CFPB • djg39@psu.edu
Sergei Koulayev - Amazon • sergei.koulayev@gmail.com



Introduction

A credit card can be used to purchase goods and services, and also to borrow.

Because it is open ended, credit card debt can be revolved for short periods or for many months or years.

Widely available aggregate trends in credit card use do not clearly disentangle balances that are transacted from those that are revolved and carried over as debt.

Moreover, they mask the underlying age profile of credit card debt.

And understanding of the age profile of debt is important because persistent debt can be unexpectedly costly, eroding financial opportunities, distorting consumption choices, and amplifying exposure to fluctuations in income and asset values (Dynan and Kohn, 2007)

Main Research Questions

1. How often are credit cards used for borrowing, how long do revolvers hold on to their credit card debt, and how is this debt repaid?
2. What are the potential direct and indirect cost implications of sustained credit card borrowing?

Data

Our analysis leverages a large panel of credit card accounts from the Consumer Financial Protection Bureau's (CFPB) Credit Card Database (CCDB).

The CCDB contains monthly updates on the purchase volume, repayments, finance charges, and fees incurred by users between 2009 and 2016.

With this we can identify instances in which balances are revolved, or carried over as debt, and instances in which they are repaid.

We can further tie this to the costs associated with revolving.

The CCDB includes > 85% of all credit card accounts in the United States. As a result, our results can be broadly interpreted as applying to the whole market.

Research Design

The Revolving Episode

Our analysis of revolving is based on what we call a *revolving episode*: a sequence of months of continuous revolving. An episode begins when a balance is first revolved across a billing cycle and ends when the balance is fully repaid.

The Expected Episode Cost of Credit

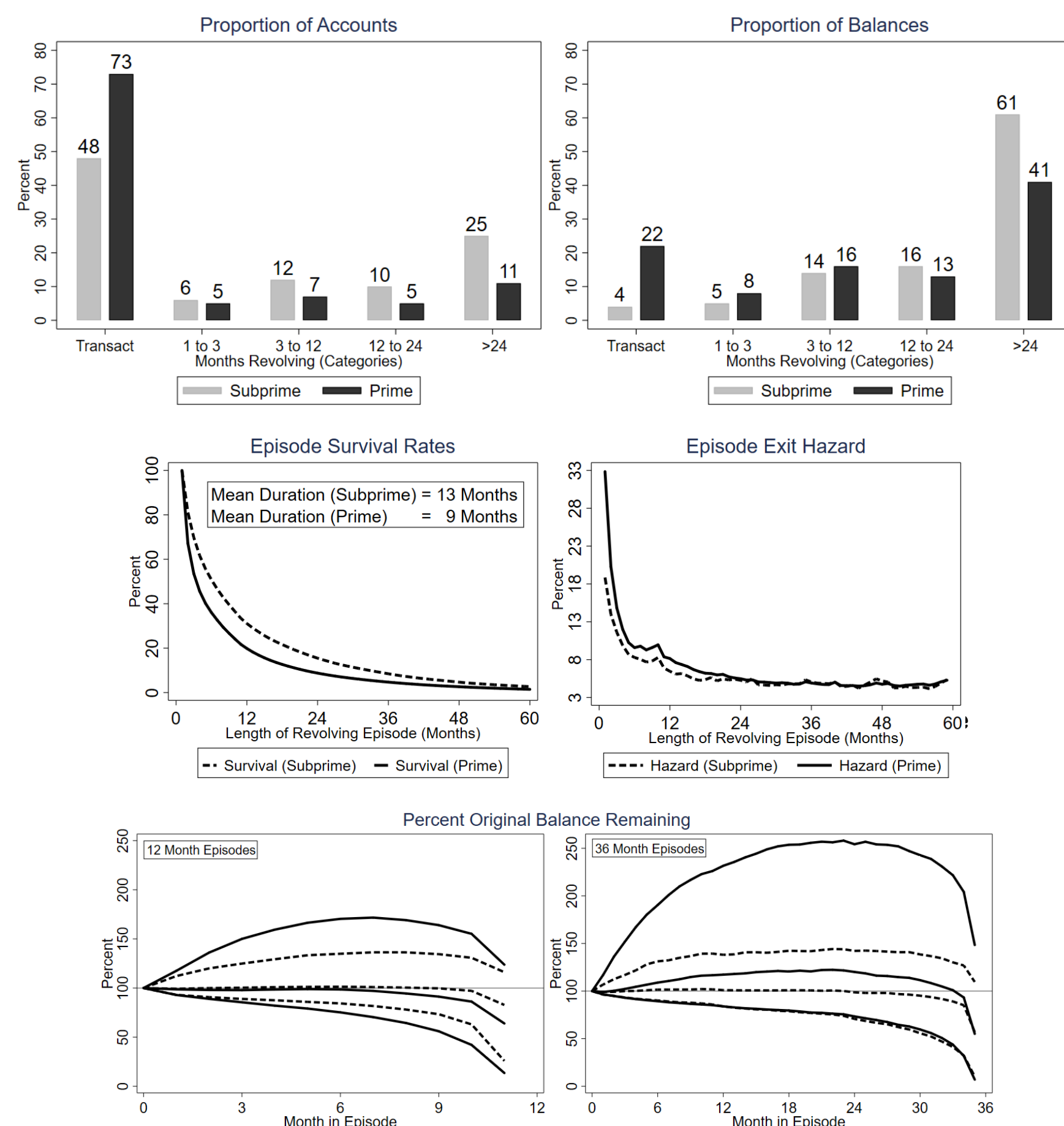
Our analysis of cost leverages the notion of a revolving episode and introduces what we call the *Expected Episode Cost of Credit (EECC)*.

The EECC is the annualized expected cost of an episode per dollar of initial balance.

Because many credit card borrowers may have difficulty forecasting of their future revolving, per dollar cost measures like the APR may lead them to over borrow. The EECC gives information on the expected cost of an entire cycle of debt.

From a policy perspective, when compared to the APR, the EECC provides a summary of the cost implications of the duration (age profile) and realized repayment of debt.

Duration & the Age Profile of Credit Card Debt



1. Approximately 82% of credit card balances are debt.
2. 70% of this debt accrues to accounts revolving for at least a year - 55% for at least 2 years.

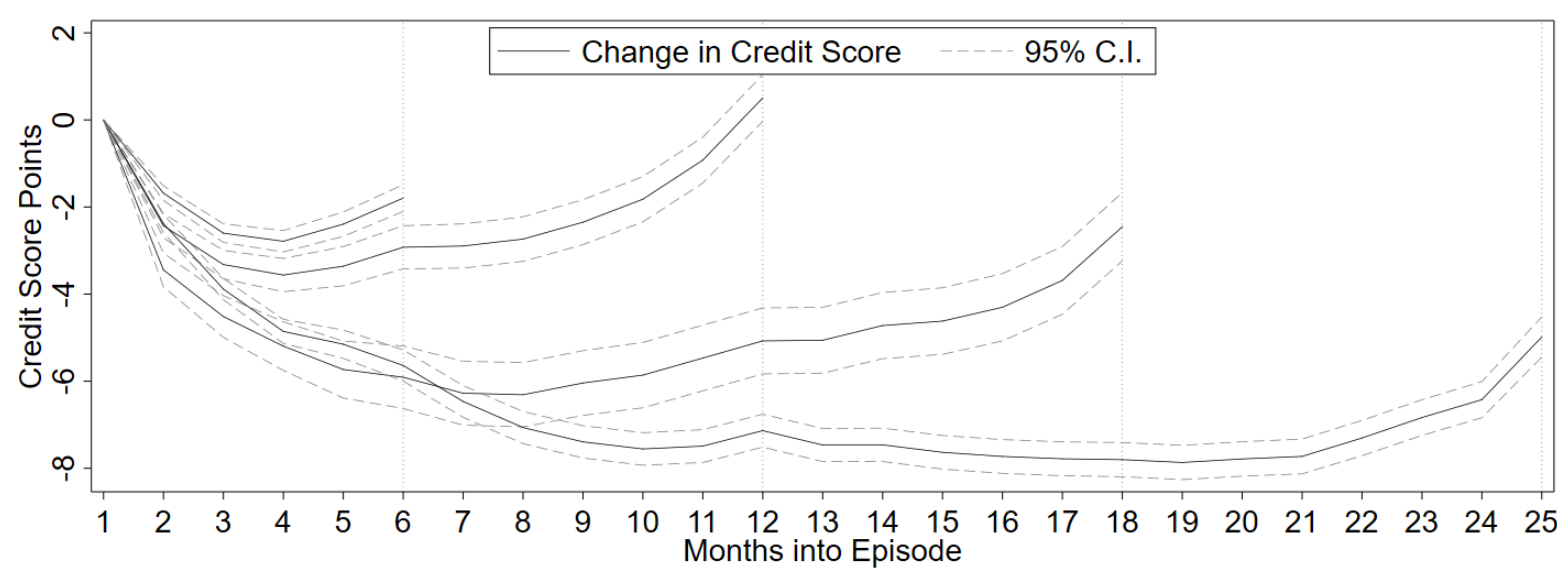
3. A complete episode last for 10 months on average (11 months accounting for bal. transfers).
4. The chances of eliminating debt (exit hazard) decline sharply in the first 6 months of an episode.

5. Among a majority of episodes, balances rise slowly (surge) prior to repayment.

Direct and Indirect Costs of Credit Card Debt

	EECC	APR	TCC	New Debt in a Typical Month (\$ Millions)
	(1)	(2)	(3)	(4)
All Episodes				
Subprime	41.74	17.49	32.67	1,715.52
Prime	23.91	14.66	18.00	12,419.28
Surging Episodes Excluded				
Subprime	26.37	17.14	28.45	
Prime	12.01	14.39	14.23	

Notes: Data are from the CFPB's CCDB for the period April 2008 to January 2016. Statistics for Columns 1 - 3 are calculated using the Episode sample. Aggregate initial episode debt in a typical month, labeled New Debt in Column 4 of the top panel, is calculated using the Full sample. For details on these samples see Table 1.



Direct

6. The expected annual cost of an episode is almost twice as high as the average contract APR (28% vs. 15%).
7. The difference is driven by the prevalence of rising (surging) balances during episodes.

Indirect

8. Credit scores decline during episodes.
9. This implies a \$27 dollar rise in the annual cost of a mortgage (\$20 for an auto loan) - or 8% of the EECC.

Main Conclusions

1. Credit cards are predominantly used for borrowing, debt is sustained for long periods, and balances are not regularly paid down.
2. These dynamic patterns of credit card borrowing and repayment imply an annual cost of a complete episode, or cycle, of card debt that is nearly twice as high as the per dollar cost (APR/TCC).
3. Card debt is associated with lower credit scores, even among those that do not default! This raises the cost of other borrowing, the indirect cost of card debt, and is suggestive of broad effects of this type of debt on household consumption.