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# Why Do Banks Reward their Customers to Use their Credit Cards?

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These views do not necessarily represent those of the Federal Reserve  
Bank of Chicago or the Federal Reserve System

# Outline

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- Motivation
- Data
- Empirical Strategy
- Results

# Research Questions

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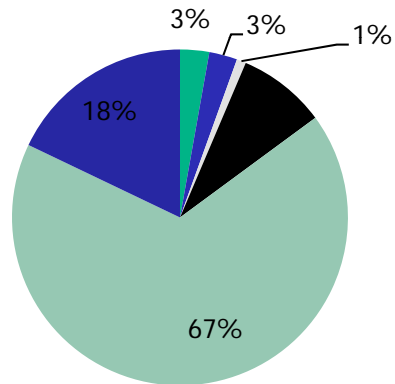
- Why do banks give cash-back rewards?
  - ▶ Do rewards increase cardholder spending?
  - ▶ Do rewards increase cardholder debt?
  - ▶ Are rewards used to steal customers from other issuers?
- Does debt increase over all credit cards?

# 2009 Card Issuer Revenue and Costs

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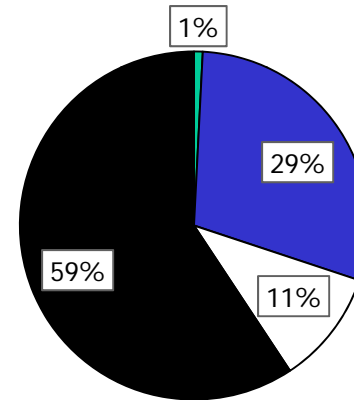
## Revenues

- Annual Fees
- Cash Advance
- Enhancements
- Interest
- Interchange
- Penalty Fees



## Expenses

- Fraud
- Operations/Marketing
- Cost of Funds
- Chargeoffs



## Related Literature

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- Behavioral responses and time inconsistency in credit card markets (Ausubel 1991 and Laibson 1997)
- Increased consumption from increased credit lines or lower interest rates (Gross and Souleles 2002)
- Rewards and payment choice (Ching and Hayashi 2010)
- Banks use rewards to entice consumers to carry more debt and use finance charges to subsidize rewards (Chakravorti and Emmons 2003)

# Data

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- From large national US financial institution
- Monthly data on spending, payment, and balances along with timing of rewards programs from June 2000 to June 2002
- Close to 12,000 accounts
- Quarterly credit bureau data

# Data

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- Advantages
  - ▶ Large dataset with little measurement error
  - ▶ Monthly time series useful to study high frequency
- Disadvantages
  - ▶ Main unit of account is credit card account
  - ▶ Do not observe total spending (cash, check, debit card)

# Cash-back Incentive

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- 1% cash back given to certain cardholders in the middle of the sample period
- 90 percent of cardholders redeem cash back at some point
- Average redemption is \$10 and average total redemption is \$25



## Table 1 – Summary Statistics

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	Mean	SD
Debt on Card (Total Unpaid Balance)	2574	3079
Total Purchase Amount	213	777
Total Payment Amount	292	900
FICO Score	727	52
Total Balance on All Cards	10013	13589
Total Credit Cards	5	4
Income	58249	97040
Age	48	13

# Empirical Strategy

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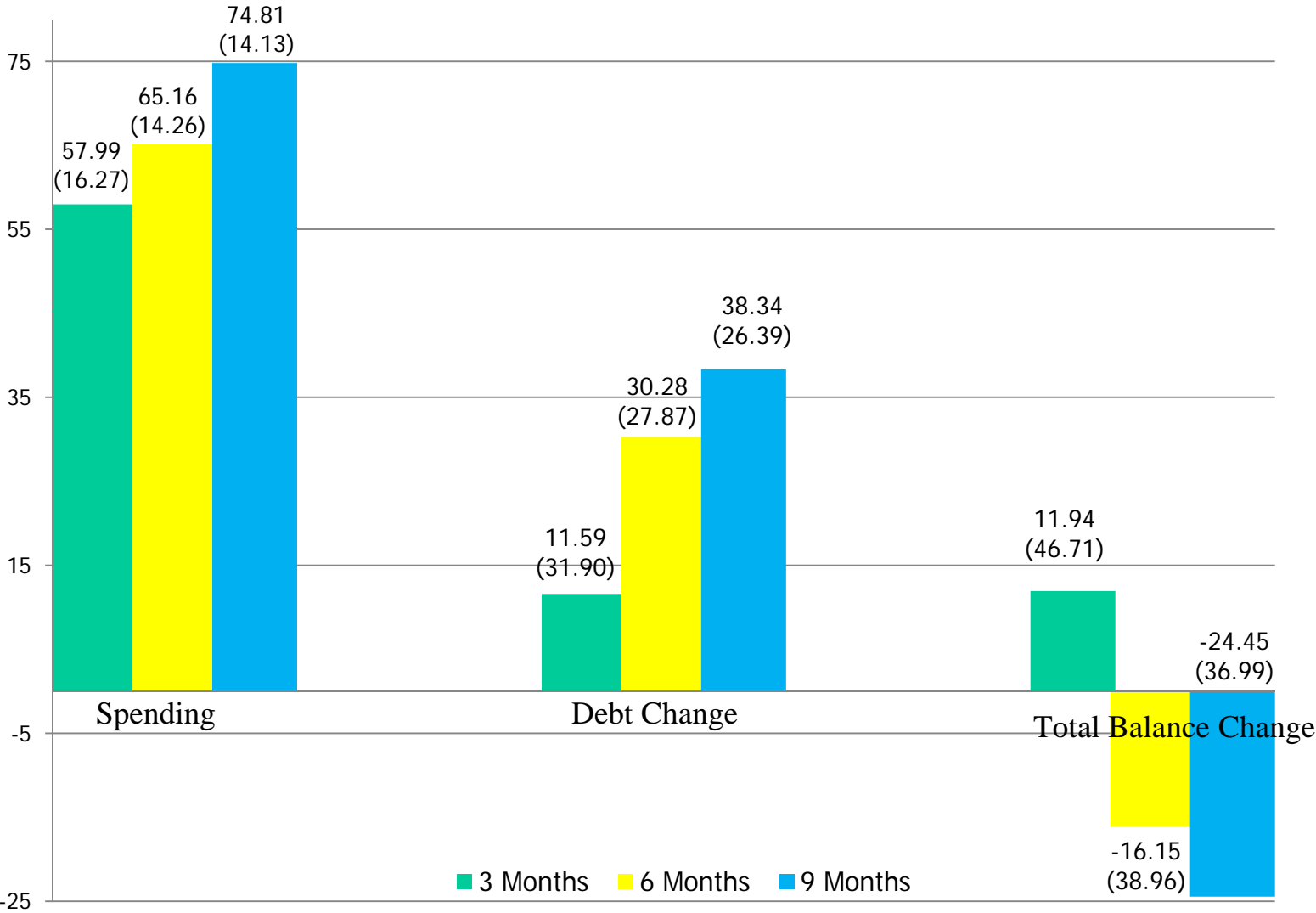
- Compare card spending and change in card debt 1 month before to 3, 6, or 9 months after
- $Y_{it} = f$  (cash back indicator, time indicator, account controls, demographic controls, portfolio controls)
  - ▶ Where  $Y_{it}$  is monthly card spending, change in card debt, or change in credit bureau quarterly balance
- Using OLS estimation with individual fixed effects and clustered standard errors

## Selection Issues

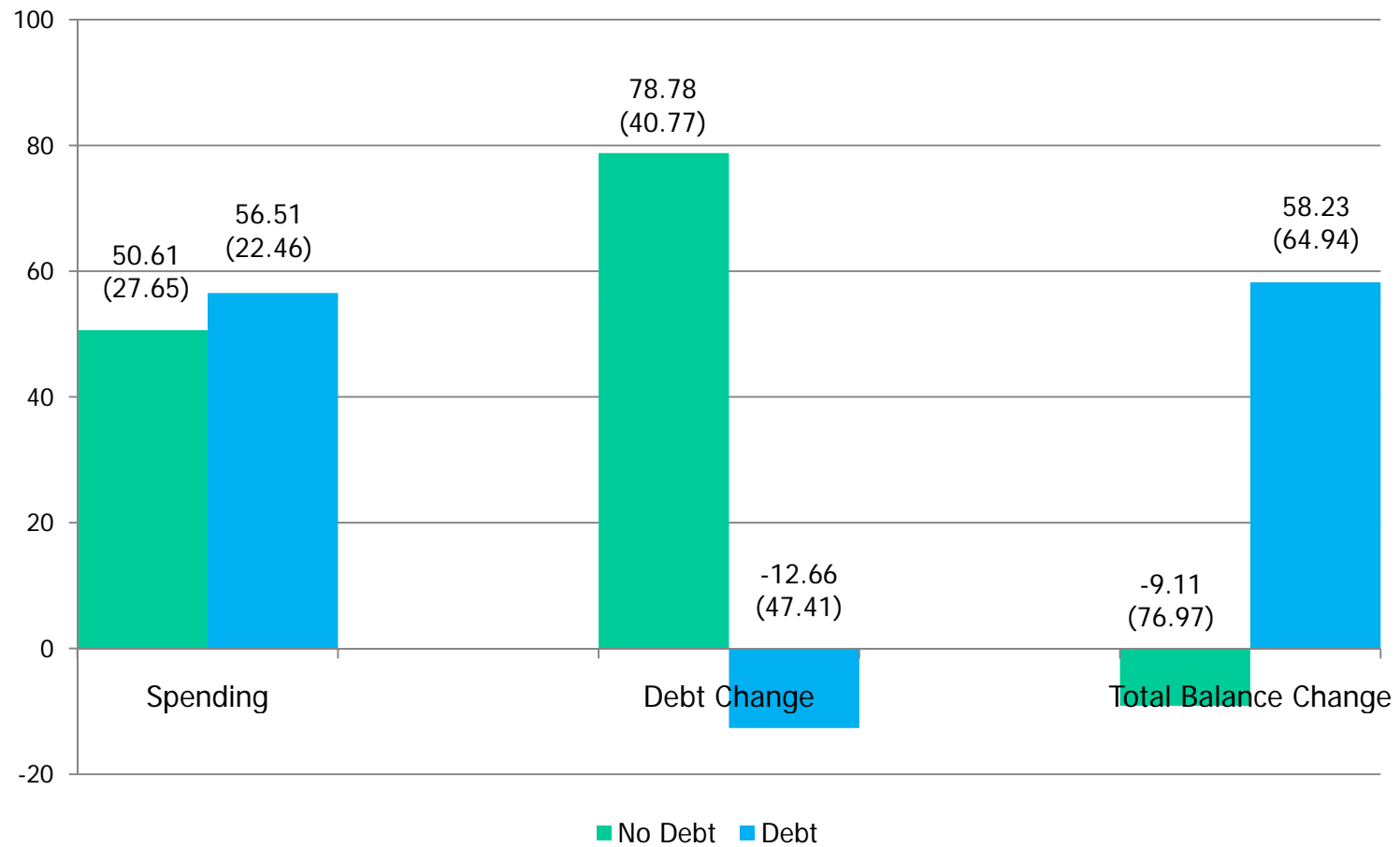
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- Some statistical differences exist between treated and untreated groups for some variables but bias is not systematic
- Bank is unlikely to select certain types of customers for cash-back due to regulatory concerns
- If targeting occurred, the bank should have targeted more non-revolvers to increase revenue

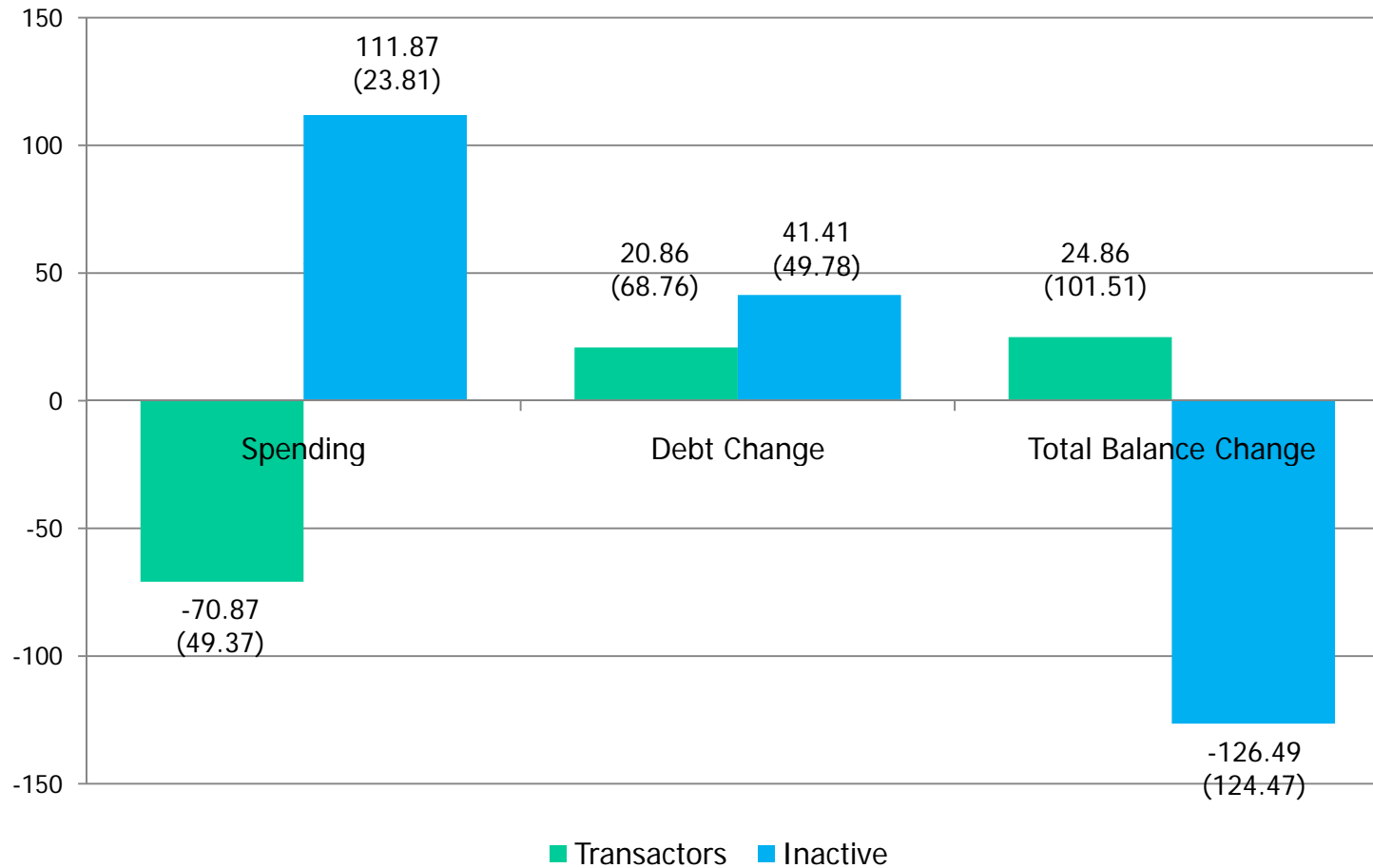
# Spending, Change in Debt, Change in Overall Balances



# Debt and No-Debt Cardholders (3 Months)

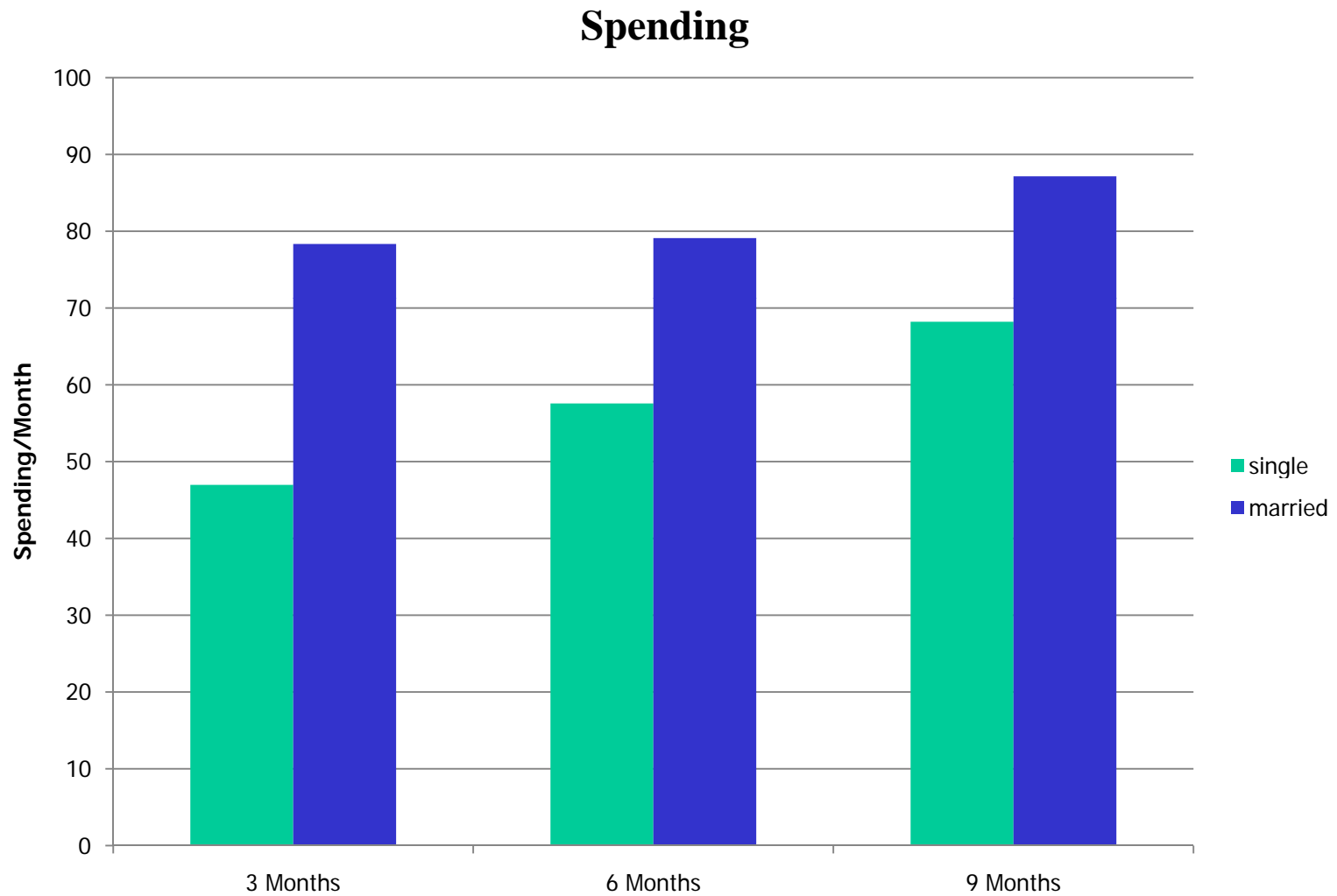


# Transactors and Inactive Cardholders (3 Months)



# Single vs. Married

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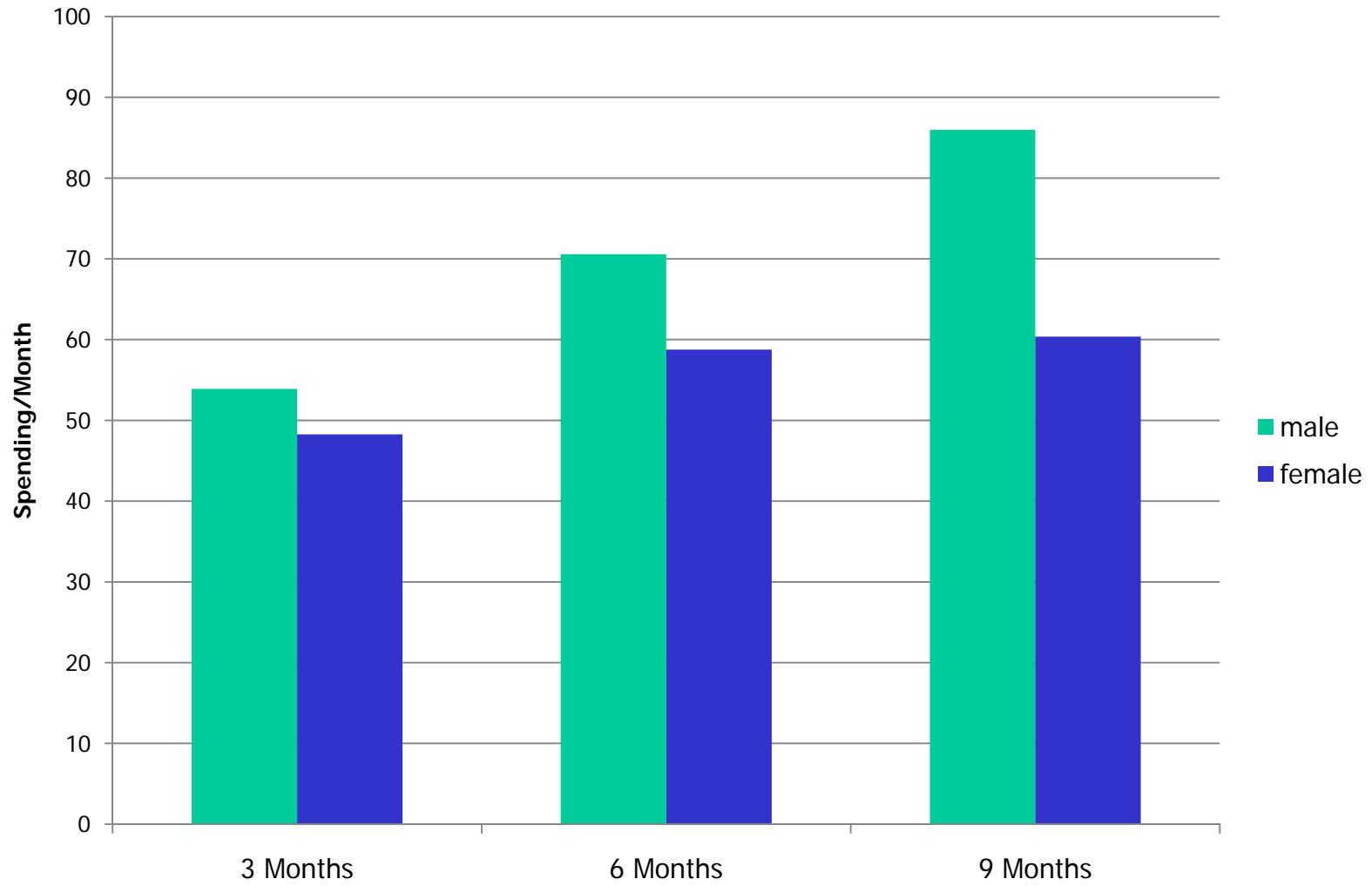


# Gender

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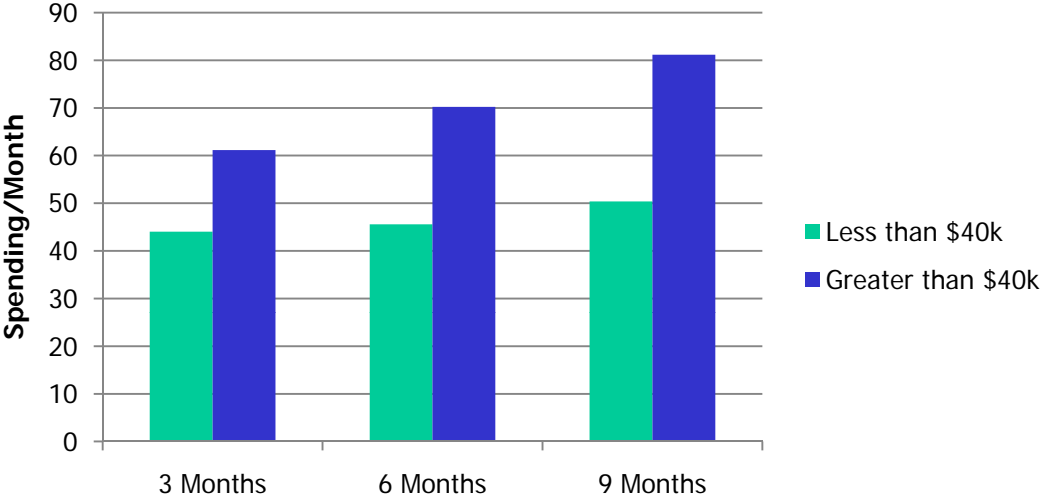
## Spending



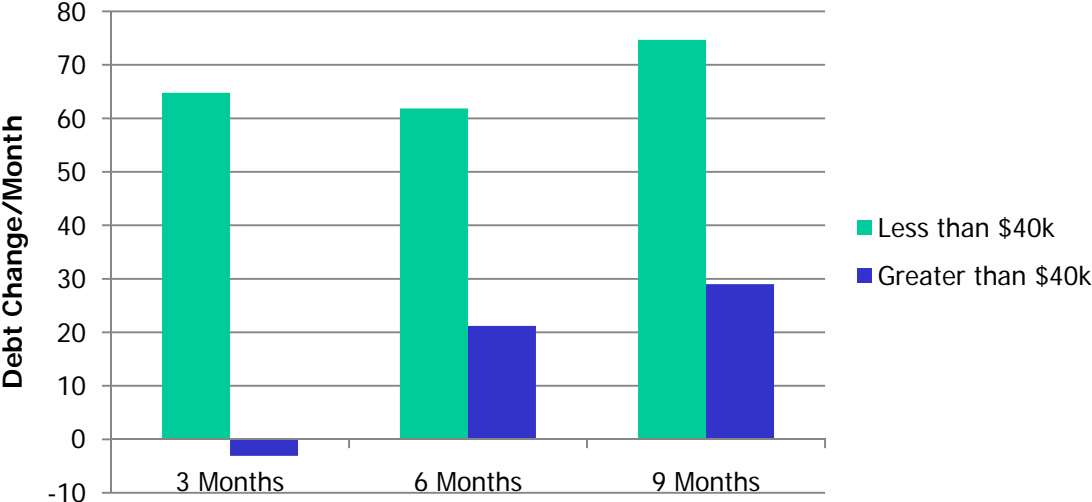


# Income

## Spending

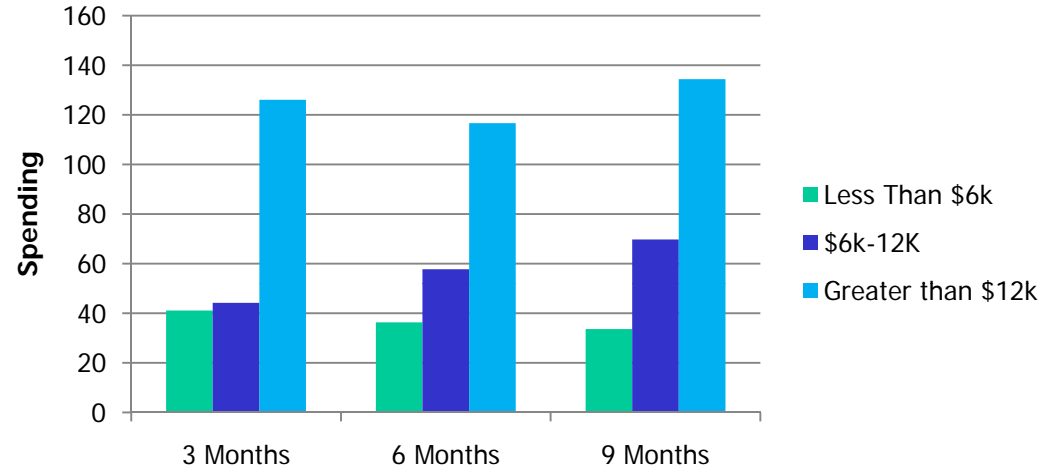


## Debt Change

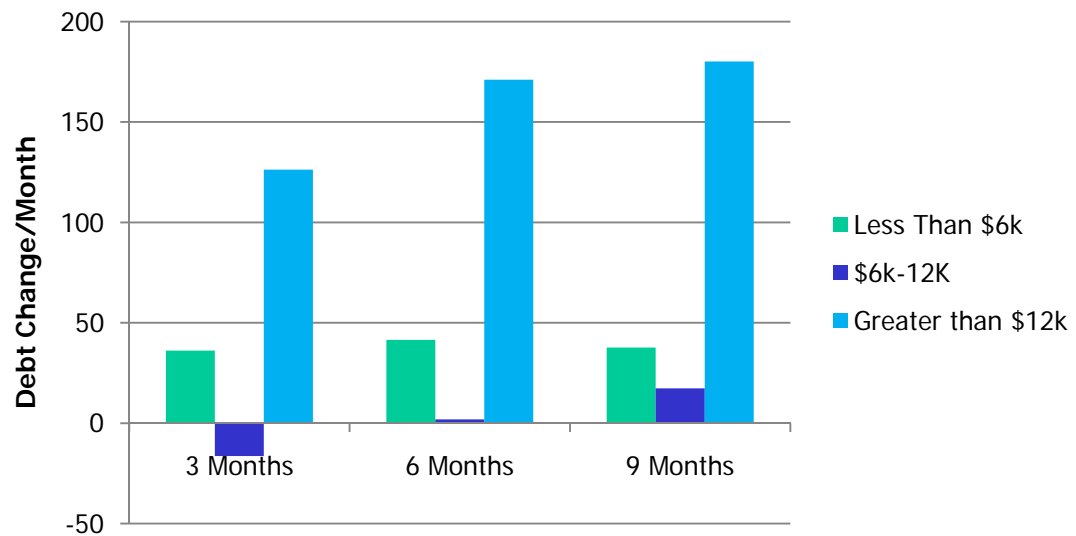


# Credit Limit

## Spending

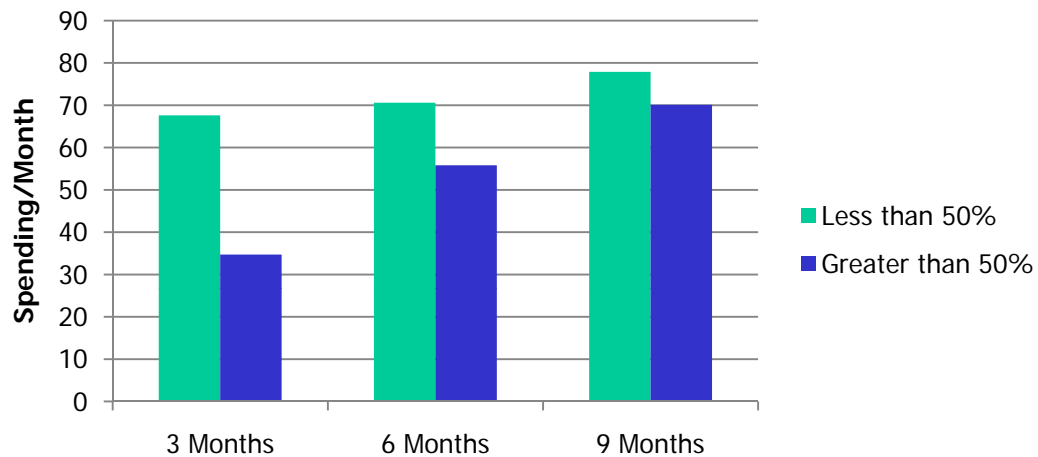


## Debt Change

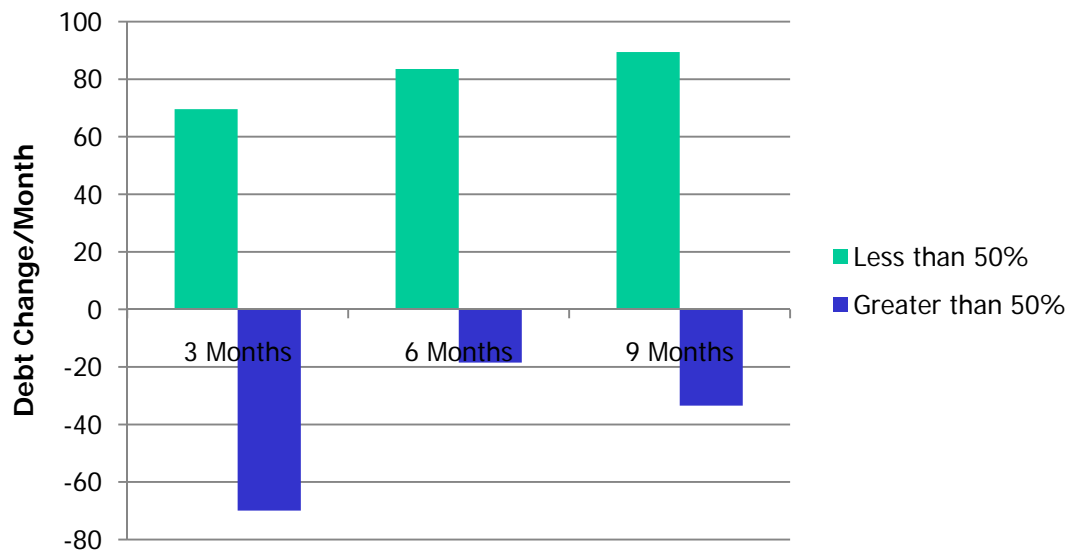


# Card Utilization – Debt/Credit Limit

## Spending



## Debt Change

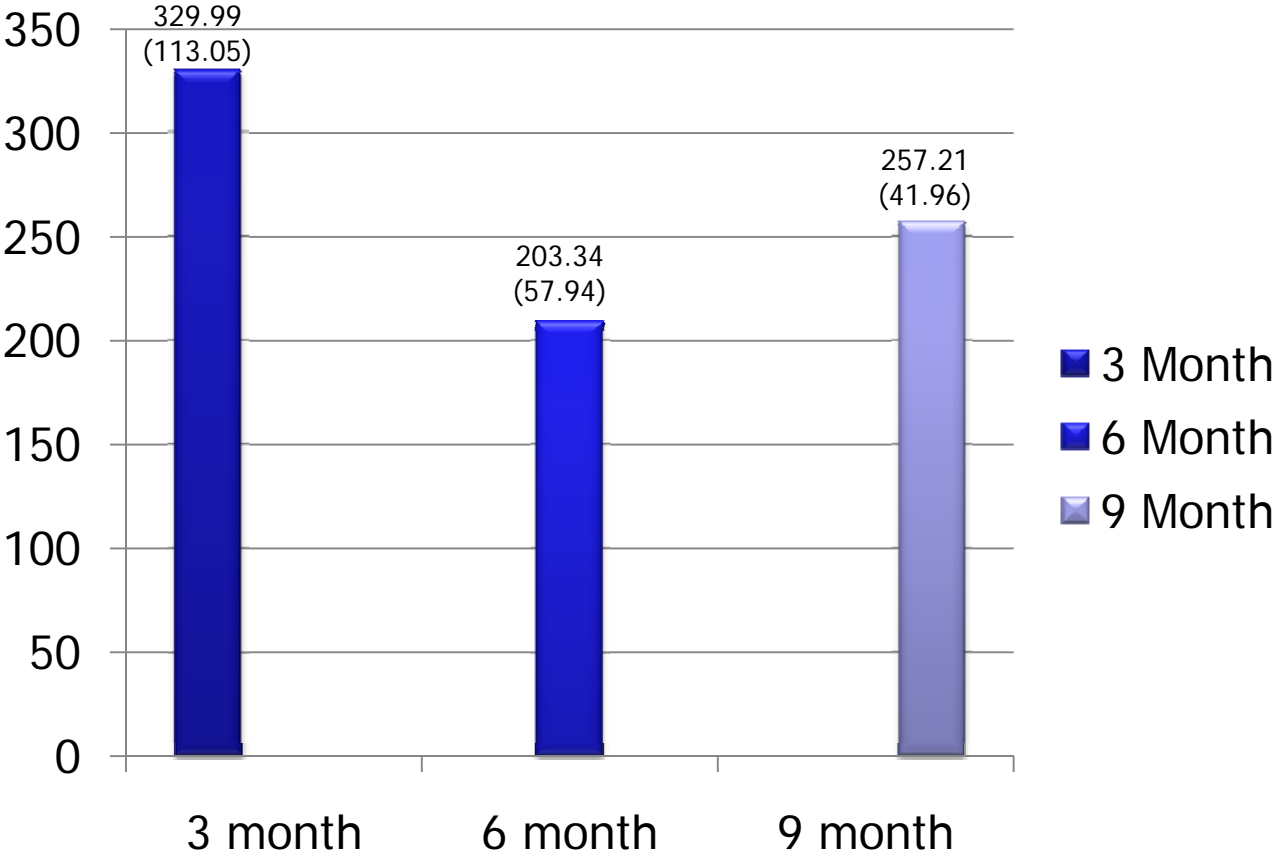


# APR Reduction

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- Certain individuals are offered interest reductions
- These reductions average 10%
- Unlike cash back, APR reductions occur throughout the sample period

# Impact of APR Reduction on Spending, Debt and Change in Total Balance



# Conclusion

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- Cash-back rewards increase card spending
- The overall balance held across all credit cards does not change, which suggests that consumers substitute spending to cards that provide rewards
- Cash-back rewards are an effective tool for issuers to increase spending on a specific card (top-of-wallet)
- APR reductions tend to shift more spending than cash-back rewards