Consumers' Use of Prepaid Cards: A Transaction-Based Analysis[1]

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Presented by

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[1]: Based on "Consumers' Use of Prepaid Cards: A Transaction-Based Analysis" (DP 12-02) by Stephanie M. Wilshusen, Robert M. Hunt, and James van Opstal of the Payment Cards Center, and Rachel Schneider of the Center for Financial Services Innovation.

[2] : The views expressed here are those of the authors and not necessarily those of the Federal Reserve Bank of Philadelphia or the Federal Reserve System. No statements here should be treated as legal advice.

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www.philadelphiafed.org/consumer-credit-and-payments/payment-cards-center

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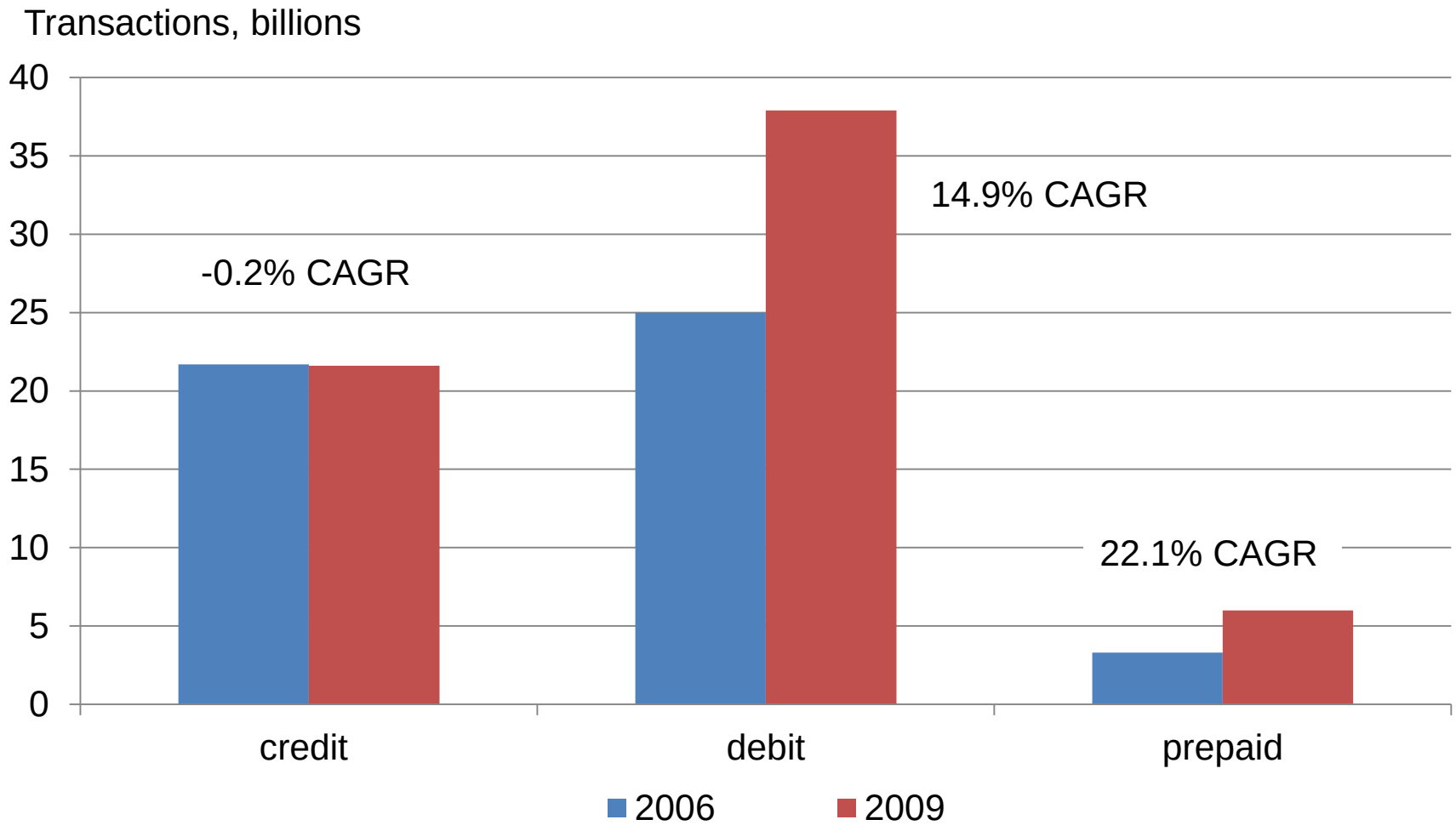
Prepaid is Small, but Growing Rapidly*



Source: 2010 Federal Reserve Payments Study.

*: Compound annual growth rates (CAGR) are calculated for the years 2006-2009.

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Data

- Furnished by Meta Payment Systems.
- The data set contains:
  - More than 280 million anonymized prepaid card transactions
  - Made on more than 3 million cards
  - Issued in over a dozen different prepaid card programs
    - A mix of GPR, payroll, FSA, and other programs
    - GPR cards marketed via retail, web, and a financial institution
  - The composition of the card programs and transactions we study may not be representative of the prepaid market as a whole.
- Transactions were conducted across the U.S. over a 6-year period that encompasses the most recent business cycle.
  - But most transactions occurred in 2009-2010
- Data include transaction date, type, amount, and merchant category code.
- But we have no demographic or financial data for cardholders.
  - However, we do have ZIP Codes indicating where the card was purchased or mailed.

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A Few Basic Questions We Can Begin to Answer

- How long does a network branded prepaid card last?
- How frequently do consumers transact with their cards?
- How often do they reload their prepaid cards?
- Do consumers schedule repeated reloads of their cards?
- How frequently do consumers withdraw cash from their cards?
- Where do consumers use their prepaid cards?
- How much revenue is earned from consumer fees?
- What is the frequency and composition of consumer fees?
- What share of prepaid card revenues comes from interchange?

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Distribution of Card Programs

15 card programs are grouped by program type and enrollment method

Program Type	Enrollment Method	Percent of Transactions
Web GPR	Via web	15
Retail GPR	Via retailer	10
Financial Institution GPR	Via financial institution	< 1
Payroll	Via employer	74
Flexible Spending Account	Via employer	1
Transit	Via employer	< 1

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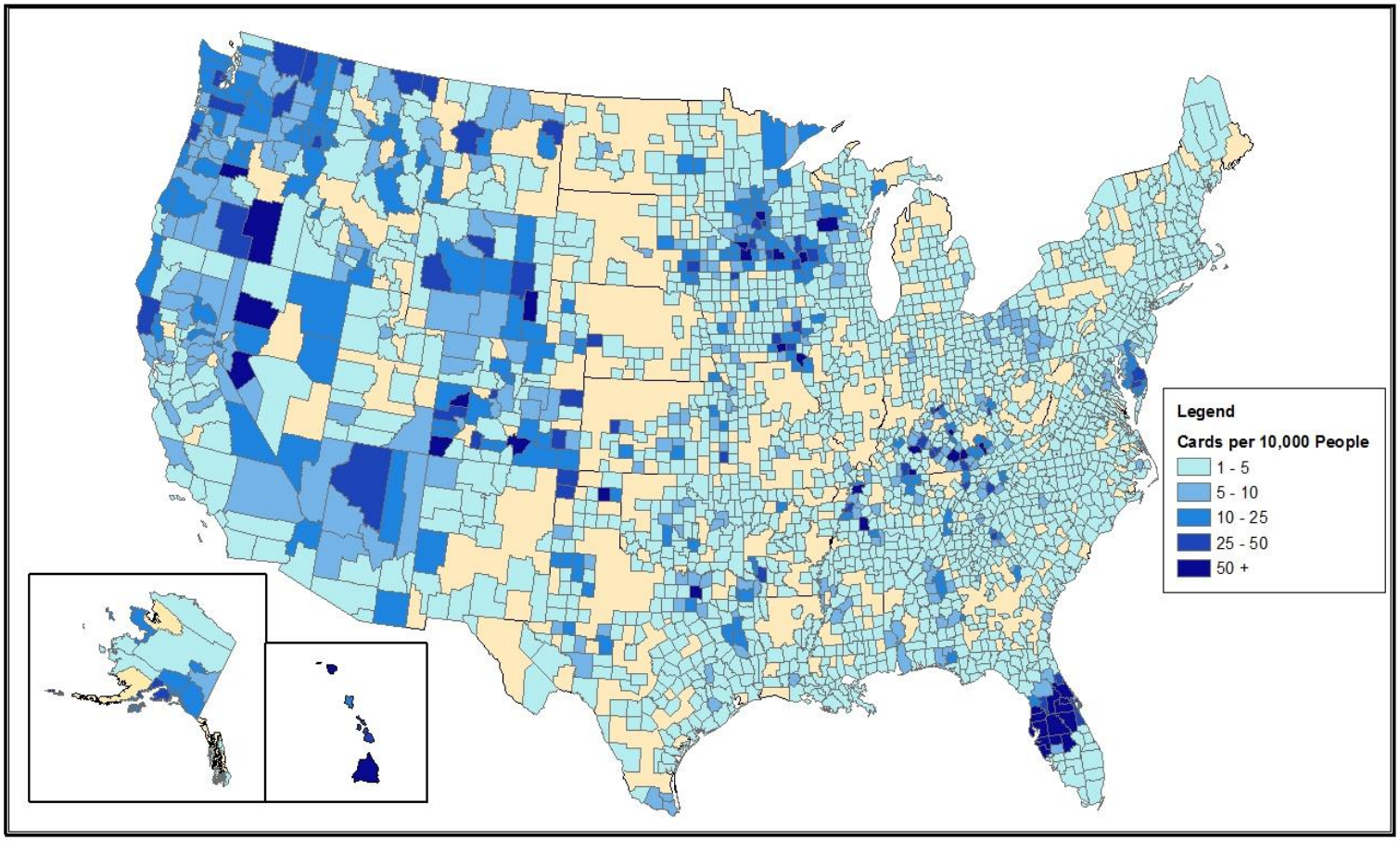
Number of Active Retail GPR Cards[1] per 10,000 Population in 2010[2]



[1]: The data in this map depict the cards distributed via retailers in six programs offered by one prepaid card issuer. Since these cards are a portion of the retail cards in one company's portfolio, the patterns depicted here may not be representative of the prepaid industry as a whole.

[2]: This map is based on county population as reported in the 2000 census.

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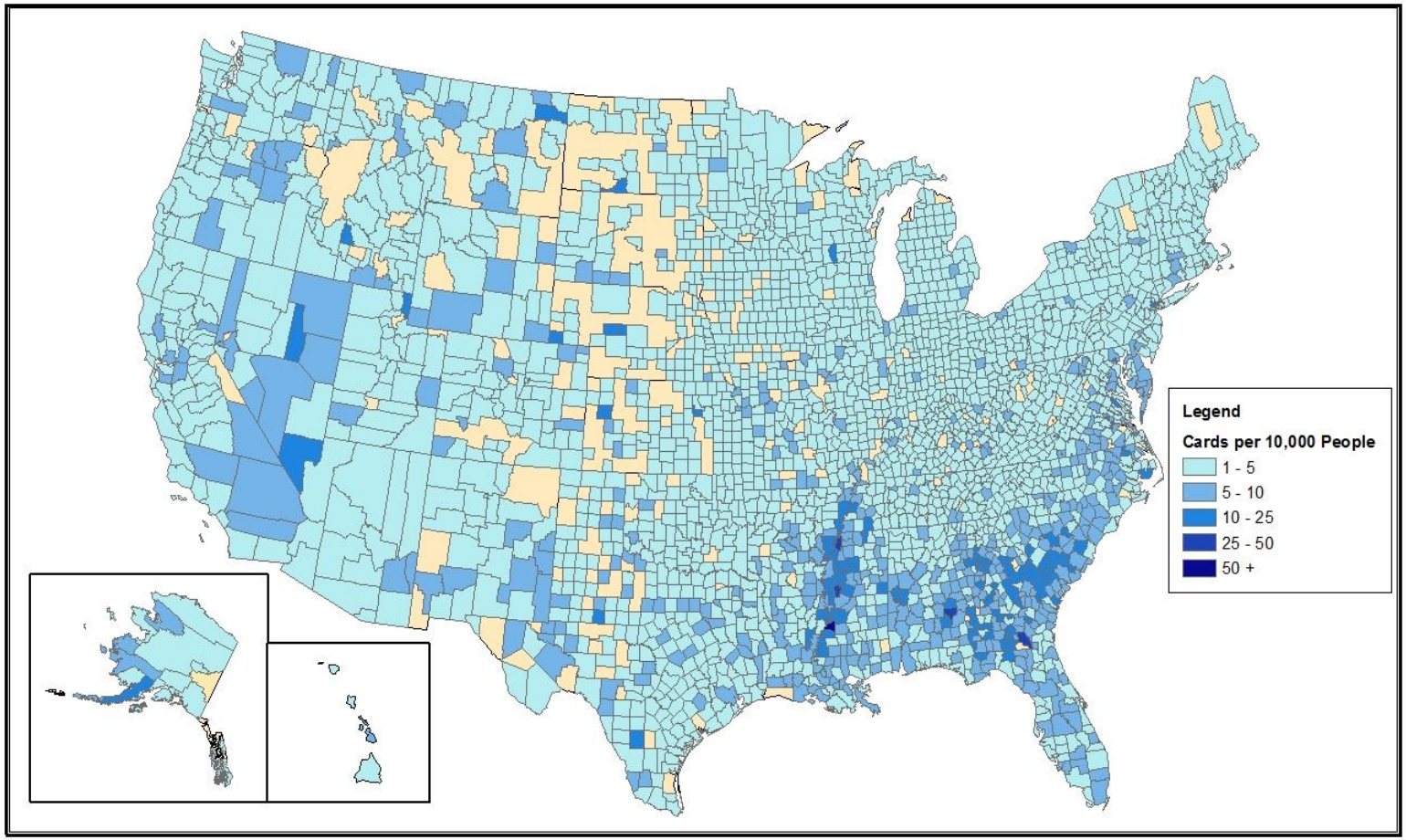
Number of Active Web GPR Cards[1] per 10,000 Population in 2010[2]



[1]: The data in this map depict the cards purchased via the Internet in three programs offered by one prepaid card issuer. Since these cards are a portion of the web cards in one company's portfolio, the patterns depicted here may not be representative of the prepaid industry as a whole.

[2]: This map is based on county population as reported in the 2000 census.

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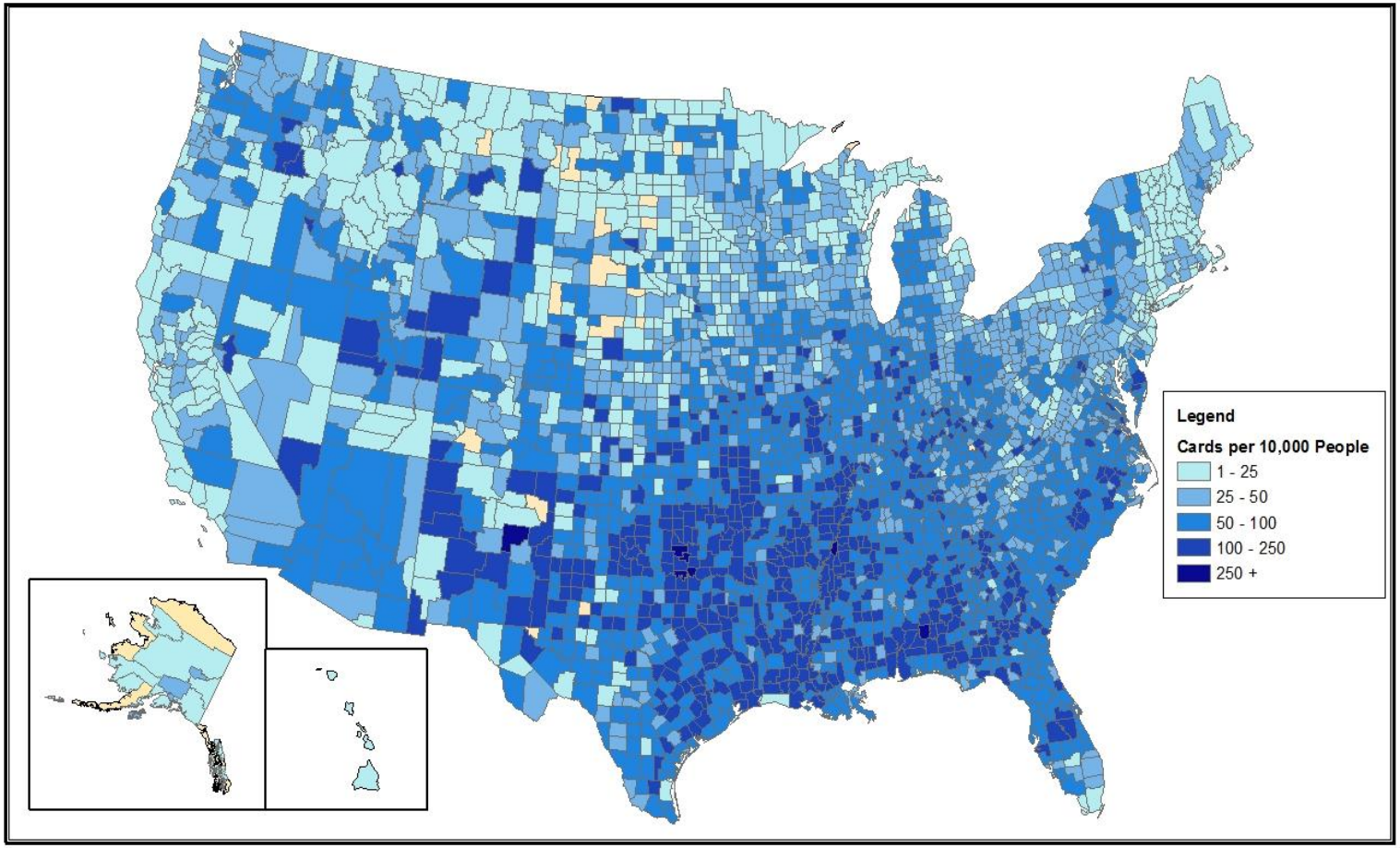
Number of Active Payroll Cards[1] per 10,000 Population in 2010[2]



[1]: The data in this map depict the cards distributed via employers in three programs offered by one prepaid card issuer. Since these cards are a portion of the payroll cards in one company's portfolio, the patterns depicted here may not be representative of the prepaid industry as a whole.

[2]: This map is based on county population as reported in the 2000 census.

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Length of Card Activity and Dormancy

Program Type	Active Card Life (days, median) [1]	Longest Period of Inactivity (days, median) [2]	Cards Dormant 90+ Days (percent)[3]
Web GPR	184	31	19.7
Retail GPR	63	27	15.6
FI GPR	189	49	45.4
Payroll	132	14	13.6
FSA	515	158	80.2

[1]: Number of days between a card's first and last transaction.

[2]: Defined as the longest period of inactivity between consumer-initiated transactions on a given card.

[3]: Share of cards in the program category with at least one interval of inactivity longer than 90 days, which ends with a consumer-initiated transaction.

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Dollar Value of Purchases

		Purchase Volume over the Life of the Card (percent of cards)	
Program Type[2]	**Total Purchase Volume[1] (Median)**	**< $50**	**> $1,000**
Web GPR	$471.43	21.4	37.2
Retail GPR	118.90	37.9	18.1
FI GPR	272.47	28.6	24.4
Payroll	492.32	25.0	37.9
FSA	168.34	45.5	25.3

[1]: Purchases do not include cash (e.g., ATM) withdrawals or returns.

[2]: Note that the card programs are not equally mature in terms of the number of quarters during which they appear in the data set and this might contribute to differences in intensity of card use across programs.

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Cash Withdrawals[1]

Program Type	Cards with at Least One Cash Withdrawal (Percent)	Cash Withdrawals (Median)[2]	Total Value of Cash Withdrawals (Median)[2]	Cash Withdrawal Share (percent)[2, 3]
Web GPR	62.3	6	$764	40.8
Retail GPR	38.7	3	264	44.1
FI GPR	29.1	3	383	33.5
Payroll	63.8	7	825	50.1

[1]: These values exclude cash back at the point of sale, which we cannot distinguish in the data set.

[2]: Calculated for those cards with at least one cash withdrawal.

[3]: The sum of all cash withdrawals divided by the sum of all consumer-initiated transactions.

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Composition of Purchases

Transactions by Merchant Type	Web GPR	Retail GPR	FI GPR	Payroll
Share of Purchase Volume (percent)				
Grocery Store	21.1	12.7	15.1	46.1
Service Stations	6.7	5.6	8.5	5.9
Fast Food	3.4	2.9	3.1	3.8
Restaurants	3.7	3.1	4.6	2.4
Telecommunications	6.4	6.9	4.5	2.8
Utilities	4.2	4.3	2.5	1.8

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Dollar Value of Loads

		Value Loads over the Life of the Card (percent of cards)	
Program Type[2]	**Total Value of Loads[1] (Median)**	**< $50**	**> $1,000**
Web GPR	$780	18.1	45.9
Retail GPR	$217	24.9	24.3
FI GPR	$400	12.5	30.1
Payroll	$1,284	18.5	54.0
FSA	$1,507	1.1	67.7

[1]: It is possible that we do not observe the first value load on some prepaid cards in the data set.

[2]: Note that the card programs are not equally mature in terms of the number of quarters during which they appear in the data set and this might contribute to differences in intensity in load activity across programs.

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Prepaid Cards with and Without Direct Deposit[1,2]

	Web GPR		Retail GPR		FI GPR		Payroll
Direct Deposit?[1]	**Yes[1]**	**No**	**Yes[1]**	**No**	**Yes[1]**	**No**	**Yes[1]**
Medians or Percent							
Share of Cards (percent)	18%		5%		4%		51%
Active Life (days)	354	153	382	59	416	179	257
Purchases (median)	140	9	121	4	159	7	59
Total Value of Purchases (median)	$4,565	$277	$3,497	$103	$4,918	$247	$1,153
Loads (median)	19	2	24	1	25	2	14
Total Value of Loads (median)	$9,460	$427	$9,543	$200	$9,737	$353	$4,065
Cash Withdrawals (median)	29	4	31	2	26	3	18
Total Value of Cash Withdrawals (median)	$3,853	$398	$4,376	$204	$3,484	$300	$2,236

[1]: Cards are categorized as receiving direct deposit if we observe more than four value loads at weekly intervals, more than two loads at bi-weekly intervals, or more than one load at monthly intervals, for an amount not ending in ".00".

[2]: While all payroll cards are, in principle, enrolled in direct deposit, for the purposes of comparisons to the other categories, we only report the statistics for payroll that satisfy our definition of direct deposit.

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Issuer Revenues and Cardholder Costs

- Revenues earned by prepaid issuer consist of:
  - Certain fees charged to cardholders[1]
  - Interchange revenues earned on POS transactions[2]
  - Less interchange paid to ATM owners[2]
- Cardholder costs:
  - Certain fees charged by prepaid issuer[1]
  - (Possibly) fees charged by retailers for account opening / reload[3]
  - ATM surcharges <u>charged and received by ATM owners</u>

[1]: We only observe fees that take value off the card.

[2]: These are not observed directly, but are estimated from network interchange fee schedules, network codes, and merchant codes.

[3]: These may not always be observable in the data, especially among Retail GPR cards.

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Variation in Revenue Earned by the Prepaid Card Issuer from Cardholder Fees (medians)[1]

	Cards sorted by total cardholder transactions			
	1st Quintile (Low Activity)		5th Quintile (High Activity)	
Program Type	**revenue per card**	**monthly revenue**	**revenue per card**	**monthly revenue**
Web GPR	$13.45	$5.98	$165.70	$12.17
Retail GPR	$4.95	$2.48	$79.20	$9.33
FI GPR	$7.95	$0.88	$47.70	$6.62
Payroll	$0.00	$0.00	$42.00	$3.94

[1]: We only observe fees that take value off the card. As a result, we may not observe all card activation fees or fees for reloads conducted at certain retail locations. Also, these values do not include ATM surcharges which are set and received by ATM owners.

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Average Prepaid Issuer Revenues for Active Prepaid Cards[1,2]

		Values over the Life of the Prepaid Card			
		Web GPR	**Retail GPR**	**FI GPR**	**Payroll**
	Revenue and Cost:				
1	Cardholder Fees[1]	$76.00	$35.04	$26.13	$25.79
2	Interchange Received	$23.35	$10.47	$15.34	$21.03
3	Gross Issuer Revenue (1+2)	$99.35	$45.50	$41.47	$46.82
4	Interchange Paid	$6.41	$1.98	$1.70	$6.11
5	Net Revenue (3-4)	$92.95	$43.52	$39.77	$40.71
		Composition of Revenues			
	Share of Gross Revenue:				
	Cardholder Fees (1÷3)	76.5%	77.0%	63.0%	55.1%
	Interchange Received (2÷3)	23.5%	23.0%	37.0%	44.9%
	Interchange Paid (4÷3)	-6.5%	-4.4%	-4.1%	-13.0%

[1]: We only observe fees that take value off the card. As a result, we may not observe all card activation fees or fees for reloads conducted at certain retail locations. Also, these values do not include ATM surcharges, which are set and received by ATM owners.

[2]: Averages are taken only over cards that were active at some point in time. Thus, the values are not affected by the proportion of cards that were *never* used by consumers.

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Average Cardholder Costs (per active card month)[1]

		Values per Month of Active Card Life			
		Web GPR	**Retail GPR**	**FI GPR**	**Payroll**
	Received by Prepaid Issuer:				
1	Cardholder Fees[2]	$8.16	$7.36	$2.60	$4.29
	Received by ATM Owners:				
2	ATM Surcharges[3]	$2.38	$1.39	$0.56	$3.09
3	Cardholder Costs	$10.54	$8.76	$3.16	$7.38
		Composition of Cardholder Costs			
	Share of Cardholder Cost:				
	Cardholder Fees[2] (1÷3)	77.4%	84.1%	82.1%	58.1%
	ATM Surcharges[3] (2÷3)	22.6%	15.9%	17.9%	41.9%

[1]: These are calculated as the mean of costs incurred over the life of prepaid cards in a given program category, divided by the mean active life (in months) for cards in that category. Averages are taken only over cards that were active at some point in time. Thus, the values are not affected by the proportion of cards that were *never* used by consumers.

[2]: We only observe fees that take value off the card. As a result, we may not observe all card activation fees or fees for reloads conducted at certain retail locations.

[3]: These are fees set and received by ATM owners.

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Summary

- A typical prepaid card exhibits just a few months of activity.
- Average behavior does not adequately describe the economics of prepaid cards.
  - Profitability will depend on the entire distribution of transaction activity…
  - Because considerable resources are invested to acquire new cardholders.
- Direct deposit is important to prepaid card economics.
  - Cards with regularly scheduled value loads are active for longer periods and have more transactions and more value loads.
  - There is considerable variation in direct deposit rates across card programs.
- Prepaid cards are used for both purchases and cash withdrawals.
- Purchases occur primarily among merchants offering nondurables.
  - A subset of cardholders use their cards to pay bills.
- Revenues generated over the life of a prepaid card are usually modest.
  - There is considerable variation across cards in revenues and their composition.
  - POS interchange is an important source of revenue for prepaid issuers.

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