THE U.S. CONSUMER AND THE RETAIL PAYMENT SYSTEM

by Teresa Chambers

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Creation of a Community College-University Collaborative to Promote
STEM Research and Curriculum Enhancement

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Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy’s National Nuclear Security Administration under contract DE-AC04-94AL85000.
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Retail Payment System (RPS)

The Retail Payment System is the interconnected system of equipment, institutions, and communications which is used for financial transactions.
Disruption to the Retail Payment System

- The Retail Payment System may be disrupted by a failure of some component of the RPS.
- Reliance on a new technology with inherent vulnerabilities could cause a disruption of the RPS.
- Disruption of the RPS could occur due to natural disaster or malicious act.
Role of the RPS in the U.S. economy
Key processes considered in the Payment Flow Model (PFM)
Maslow’s Hierarchy of Needs

- PHYSIOLOGICAL
  - Food, Water, Shelter, Warmth

- SAFETY
  - Security, Stability, Freedom from Fear

- BELONGING - LOVE
  - Friends, Family, Spouse, Lover

- SELF-ESTEEM
  - Achievement, Mastery, Recognition, Respect

- SELF-ACTUALIZATION
  - Pursue Inner Talent, Creativity, Fulfillment
U.S. consumers’ spending habits

- Typical monthly payments of U.S. consumers
- Methods of payment used by consumers
Where Does the Money Go?

The Department of Labor's latest survey provides a detailed look into how the average U.S. consumer unit spends their annual paycheck.

U.S. CONSUMER UNIT EXPENDITURES
Average annual expenditures and percent of total:

- **Cash Contributions**: $1,821
- **Reading**: $118
- **Transportation**: $8,758
- **Vehicle purchases (net outlay)**: $3,244
- **Gasoline, motor oil**: $2,384
- **Expenses, other transportation**: $3,130
- **Tobacco**: $323
- **Housing**: $16,920
- **Food at home**: $3,465
- **Food away from home**: $2,068
- **Alcoholic beverages**: $457
- **Insurance, Pensions**: $5,336
- **Education**: $3,581
- **Apparel and services**: $1,088
- **Personal care**: $788
- **Healthcare**: $2,853
- **Household operations**: $984
- **Housekeeping supplies**: $639
- **Utilities, fuels, public services**: $3,477
- **Shelter**: $10,025
- **Miscellaneous**: $808
- **Entertainment**: $2,696
- **Pensions, Social Security**: $5,027
- **Life, other personal insurance**: $309
- **Income before taxes**: $63,091
- **Years of life expectancy**: 48.8
- **Number of persons in consumer unit**: 2.5
- **Number of earners**: 1.3

Average Annual Expenditures: $49,638

U.S. Food Costs

U.S. households spent an average of 6.6% of their incomes on food in 2010—the lowest food cost in the world.

DailyMarkets.com

U.S. per capita food expenditures for food at home: $2093
U.S. per capita food expenditures for food away from home: $1906
U.S. per capita food expenditures for food: $4016
or almost $335 per month

(USDA Economic Research Service)
The average consumer made 64.5 payments per month in 2009, using the methods of payment shown in the pie chart.
Number of Payments per Month per Consumer, 2009

(Terms: BANP-Bank Account Number Payments; OBBP-Online Banking Bill Payments)
U.S Consumers’ Use of Credit Cards

- Percent w/ a Credit Card
- Percent w/ >2 or Credit Cards
- Percent w/ >10 Credit Cards
- Percent w/ No Credit Card
- Percent Using >50% Credit Available
- Percent w/ Debit Card
The average credit card debt per U.S. household: $15,956

The average available credit for U.S. credit cardholders: $3,044
If the Retail Payment System were disrupted, how much cash does the average U.S. consumer have on hand?
The average U.S. consumer has $271 in cash, of which $69 is on his/her person. 
(Federal Reserve Bank of Boston)
Do U.S. consumers have “rainy day” funds?

The average U.S. family has $3,800 in the bank.

Less than 40% of U.S. consumers have an emergency fund. (VisualEconomics)

43% of U.S. households are liquid-asset poor. A sudden loss of income would cause them to fall below the poverty line within three months. (Huffington Post)
Funds in Bank by Economic Group (FDIC)

- Low Income Group ($0 to $29,263)
- Moderate Income Group ($29,263.01 to $46,821)
- Middle Income Group ($46,821.04 to $70,231)
- Upper Income Group ($70,231 and higher)
- All Income Groups
The Unbanked

- U.S. Households: 0.00%
- Households Earning <$30,000/yr.: 5.00%
- Households Headed by Non-HS Grad: 10.00%
- African American Households: 15.00%
- Hispanic Households: 20.00%
- U.S. Households: 25.00%
Modeling Disruptions to the RPS

- The following icons represent the U.S. consumer and various methods of payment.
- Ten different RPS disruption scenarios are depicted.
- Depending on how many payment options are not available, consumers could encounter differing degrees of difficulty in purchasing both basic and desired goods.
U.S. Consumer has access to:

- <$100 Cash on Person
- <$300 Cash Available (for example, at home)
- One credit card (of average of four credit cards held)
- Three credit cards (of average of four credit cards held)
- Debit card
- ATM Withdrawal
- Checking Account
- Savings Account
- Paycheck
Scenario 1

<$100
Cash
(on Person)

<$300
Cash
(on Hand)

Credit
Card
(1 of 4)

Credit
Cards
(3 of 4)

Debit
Cards

ATM

Checking
Accounts

Savings
Accounts

Government
Payments

Payroll
Checks
Scenario 2

<$100 Cash (on Person)  <$300 Cash (on Hand)  Credit Card (1 of 4)  Credit Cards (3 of 4)  Debit Cards  ATM  Checking Accounts  Savings Accounts  Government Payments  Payroll Checks
Scenario 3

- <$100 Cash (on Person)
- <$300 Cash (on Hand)
- Credit Card (1 of 4)
- Credit Cards (3 of 4)
- Debit Cards
- ATM
- Checking Accounts
- Savings Accounts
- Government Payments
- Payroll Checks
Scenario 5

- <$100 Cash (on Person)
- <$300 Cash (on Hand)
- Credit Card (1 of 4)
- Credit Cards (3 of 4)
- Debit Cards
- ATM
- Checking Accounts
- Savings Accounts
- Government Payments
- Payroll Checks
Scenario 6

<$100 Cash (on Person) <$300 Cash (on Hand) Credit Card (1 of 4) Credit Cards (3 of 4) Debit Cards ATM Checking Accounts Savings Accounts Government Payments Payroll Checks
Scenario 8

- <$100 Cash (on Person)
- <$300 Cash (on Hand)
- Credit Card (1 of 4)
- Credit Cards (3 of 4)
- Debit Cards
- ATM
- Checking Accounts
- Savings Accounts
- Government Payments
- Payroll Checks
Scenario 9

- <$100 Cash (on Person)
- <$300 Cash (on Hand)
- Credit Card (1 of 4)
- Credit Cards (3 of 4)
- Debit Cards
- ATM
- Checking Accounts
- Savings Accounts
- Government Payments
- Payroll Checks
Scenario 10

- <$100 Cash (on Person)
- <$300 Cash (on Hand)
- Credit Card (1 of 4)
- Credit Cards (3 of 4)
- Debit Cards
- ATM
- Checking Accounts
- Savings Accounts
- Government Payments
- Payroll Checks
Modeling Disruptions to the RPS

The National Infrastructure Simulation and Analysis Center, Homeland Infrastructure Threat and Risk Analysis Center, Office of Infrastructure Protection National Protection and Programs Directorate is working towards a more robust Retail Payment System for the benefit of U.S. consumers and merchants (producers).
References

Slides 4, 5 from “Banking and Finance: Retail Payment System Capabilities Development Report, January 2012” by National Infrastructure Simulation and Analysis Center

Homeland Infrastructure Threat and Risk Analysis Center

Office of Infrastructure Protection

National Protection and Programs Directorate
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Slide 6 from Saul McLeod, “Simply Psychology”
http://www.simplypsychology.org/maslow.html

Slide 9 from “Where Does the Money Go” by VisualEconomics, based on data from the Department of Labor
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Slide 11 from “The 2009 Survey of Consumer Payment Choice” by the Federal Reserve Bank of Boston

Slide 13 from “The 2009 Survey of Consumer Payment Choice” by Federal Reserve Bank of Boston
References

Slide 18 Data from CNN Money and Credit Cards.com
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