

THE U.S. CONSUMER AND THE RETAIL PAYMENT SYSTEM

by Teresa Chambers

FUNDED BY THE DEPARTMENT OF HOMELAND SECURITY, OFFICE OF SCIENCE AND TECHNOLOGY,

AWARD #2009-ST-062-000031

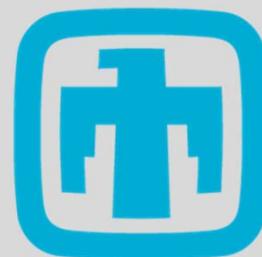
Creation of a Community College-University Collaborative to Promote
STEM Research and Curriculum Enhancement

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U.S. DEPARTMENT OF
ENERGY



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Retail Payment System (RPS)

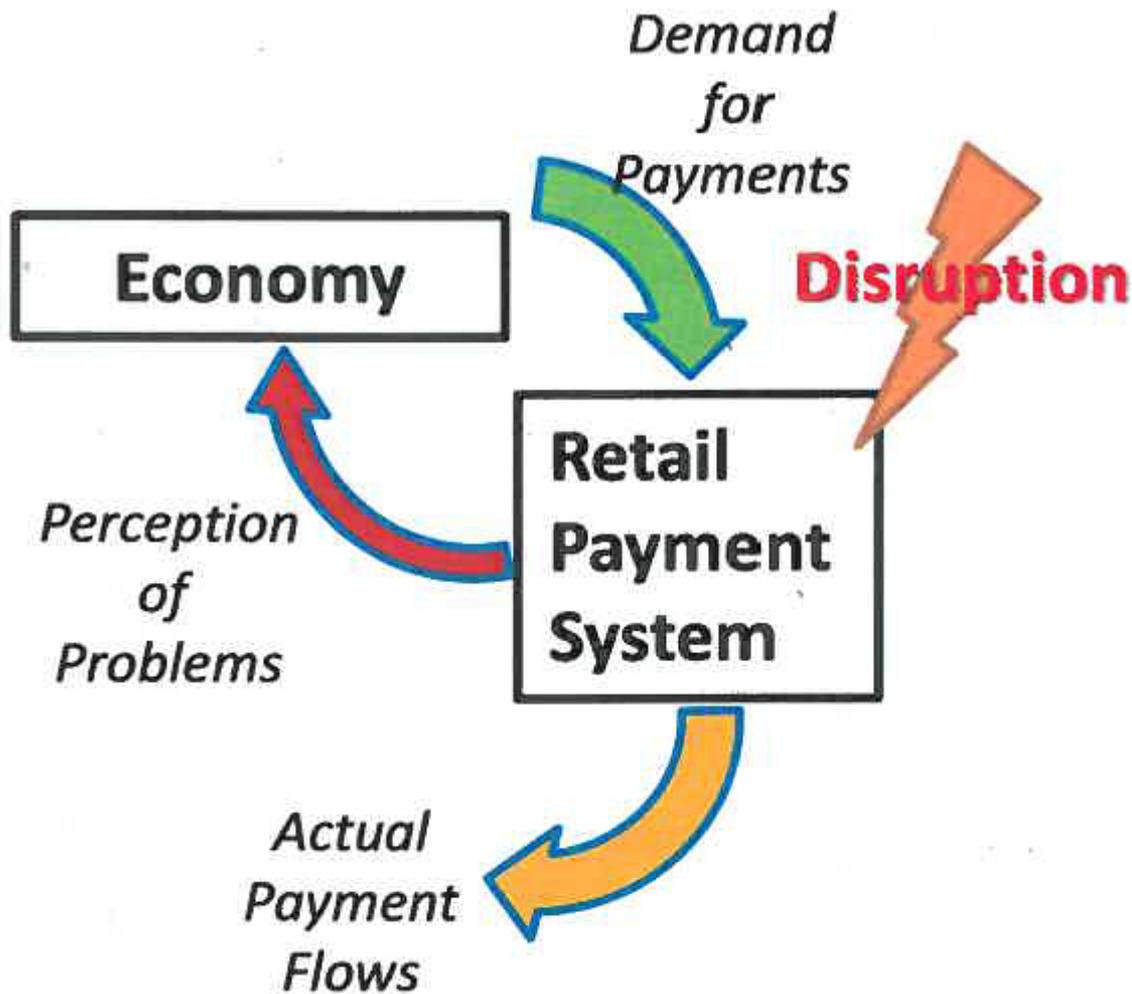
The Retail Payment System is the interconnected system of equipment, institutions, and communications which is used for financial transactions.

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



U.S. consumers' spending habits

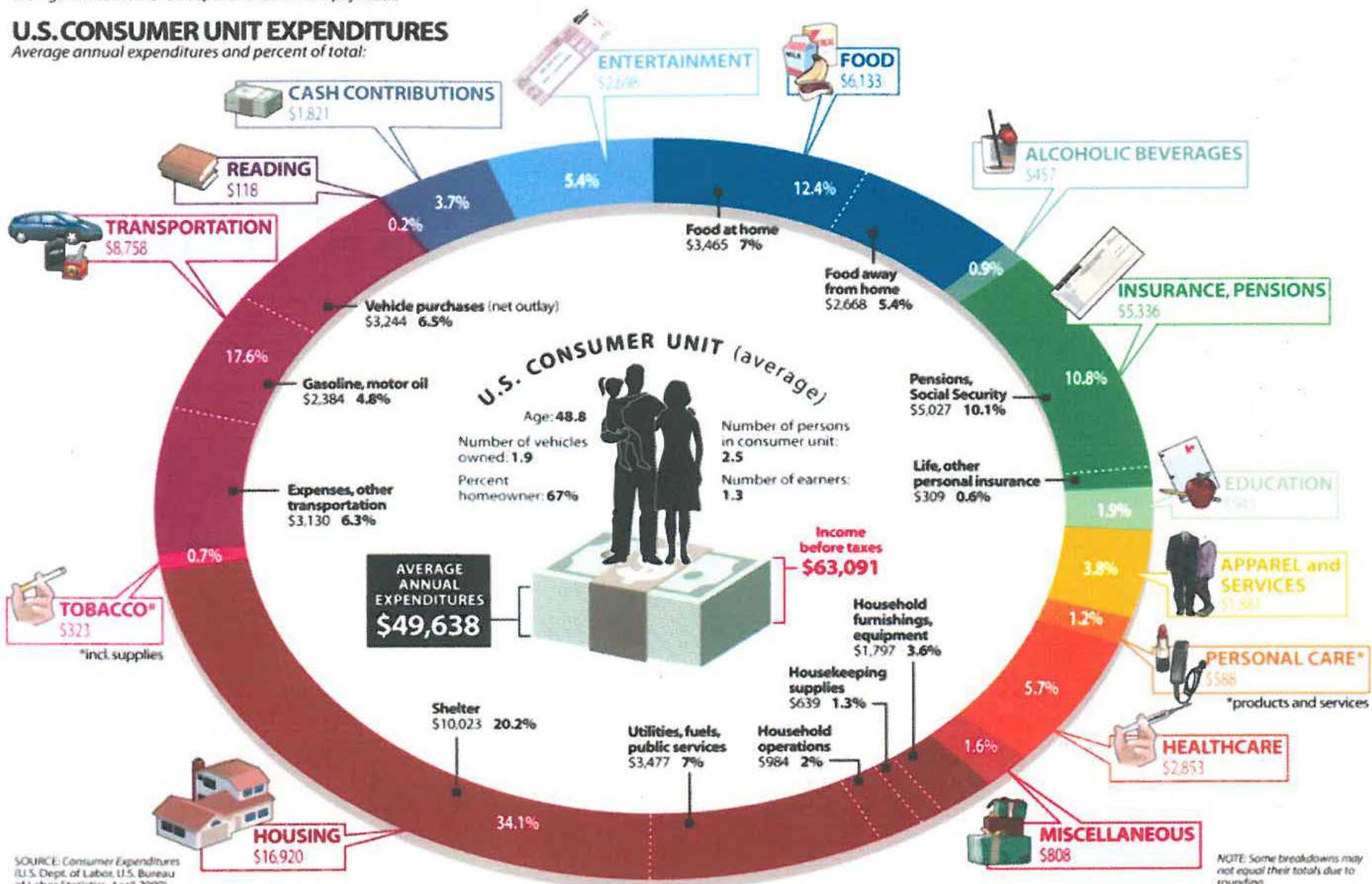
- ▣ Typical monthly payments of U.S. consumers
- ▣ Methods of payment used by consumers

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:



SOURCE: Consumer Expenditures (U.S. Dept. of Labor, U.S. Bureau of Labor Statistics, April 2009)

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.

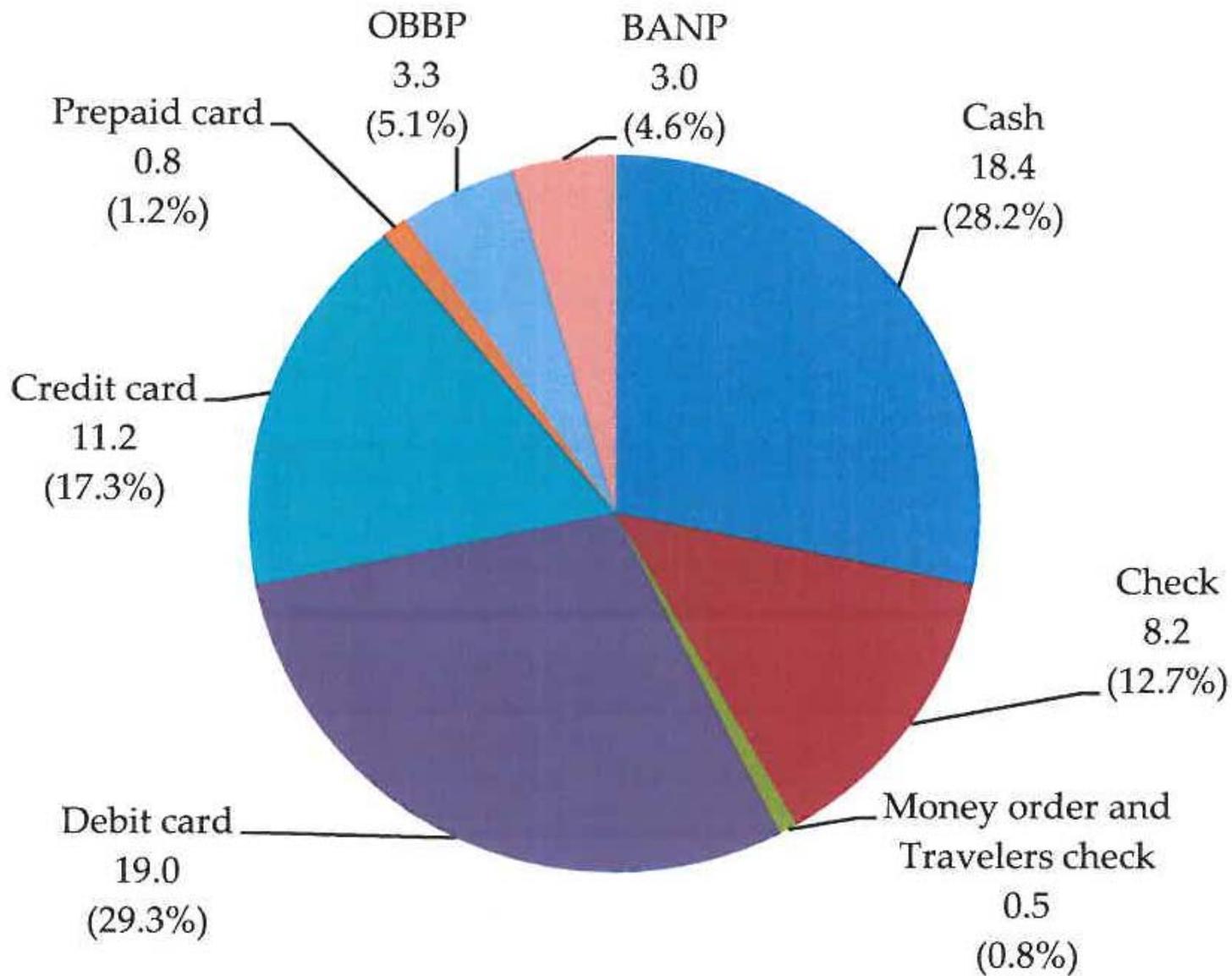
DailyMarkets.com

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

(USDA Economic Research Service)

“The 2009 Survey of Consumer Payment Choice” Federal Reserve Bank of Boston

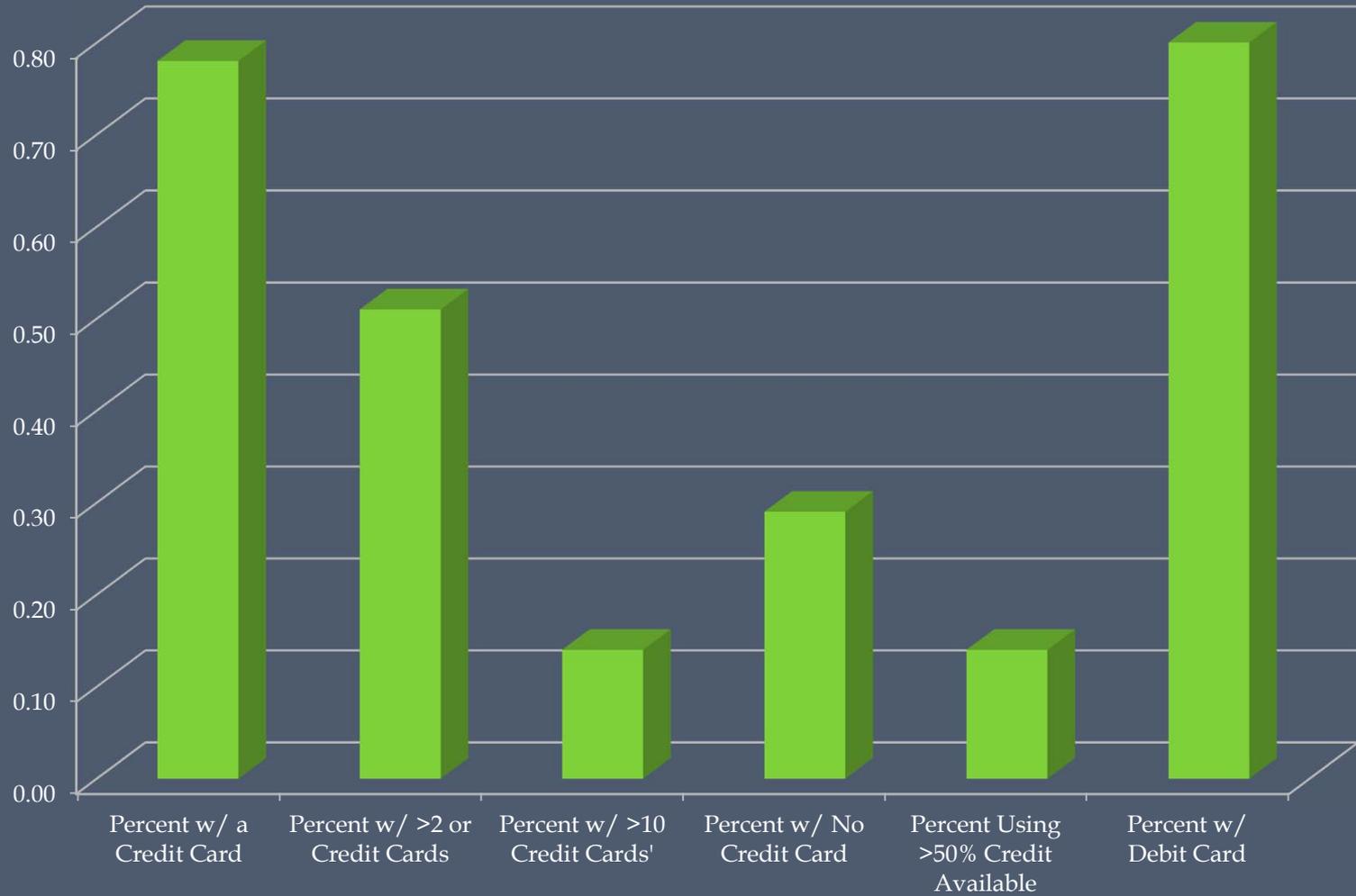
- ▣ The average consumer made 64.5 payments per month in 2009, using the methods of payment shown in the pie chart.



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



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.

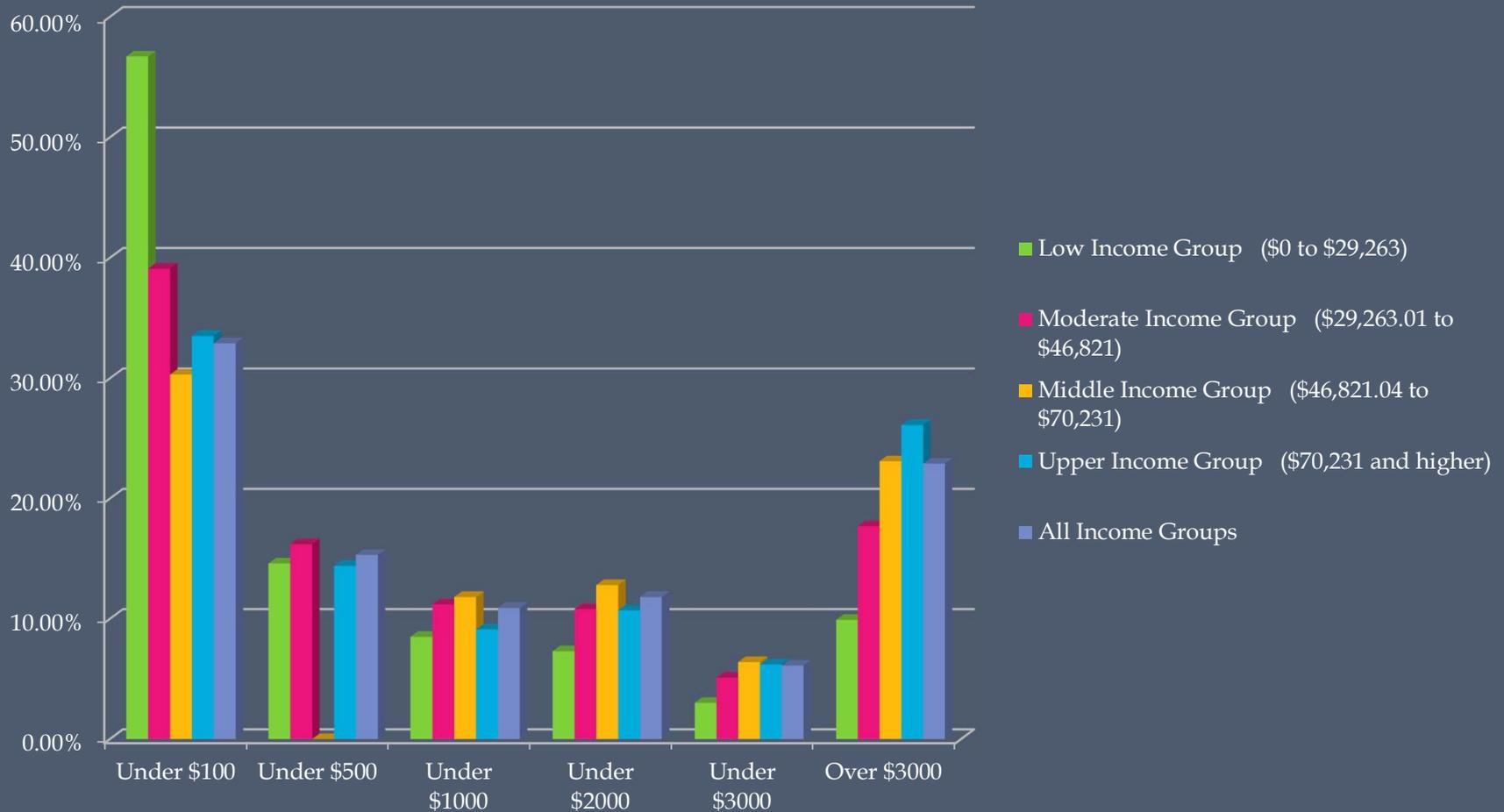
(VisualEconomics)

43% of U.S. households are liquid-asset poor.

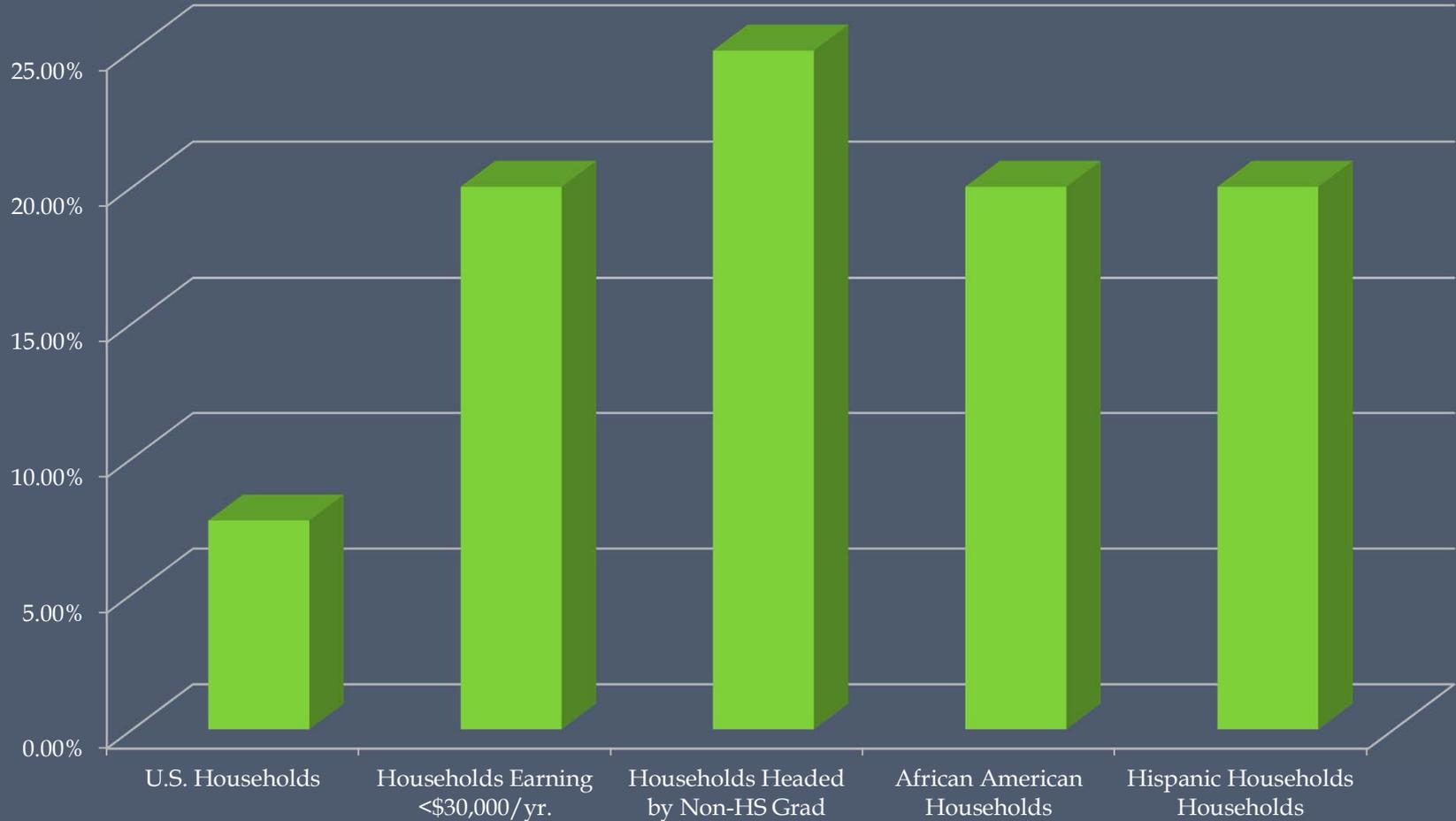
A sudden loss of income would cause them to fall below the poverty line within three months.

(Huffington Post)

Funds in Bank by Economic Group (FDIC)



The Unbanked



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



Government Payments: Social Security, Food stamps, Welfare



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

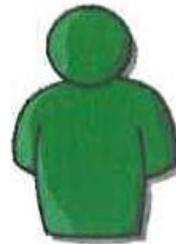
Checking
Accounts

Savings
Accounts

Government
Payments

Payroll
Checks

Scenario 4



<\$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



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 7



<\$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

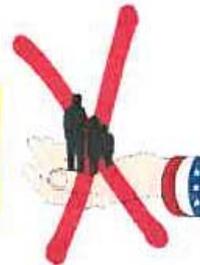


Government
Payments



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

References

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
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<http://visual.ly/us-consumer-unit-expenditures-where-does-money-go>

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Slide 11 from “The 2009 Survey of Consumer Payment Choice” by the Federal Reserve Bank of Boston

<http://www.bos.frb.org/economic/ppdp/2011/ppdp1101.pdf>

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

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Slide 18 Data from CNN Money and Credit Cards.com



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