February 2017

Coping with Costs

Big Data on Expense Volatility and Medical Payments

Executive Summary

JPMorgan Chase & Co.
INSTITUTE

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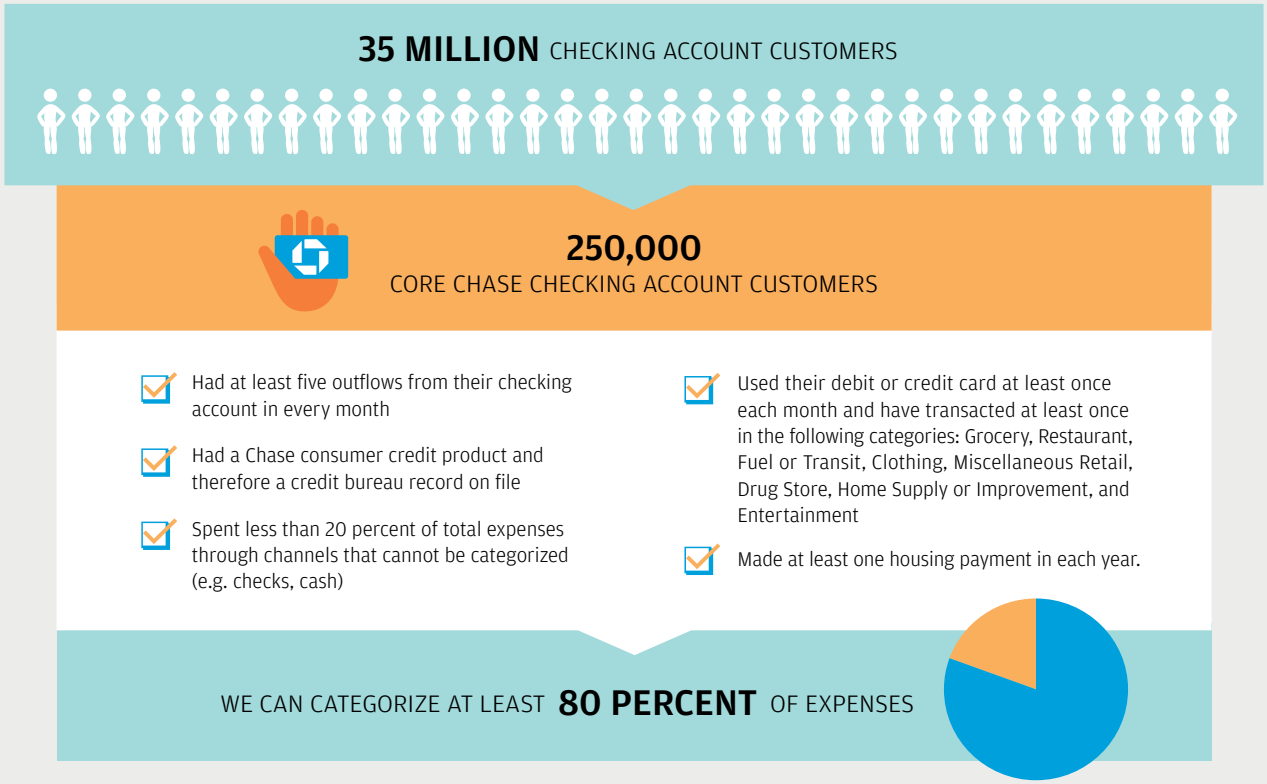
Americans across the income spectrum experience tremendous income and expense volatility, and this volatility has been on the rise. This volatility tests the financial resilience of American families. In *Weathering Volatility*, we estimated that median-income families needed $4,800 in liquid assets to weather 90 percent of the income and expense volatility observed, but that they had only $3,000—a shortfall of $1,800. In *Paychecks, Paydays, and the Online Platform Economy* we documented that most income volatility stems from labor income and, specifically, variation in take-home pay within a job rather than job transitions.

In this report, the JPMorgan Chase Institute assembled a de-identified data asset of nearly 250,000 Chase customers between 2013 and 2015 in order to study how consumers' expenses vary over time and how their financial behavior changes when faced with extraordinary payments. This high-frequency panel of family finances—weighted to represent the age and income distribution of the nation—provides a first ever look into the components of expense volatility based on real financial transactions and the changes to family income, expenses, assets, and liabilities that coincide with extraordinary medical payments.

Data

From a universe of 35 million checking account customers, we assembled a de-identified data asset comprised of roughly 250,000 core Chase customers for whom we could categorize at least 80 percent of expenses. These families met the following five sampling criteria:



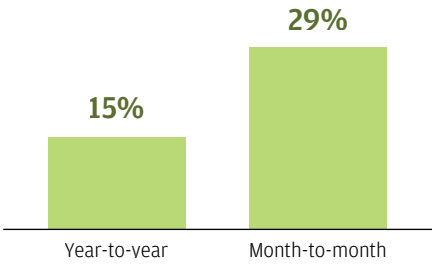
Source: JPMorgan Chase Institute

Finding One

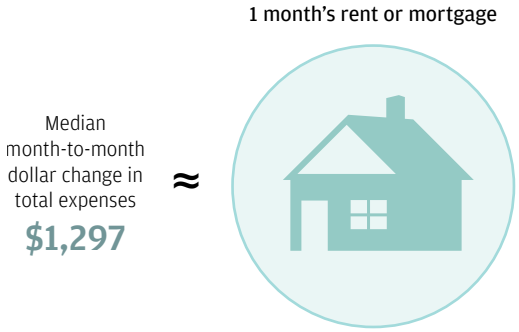
Expenses fluctuated by nearly $1,300 or 29 percent on a month-to-month basis for median-income households.

High frequency data highlighted that expenses were more volatile on a month-to-month than year-to-year basis.

Median percent change in total expenses for median income quintile families



In dollar terms, monthly fluctuations in total expenses were roughly equivalent to a family's rent or mortgage payment.

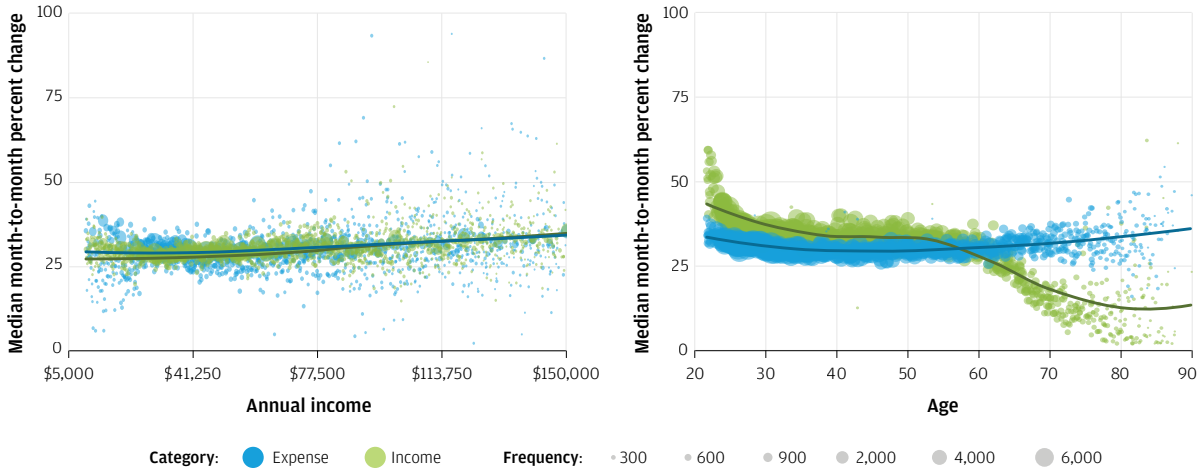


Source: JPMorgan Chase Institute

Finding Two

Expense volatility was high across the income and age spectrum. While older families typically had less volatile incomes, they exhibited a larger range of income and expense volatility.

Month-to-month percent change in income and expenses, by income and age



Source: JPMorgan Chase Institute

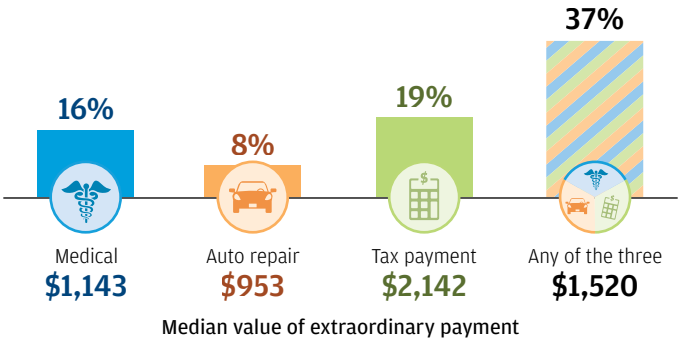
Finding Three

Almost four in ten families—particularly middle-income and older families—made an extraordinary payment of over $1,500 related to medical services, auto repair, or taxes.

We defined an extraordinary payment as:

- **Large in magnitude:** At least $400 in magnitude and more than 1 percent of annual income
- **Unusual:** More than 2 standard deviations away from the individual's normal monthly mean expense in this category

Percent of families with at least one extraordinary payment within a year



Median value of extraordinary payment

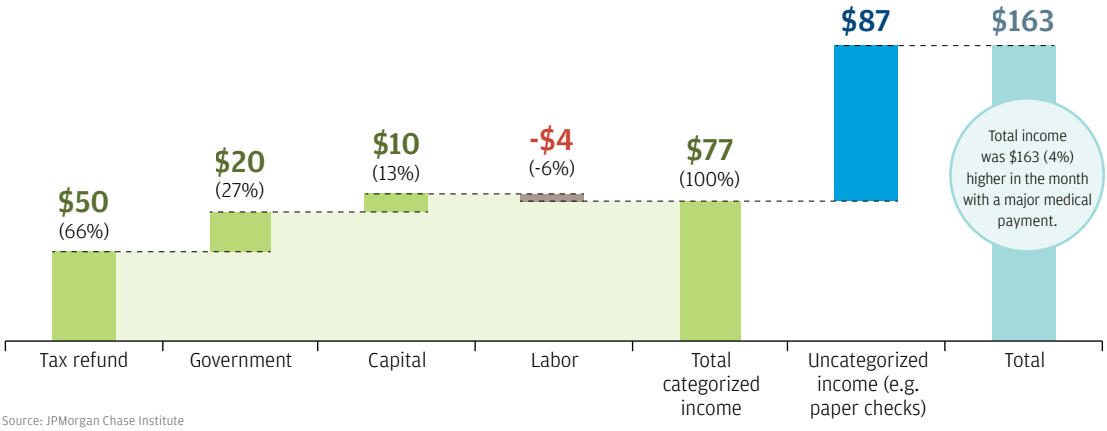
Source: JPMorgan Chase Institute

Finding Four

Extraordinary medical payments were more likely to occur in months with higher income and specifically during tax season.

Extraordinary medical payments were more likely to occur in months with higher income. Total income was $163 or 4 percent higher in months with a major medical payment. The income increase stemmed mostly from tax refunds and not labor income and was still small in magnitude compared to the mean medical payment of $2,089.

Decomposition of dollar (percent) difference in income in month with a major medical payment relative to the baseline*



Source: JPMorgan Chase Institute

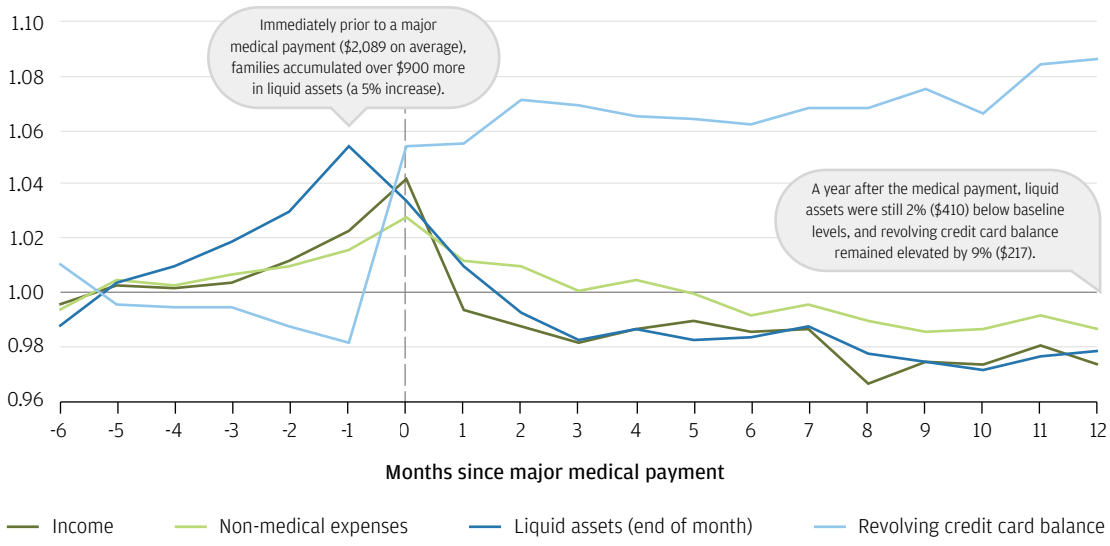
* Baseline period corresponds to four to six months prior to the payment month. Totals may not reflect sums due to rounding.

Finding Five

Prior to a major medical payment, families garnered significant liquid assets but did not recover financially within 12 months after the payment.

Major medical payments coincided with short-term improvements in income, assets, and liabilities, as well as lasting negative changes in not just assets and liabilities but also income and non-medical expenses.

Ratio of income, non-medical expenses, liquid assets, and revolving credit card balance before and after major medical payment relative to baseline*



Source: JPMorgan Chase Institute

* Baseline period corresponds to four to six months prior to the payment month.

Conclusion

These findings highlight the critical role liquid assets play in managing expense spikes and the need for policies and solutions to promote emergency savings. While many families experienced an increase in income in the month in which they made a major medical payment, liquid assets were the primary source of funding to cover the medical payment. Our evidence also underscores the connections between financial health and physical health. First, the timing of medical payments was linked to ability to pay. Families may have delayed either medical treatment or payment of their medical bill until they were able to pay. The second link is that major medical payments were associated with lower income, non-medical expenses, and liquid assets and higher credit card debt a year later. This highlights the reality that families are not fully insured against the economic consequences of major health events. Older families in particular could benefit from more customized solutions as they exhibited a greater range in income and expense volatility and were also more likely to make major medical payments. More broadly, better solutions could help families accumulate liquid assets and predict, manage, and afford expense spikes. Integrated, high-frequency data of income, expenses, assets, and liabilities shed new light on expense volatility and how behavior changes with this volatility. This is critical to improving policies and solutions to strengthen the financial resilience of American families.