

Income and Consumption Volatility over Time

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Executive Summary

Recent studies have documented a rise in year to year changes in income during the past few decades. This variation has been described in troubling terms as indicating that families face greater risks than they have in the past. Other research emphasizes that changes in earnings for individuals over time reflect the benefits of greater mobility in the labor market. The effect of this rising income volatility on well-being is unclear, as it depends on the reasons for increased volatility and the extent to which this income volatility can be smoothed through saving and dissaving. Evidence on consumption volatility can shed light on the impact that income volatility has on well-being. Although there is a large literature that examines earnings volatility, and a smaller literature that looks at income volatility, much less attention has been given to consumption volatility.

This paper examines the extent of dispersion of income and consumption over the past four decades. We document the overall dispersion in both income and consumption, and then decompose changes over time in these measures into permanent and transitory components. Our analyses rely on data from the Panel Study of Income Dynamics (PSID) for the years 1968-2007. The PSID is the only source of representative longitudinal data on both income and consumption. Our analyses focus on family level money income and food and housing consumption.

We consider several measures of overall dispersion including the standard deviation of log income or consumption, the coefficient of variation, and ratios of percentiles. Changes in overall dispersion can be separated into changes in the dispersion of the permanent component and changes in the dispersion of the transitory component, or volatility. Following the approach of many previous studies, we decompose total dispersion using the standard canonical model. The transitory component for a given family is defined as the mean across a nine year window of the squared deviations of current (regression adjusted) income or consumption from its nine-year average, and the permanent component is the difference between total variance and this transitory component.

For overall income dispersion, find that how one measures the dispersion and how one treats the few very large or small values of income in the data greatly affects the results. For example, the rise in total income dispersion during the 1980s and early 1990s is much more noticeable when we trim the top and bottom one percent of income within demographic cells than when we trim the top and bottom one percent of income for the entire sample. The most robust evidence suggests a rise in income inequality (after accounting for characteristics such as age and education) through the mid-1980s. This rise is followed by a decline in the late 1990s that may have been recently reversed. Overall dispersion of consumption of food and housing over this same period rises until the mid-1980s, and has changed little since then. The pattern for consumption is much less affected by the data issues that plague income.

Our variance decompositions reveal additional differences between income and consumption dispersion. Our analyses indicate that permanent income dispersion peaks

in the late 1980s and falls afterwards. Transitory dispersion of income rises until the late 1990s, and then levels off. Permanent consumption dispersion peaks in the early 1990s, a little later than income dispersion, and has fallen slightly since. The transitory dispersion of consumption is considerably lower than that of income, and consumption volatility is remarkably flat throughout the period from 1968 through 2007. We emphasize that, unlike the time patterns for consumption volatility, the patterns for income volatility are highly sensitive to how volatility is measured and the treatment of outliers.

We also find substantial differences in the patterns for dispersion across demographic groups. Both income and consumption volatility are higher for the young and those with little wealth. Income volatility falls in the late 1990s and then rises recently for those in the lowest quintile of net worth. Transitory income dispersion for those 65 and older has increased sharply since the late 1980s, but there has been little change in the transitory dispersion of consumption. Permanent income dispersion is greater for the low educated than the high educated, while the differences in consumption dispersion are less noticeable across education groups.

We should emphasize that these results are preliminary. We consider this work to be the first step in relating changes in consumption to changes in income and other family circumstances such as employment, education, and family composition. We plan to examine how the residual variation in income and consumption (after accounting for age and education) compares to the total variation in these measures, and how taxes and noncash benefits affect permanent and transitory income dispersion. We also plan to investigate how sensitive our results are to alternative methods for decomposing the dispersion in income and consumption.