What information is needed to evaluate policies in a world of heterogeneously misoptimizing consumers? This paper takes up this question for non-salient sales taxes, and derives new results that show that measuring variation in mistakes is just as important as measuring the “average mistake”. Our theoretical framework formalizes the importance of three statistics: 1) How much variation there is in mistakes between consumers, 2) how mistakes covary with income, and 3) how mistakes vary with the magnitude of economic incentives. We address these questions about attention variation with an online shopping experiment in which 3000 consumers – matching the US adult population on key demographics – purchase common household commodity items. We find that: 1) There is significant heterogeneity in tax inattention. Compared to the estimates that would be obtained from a representative behavioral agent model, this heterogeneity increases the efficiency cost of taxation estimates by at least 200%. 2) High income earners are more attentive to taxes than low income earners. The fourth quartile of the income distribution is roughly twice as attentive as the first quartile, and thus the financial burden of misoptimization falls disproportionately on the poor. 3) Making sales taxes three times as high as they are currently in the US roughly doubles consumers' attention to the taxes, which implies that there are additional “debiasing costs” to increasing taxes beyond their current level. Our theoretical, experimental, and econometric techniques and results provide a framework for robust behavioral welfare analysis in other markets and domains. Additionally, our results provide new insights into the mechanisms and determinants of inattention.