Scientists generally recognize the distinction between statistical significance and practical significance. However, it is not always obvious how to calibrate whether statistical effects are important, especially small effects in complex statistical models. We develop a novel approach for quantifying small regression effects in linear regression models. Our method is based on variation in the mean function, in contrast to methods that focus on regression coefficients. Our idea applies in diverse settings such as testing for a negligible trend to quantifying subtle differences in regression structure across subgroups. Straightforward Bayesian methods are proposed for inference. Several published analyses are used to illustrate the ideas and methodology. The presentation should be accessible to graduate students who have a basic understanding of linear models.