This thesis deals with the detection of change in the intercept in panel data regression model. We are interested in testing a null hypothesis that there was no change in the intercept during the observation period in case with no dependency between panels and with the number of panels and observations in each panel going to infinity. Based on the results for simplified case with no additional regressors we propose a statistical test and show its properties. We also derive a consistent estimate of the parameter of change based on the least squares method. The main contribution of the thesis is the derivation of theoretical results of the proposed test while variances of errors are known and its modification for unknown variance parameters. A large simulation study is conducted to examine the results. Then we present an application to real data, particularly we use four factor CAPM model to detect change in monthly returns of US mutual funds during an observation period 2004–2011 and show a significant change during the sub-prime crisis in 2007–2008. This work expands existing results for detecting changes in the mean in panel data and offers many directions for further beneficial research.