Delay-and-sum (DAS) beamforming can be described as a linear convolution of an unknown sound source distribution and the microphone array response to a point source, i.e., point-spread function. Deconvolution tries to compensate for the influence of the array response and reveal the true source distribution. Deconvolution is an inverse problem in which measurement noise can become dominant and yield meaningless solutions if the problem is not regularized (typically with Tikhonov regularization or a sparsity constraint). Therefore, the obtained solution estimate depends on the choice of regularization parameter, which in turn is highly problem dependent. Additionally, if sound sources are located near the edges of the computational domain, a discontinuity of sound power occurs that can result in a “ringing” effect in the deconvolved image. To remedy this, various boundary conditions can be assumed to model the sound field behaviour outside the computational domain. In this paper, noise quantification from deconvolution is investigated to better understand the derived effect on absolute noise levels. Using benchmark test cases from the aero-acoustic community, absolute noise levels is obtained from deconvolution and compared to that of the test cases. The effects of regularization and boundary conditions are discussed and practical usage scenarios are given.