**An integrated model for classifying flexible measures in in inverse DEA: Application to banking industry**

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**Abstract.** In the traditional data envelopment analysis (DEA) models, the role of measures from input and output aspects is known. However, in many cases, we face a situation where some measures can play the role of input or output. The role of these measures is determined as input or output with the aim of maximizing the efficiency of the decision making unit (DMU) under evaluation. In this paper, we present a novel inverse DEA model to classify these inputs and outputs. We determine the new level of inputs and outputs and flexible measures by choosing the target efficiency for the DMUs. In this regard, the new model may choose flexible measures as input or output, but the main goal is to reach the target efficiency level. In the following, we will illustrate the presented approach with a simple numerical example. Finally, a numerical real

example propose in the banking industry in Indonesia to clarify and demonstrate the suggested approach. We also bring the results of the models.

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