

# Contractual Incompleteness and The Quality of Construction Works in Public-works Procurement

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## **Abstract**

In public-works procurement, cost overruns frequently arise because initial specifications and plans are changed. We develop a structural auction model in which ex-post renegotiation arises after the end of an auction and the cost overrun is an incentive scheme to induce the contractor's effort for improving the quality of work. We quantify the impacts of cost overruns on the quality of construction works and social welfare by using a data set including information on the final payment and the quality of work reviewed after the completion of work. In counterfactual experiments, we find that the welfare loss is 40% when extra payments are reduced by 50%.

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