REVIEW

of the dissertation by Lior Yakov Agay

Reviewer: Prof. Dimitar Kanev, DSc (Economics)
Dissertation title: "Applications of Game Theory and Behavioural Economics in Public Procurement Processes"
Submitted for the award of the educational and scientific degree of Doctor (PhD) in professional field 3.8 Economics, doctoral programme "Political Economy"
Varna Free University "Chernorizets Hrabar", Faculty of Social, Economic and Computer Sciences, Department of Economics
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1 Significance of the Research Problem and Knowledge of the Scholarly Literature

The dissertation addresses a significant scholarly and practical problem: how disclosed price information affects bidders' strategic decisions and professional judgement in public procurement. Its relevance arises from the need for contracting authorities to combine prudent use of public funds with high-quality contract performance and the maintenance of a competitive market.

Of particular importance is the recognition that the estimated contract value and the starting price perform a dual function. They provide information about the procurement but may also become reference points shaping expectations and assessments. This raises the fundamental question of when a price reference reduces uncertainty and when it constrains independent judgement through behavioural anchoring.

The author demonstrates familiarity with the principal theoretical approaches and connects strategic interaction with bounded rationality and the institutional characteristics of public procurement. The literature review substantiates the research problem. The intended novelty lies in integrating these explanations and applying them to a specific managerial setting.

2 Justification of the Research Aim and Objectives

The research aim is clearly formulated: to develop and empirically substantiate a framework linking the price-information environment to bidders' continued participation and the perceived bounds of price acceptability. The research object and subject are distinguished, and the objectives follow the logic of the problem—from theoretical explanation through methodology and empirical investigation to managerial application.

The hypotheses direct the analysis towards the relationship between the type of price reference, the persistence of participation and professional assessment of prices. They are testable within the limits of the chosen approach. In my assessment, the objectives have been fulfilled and the aim has been achieved through the development of an empirically grounded decision-support framework.

3 Methodology and Assessment of the Principal Findings

The structure provides a coherent progression from the theoretical foundations to the methodology, the analysis of findings and the proposed model. The research combines administrative data on bidders' actual participation with a study of professional judgements about price acceptability. This combination is methodologically justified: behaviour and perceptions reveal different, complementary aspects of the problem without being treated as equivalent.

Game theory provides a basis for viewing participants' decisions as interdependent and conditioned by the information environment. The behavioural approach explains how a price reference may guide judgement under bounded rationality. In the dissertation, these approaches primarily serve to provide a conceptual explanation and structure the empirical analysis.

The findings identify differences among procedures with an estimated value, those with a starting price, and those without an explicit price anchor. In the administrative data examined, the estimated value is associated with more sustained participation. In professional assessments, differences across price-information environments are clearest at the lower bound of acceptability, whereas assessments of high prices are

more heterogeneous. This supports the main thesis within the limits of the observed associations.

I welcome the adaptation of tools for analysing continued participation and price sensitivity to public procurement. It is essential to preserve their economic meaning: the persistence of participation describes the condition of the competitive bidder base, while perceived acceptability describes professional judgement. Assessing public-sector efficiency requires additional evidence on costs, quality and performance.

The chosen methodology is appropriate for comparative analysis and for developing an applied framework. The reliability of the conclusions should be assessed in the context of the data and assumptions used. The observed relationship between the price-information environment and participation remains consistent with alternative explanations arising from the characteristics of procurements and markets.

4 Research and Applied Research Contributions

I accept the stated contributions as advances in existing knowledge, adaptations of methods and the development of an applied framework.

Research Contributions

- An integrated understanding of the strategic and behavioural roles of price information has been developed. It makes it possible to regard the price reference as an element of procedure design that may influence both participation decisions and professional judgement.
- The logic of life-cycle analysis has been adapted to bidders' continued participation. The contribution lies in repurposing a tool from a commercial setting to monitor the competitive bidder base, while clearly distinguishing it from revenue, budgetary savings and the assessment of individual suppliers.
- Price-sensitivity analysis has been adapted to professional assessments of feasibility, quality and risk. This enriches the understanding of price acceptability in public procurement while maintaining its distinction from consumers' willingness to pay.

- Empirical findings have been obtained on the relationship between different price-information environments, the persistence of participation and perceived price thresholds. They expand knowledge of the context examined and provide a basis for subsequent comparative studies.

Applied Research Contributions

- A methodology has been developed and applied that combines analysis of actual participation with a study of professional assessments, allowing the problem to be examined from complementary perspectives.
- A decision-support model has been proposed that links the price-information environment, participation, perceived price thresholds and managerial safeguards. Its practical value lies in organising information into a coherent assessment process.
- Guidelines have been formulated for documenting decisions, monitoring the market, training and phased implementation. Important safeguards include equal treatment, protection of new entrants and the separation of analytical tools from the evaluation of individual tenders.

The model has the potential for pilot implementation across comparable procurement categories. Its practical usefulness should be established through outcomes relating to competition, costs and contract performance. The materials presented support this prospect but do not demonstrate an independently measured effect of institutional implementation.

5 Publications and Scientometric Indicators

The sole-authored publications presented are directly related to the empirical core of the dissertation, while the co-authored works develop related methodological applications.

The scientometric report substantiates compliance with the minimum national requirements, provided that the publications are correctly assigned to the relevant indicators and the claimed indexing is supported by documentary evidence.

6 Use and Citation of the Results by Other Authors

The materials submitted do not permit a comprehensive assessment of the use of the findings by other authors. The absence of a citation report is not grounds for concluding that there has been no scholarly impact. At this stage, my assessment rests primarily on the research content, its contributions and the prospects for subsequent use and verification.

7 Assessment of the Dissertation Abstract

The dissertation abstract faithfully reflects the main thesis, research approach, findings and contributions. It provides a sufficient account of the dissertation's content and retains the essential limitations of the conclusions. I recommend a more concise presentation and the elimination of repetition so that the research problem and the author's own findings stand out more clearly.

8 Critical Comments and Recommendations

First, the specific contribution of game theory to the proposed model needs to be highlighted more clearly. Strategic interdependence is a convincing starting point, but it should be shown which conclusions arise specifically from it and how it is combined with the behavioural explanation.

Second, the informational function of the price reference and the anchoring effect require separate consideration. Changes in assessments may be associated both with new information about the procurement and with the orientation of judgement towards the disclosed value. The empirical approach makes it possible to identify associations but leaves open the question of the relative importance of these mechanisms.

Third, sustained participation should be considered in relation to market openness and the quality of competition. Retaining participants is beneficial when opportunities for market entry, diversity of bids and genuine competitive pressure exist. These conditions should form part of the evaluation of the managerial model.

Fourth, transferring the model to other contracting authorities and markets requires independent validation and success criteria established in advance. The analysis must

also be reproducible, and the established findings must be clearly distinguished from model-based predictions and future applications.

These comments limit the scope of causal explanations and the readiness for large-scale implementation, but they do not invalidate the findings, methodological adaptations or the framework developed. They do not alter my positive assessment that the dissertation contains sufficient research and applied research contributions for the educational and scientific degree of Doctor (PhD).

For the public defence, I would like to pose the following questions of principle:

1. What is the independent explanatory contribution of game theory within the proposed model, and how does it relate to the behavioural explanation?
2. Under what conditions does a disclosed price reference support informed decision-making, and under what conditions does it give rise to behavioural anchoring? How should this distinction influence the actions of the contracting authority?
3. What criteria would you use to establish that implementing the model improves competition and public-sector efficiency while preserving opportunities for new entrants?

9 Individual Contribution and Originality

I regard the development of the empirical framework and the synthesis of findings as the doctoral candidate's own achievement. The sole-authored publications support this assessment. In co-authored works, the contribution is collective and should be evaluated accordingly. My involvement as a co-author of some of the publications submitted has been expressly disclosed; my assessment of the dissertation is based on the doctoral candidate's individual research.

In my substantive review, I have found no specific evidence of plagiarism. The dissertation contains references and a declaration of originality, and the author's own adaptations and empirical findings are distinguished from the theoretical propositions drawn upon.

10 Conclusion

The dissertation addresses a significant scholarly and practical problem, demonstrates knowledge of the relevant theory and the capacity for independent research. Its findings and the applied framework developed advance understanding of the role of price information in public procurement. The limitations identified delineate the scope of the conclusions and directions for further development without diminishing the contributions. I consider that the dissertation meets the substantive requirements for the educational and scientific degree of Doctor (PhD) under the Act on the Development of the Academic Staff in the Republic of Bulgaria and Regulation No. 12 of Varna Free University.

I give a POSITIVE assessment and recommend that the Scientific Jury award Lior Yakov Agay the educational and scientific degree of Doctor (PhD) in professional field 3.8 Economics, doctoral programme "Political Economy".

Date: 19 October 2026

Dimitar Kanev Kanev

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