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Annex No. 10 to the MU Directive on Habilitation Procedures and Professor Appointment Procedures

HABILITATION THESIS REVIEWER'S REPORT

Masaryk University	
Applicant	Jakub Hlávka, Ph.D.
Habilitation thesis	Economics to the Rescue: Balancing Innovation and Access to High-Cost Therapies
Reviewer	Prof. Paola Bertoli, Ph.D.
Reviewer's home unit, institution	Department of Economics University of Verona

Jakub Hlávka, currently Assistant Professor, has applied for the title of Docent at the Masaryk University. It is with great pleasure that I evaluate his candidacy and I am pleased to express my support to his promotion to Docent.

The habilitation work consists of six chapters beside an introductory and a final chapters. Each of these chapters represents on its own a successful publication in international professional journals, showing that Jakub has a good publication record.

Overall, the chapters in the habilitation are innovative, well-written and present new and important scientific and, most importantly, policy-relevant results. The habilitation focuses on the design and development of fair, sustainable, and effective payment and regulatory strategies for high-cost, potentially transformative medical treatments.

The rise of costly therapies has fuelled interest in alternative payment models (APMs) aimed at maximizing value under limited resources. In this context, the second chapter examines the applicability of uniform pricing versus alternative payment models—such as value-based pricing—under different market conditions. Specifically, Hlávka et al. (2021) present a theoretical model of interactions between payers and drug manufacturers in an ideal market, then test it against real-world examples to assess the practical challenges of these payment mechanisms. Uniform pricing is shown to work well in efficient markets, even when a therapy's effectiveness varies across disease indications. By contrast, the presence of market failures—such as asymmetric beliefs and payer or provider agency issues—creates a case for applying value-based pricing.

The third chapter extends the analysis to an additional payment mechanism—the deferred payment model (DPM)—to address challenges posed by the development of single-gene, high-cost therapies under fixed budget constraints. The chapter builds on Hlávka, Mattke, and Wilks (2020), who evaluated a DPM for a hypothetical congestive heart failure (CHF) gene therapy. The authors combine an empirical analysis of longitudinal data on cardiovascular admissions and mortality, a Markov transition model to evaluate patient progression under different payment scenarios, and a discounted cash flow forecast model to assess financial impacts. Overall, the DPM leads to earlier treatment, lower hospital admissions, and reduced mortality compared to traditional payment methods within the same budget. While the financial benefits for payers and manufacturers are modest due to limited cost savings, deferred payments may improve access and outcomes, especially for therapies with greater cost offsets

The fourth, fifth, and sixth chapters all focus on Alzheimer's disease, but each one of them deals with a different issue. If the fourth chapter further investigates the role of payment methods, the remaining two focus on the design of clinical trials. In fact, the fifth chapter explores the role of policy recommendations in shaping clinical trials, while the sixth chapter provides a review of Alzheimer's disease clinical trials to study their optima design. In particular, the fourth chapter, based on Hlávka et al. (2022), examines the applicability of new payment methods for emerging disease-modifying therapies in Alzheimer's disease with the aim of ensuring patients' timely and equitable access to such therapies. The authors use a microsimulation model grounded in nationally representative data from the U.S. Health and Retirement Study to assess the potential benefits of these therapies and their impact on private and public insurers. Even if these new therapies improve patients' quality of life, private insurers may experience financial losses for patients in the 61-65 age group under current payment models. Then, a potential solution to these difficulties lies in alternative payment plans that spread costs over time facilitating broader patient access to these therapies.

Keep leveraging the Alzheimer's disease, the fifth chapter investigates through an empirical analysis if, and to what extent, clinical trial design and conduct have been influenced by policy recommendations. The paper (Yu et al., 2022), related to this chapter, investigates the impact of two FDA guidance documents on Alzheimer's disease clinical trials. The 2013 guidance supported the use of cognitive and functional measures as trial endpoints, while the 2018 guidance revised what previously suggested. Then, applying a regression discontinuity design on trial data, the authors show that the use of these measures significantly increased following the 2013 guidance but declined after the released of the 2018 update. Even if these guidelines were non-binding, they clearly had an impact on how researchers design Alzheimer's disease clinical trials.

Finally, the sixth chapter further contributes to understanding how Alzheimer's disease clinical trial should be designed. By reviewing and analyzing 175 disease-modifying trials, this chapter highlights the need for strategies to foster progress in leading therapeutic areas and to support development in emerging but under-resourced treatment strategies.

I believe that taken together, these habilitation papers represent solid, impactful research with highly relevant policy implications. They demonstrate a great attitude to employ an interdisciplinary approach, combining economic modelling, econometric analyses, microsimulations and systematic reviews to address questions of wide relevance both for the scientific debate and for the policy debate. Each chapter constitutes a novel study with a clear contribution and meets the qualitative and formal standards required for international peer-reviewed publications. Hence, I am not surprised to see that the research presented in this habilitation thesis have been published in good peer-reviewed international journals.

Reviewer's questions for the habilitation thesis defence:

According to the first chapter, uniform pricing may work well in the absence of market failures. Still, such failures are widespread in real-world healthcare markets, then can one reasonably expect this payment model to produce efficient outcomes in actual markets? In your opinion, if this is not the case, should policy interventions focus more on the correction of market failures, or rather on the application of alternative payment models?

According to Hlávka, Mattke, and Wilks (2020), deferred payment may improve clinical outcomes reducing hospital admissions and mortality if compared to a status quo payment under the same budget constraint. Still, with respect to gene therapy in CHF, it may not be the optimal solution due to the limited financial gains for payers and manufacturers. How would

you design an empirical study aimed at identifying for what therapies deferred payments are most likely to produce both substantial clinical benefits and meaningful financial?

Conclusion

The habilitation thesis entitled *Economics to the Rescue: Balancing Innovation and Access to High-Cost Therapies* by Jakub Hlávka, Ph.D. **fulfils** requirements expected of a habilitation thesis in the field of Public Economics.

Date: 12/08/2025 Signature: