New research program devoted to enhancing the validity and robustness of stated preference valuation methods in the face of selected behavioral phenomena and biases

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Modelling consumer preferences and economic valuation

- People have economic preferences
  - We want to know what they are
  - Empirical models of preferences for:
    - Hypotheses testing (how people make choices?)
    - Forecasting (predicting people's behavior)
    - Valuation (cost-benefit analysis of policies)
- Market goods
  - Preferences indirectly observed (revealed) through market choices
  - Data + econometrics = preference modelling
- Non-market goods (e.g., public goods: clean air, a new highway)
  - No market choices observed
  - How to deal with valuation?

Non-market valuation methods

- How to value non-market goods?
  - "Stated preference" methods
    - Ask about people's preferences (choices, willingness to pay) in carefully prepared hypothetical situations
    - A "discrete choice experiment" example:

Choice Situation 1.	Alternative 1	Alternative 2	Alternative 3
Method of sorting in household	Into 5 categories	Into 2 categories	None
Frequency of collection	Once every 4 weeks	Once every 2 weeks	Once every week
Monthly cost for your household	75 PLN	50 PLN	100 PLN
Your choice:	☐	☐	☐

    - Varying attribute levels between choice tasks allows for observing preferences for attribute levels, trade-offs people are willing to make (marginal rates of substitution), willingness to pay

Stated preference methods

- Various “hypothetical bias” problems observed
  - e.g. overstate or understate WTP
  - => Best practice ways of constructing stated preference studies

- Stated preference questions are usually not asked directly
  - e.g., “How much would you be willing to pay for X?”
- Create a hypothetical situation …
  - e.g., a referendum about a new policy
- In which respondents asked to choose …
  - e.g., for or against a particular policy that would lead to clearly described effects and would result in a particular cost to respondent

- State-of-the-art: construct hypothetical situations to be “incentive compatible”
  - Respondent’s best strategy is telling the truth

Our research objectives

- Do incentive compatible settings still give raise to behavioral anomalies?
- Investigate selected biases and propose ways to deal with them (*hot topics* in the literature)
  1. Controlling for experience and information, are behavioral phenomena more pronounced for public than private goods?
  2. Utilize ex post methods to reduce "fat tails" (yeah-saying) problem – account for cognitive burden, utilize "trap questions"
  3. Can econometric model misspecification manifest itself as behavioral anomaly? More flexible ways to account for preference heterogeneity
  4. Can attribute non-attendance (and inefficient ways of accounting for it) drive various apparent behavioral biases?
  5. Non-constant marginal utility of money ("cost-damping") and its relation to the bid vector (price levels used in a choice experiment)
  6. Econometric model misspecification – can joint discrete continuous models lead to unbiased welfare estimates in selected settings?
  7. Experimental investigation of anchoring and ways to alleviate its effects
  8. Combine revealed and stated preference data sources
  9. Ignoring some alternatives ("choice set formation") in stated and revealed preference methods
- Relate to a few hot-topics in the literature – "a new research program"
  - A new/extended research team

Experts' and reviewers' comments

1. Brak publikacji autora w zakresie problematyki projektu, póki co wykonawca zajmował się inną tematyką (zagadnienia ekologiczne)
   - Faktycznie, większość aplikacji dotyczących dóbr środowiskowych, ale nie tylko, także np.:
     - Industrial organization, regulation of IT markets
       - Sobolewski, M., and Czajkowski, M., forthcoming. Receiver benefits and strategic use of call externalities in mobile telephony markets. Information Economics and Policy.
       - Czajkowski, M., and Sobolewski, M., 2016. How much do switching costs and local network effects contribute to consumer lock-in in mobile telephony? Telecommunications Policy, 40(9):855-869.
       - Sobolewski, M. i Czajkowski, M., 2012. Network effects and preference heterogeneity in the case of mobile telecommunications markets. Telecommunications Policy, 36(3):197-211.
       - Czajkowski M., M. Sobolewski, 2011, 'Measuring Network Effects in Mobile Telecommunications Markets with Stated-Preference Valuation Methods' International Journal of Management and Network Effects, 2(2):197-215.
     - Cultural public goods
       - Czajkowski, M., Vossler, C. A., Budziński, W., Wiśniewska, A., and Zawojska, E., 2017. Addressing empirical challenges related to the incentive compatibility of stated preference methods. Journal of Economic Behavior and Organization, 142:47-63.
       - Wiśniewska, A., and Czajkowski, M., forthcoming. Designing a Socially Efficient Cultural Policy: The case of municipal theaters in Warsaw. The International Journal of Cultural Policy.
       - Wiśniewska, A., Budziński, W., and Czajkowski, M., Melpomene in need. Site choice model - Case study: theaters in Warsaw. (under review)
     - Health
       - Kardas, P., Kurczewska, M., and Czajkowski, M., 2015. Patients' preferences as to the solid forms of oral medications-results of the discrete choice experiment in Polish outpatients. International Journal of Clinical Pharmacy, 31(1):205-206.
     - Education
       - Czajkowski, M., Gajderowicz, T., Giergiczny, M., Grotkowska, G., and Sztandar-Sztanderska, U., forthcoming. Choosing the future: economic preferences for higher education using discrete choice experiment method. Research in Higher Education

Experts' and reviewers' comments

1. Brak publikacji autora w zakresie problematyki projektu, póki co wykonawca zajmował się inną tematyką (zagadnienia ekologiczne)
   - Prace teoretyczne i metodologiczne, w szczególności poświęcone doskonaleniu metod związanych z preferencjami deklarowanymi, behawioralne, ekonometryczne:
     - **General, stated preference methodology**
       - Carson, R. T., and Czajkowski, M., 2014. The Discrete Choice Experiment Approach to Environmental Contingent Valuation. In: Handbook of choice modelling, S. Hess and A. Daly, eds., Edward Elgar, Northampton, MA.
       - Hanley, N., and Czajkowski, M., forthcoming. Stated Preference valuation methods: an evolving tool for understanding choices and informing policy. Review of Environmental Economics and Policy.
     - **Incentive compatibility, consequentiality**
       - Zawojska, E., Bartczak, A., and Czajkowski, M., forthcoming. Disentangling the effects of policy and payment consequentiality and risk attitudes on stated preferences. Journal of Environmental Economics and Management.
       - Zawojska, E., and Czajkowski, M., 2017. Re-examining empirical evidence on stated preferences: Importance of incentive compatibility. Journal of Environmental Economics and Policy, 6(4):374-403.
       - Czajkowski, M., Vossler, C. A., Budziński, W., Wiśniewska, A., and Zawojska, E., 2017. Addressing empirical challenges related to the incentive compatibility of stated preference methods. Journal of Economic Behavior and Organization, 142:47-63.
     - **Behavioral**
       - Boyce, C., Czajkowski, M., and Hanley, N., forthcoming. Personality and economic choices. Journal of Environmental Economics and Management.
       - Czajkowski, M., Hanley, N., and Nyborg, K., 2017. Social Norms, Morals and Self-interest as Determinants of Pro-environment Behaviours: The Case of Household Recycling. Environmental and Resource Economics, 66:647-670.
       - Faccioli, M., Kuchfuss, L., and Czajkowski, M., forthcoming. Stated Preferences for Conservation Policies under Uncertainty: Insights on the Effect of Individuals' Risk Attitudes in the Environmental Domain. Environmental and Resource Economics.
       - Czajkowski, M., Giergiczny, M., and Greene, W. H., 2014. Learning and fatigue effects revisited. Investigating the effects of accounting for unobservable preference and scale heterogeneity. Land Economics, 90(2):323-350.
     - **Information and knowledge**
       - Needham, K., Czajkowski, M., Hanley, N., and LaRiviere, J., 2018. What is the Causal Impact of Information and Knowledge in Stated Preference Studies? Resource and Energy Economics, 54:69-89.
       - LaRiviere, J., Czajkowski, M., Hanley, N., Aanesen, M., Falk-Petersen, J., and Tinch, D., 2014. The value of familiarity: Effects of knowledge and objective signals on willingness to pay for a public good. Journal of Environmental Economics and Management, 68(2):376–389.
       - Czajkowski, M., Hanley, N., and LaRiviere, J., 2016. Controlling for the effects of information in a public goods discrete choice model. Environmental and Resource Economics, 63:523-544.
       - Czajkowski, M., Hanley, N., and LaRiviere, J., 2014. The Effects of Experience on Preferences: Theory and Empirics for Environmental Public Goods. American Journal of Agricultural Economics, 97(1):333-351.
     - **Ekonometric methods**
       - Budziński, W., Campbell, D., Czajkowski, M., Demsar, U., Hanley, N., 2018. Using geographically weighted choice models to account for spatial heterogeneity of preferences. Journal of Agricultural Economics 69, 606-626.
       - Czajkowski, M., Budziński, W., Campbell, D., Giergiczny, M., and Hanley, N., 2017. Spatial heterogeneity of willingness to pay for forest management. Environmental and Resource Economics, 68(3):705–727.
       - Pakalniete, K., Aigars, J., Czajkowski, M., Strake, S., Zawojska, E., and Hanley, N., 2017. Understanding the distribution of economic benefits from improving coastal and marine ecosystems. Science of The Total Environment, 584-585:29-40.

Experts' and reviewers' comments

2. Dorobek autora to prace zespołowe, niektóre nie z dziedziny nauk ekonomicznych, inne z obrzeża nauk ekonomicznych (np. *Energy Economics*, *Science of the Total Environment*)
   - Wybór 10 najlepszych pod względem m.in. wskaźników bibliometrycznych
     - Reusch, T., et al. (2018). "The Baltic Sea: a time machine for the future coastal ocean." *Science Advances*.
   - Inne publikacje w czasopismach stricte ekonomicznych
     - Np. *Journal of Economic Behavior and Organization*, *Information Economics and Policy*
   - Lub czasopismach dotyczących ekonomii środowiska z głównego nurtu:
     - *Journal of Environmental Economics and Management*, *Environmental and Resource Economics*, *Ecological Economics*

3. Nie ma pewności, czy wyniki projektu będą opublikowane w równie prestiżowych czasopismach
   - Bishop, R. C., et al. (2017). "Putting a value on injuries to natural assets: The BP oil spill." *Science* 356(6335): 253-254.
   - Wiswall, M. and B. Zafar (2017). "Preference for the Workplace, Investment in Human Capital, and Gender*." *The Quarterly Journal of Economics* 133(1): 457-507.
   - Bateman, I., et al. (1997). "A Test of the Theory of Reference-Dependent Preferences." *The Quarterly Journal of Economics* 112(2): 479-505.
   - Carson, R. T. (2012). "Contingent Valuation: A Practical Alternative When Prices Aren't Available." *Journal of Economic Perspectives* 26(4): 27-42.
   - Kling, C., et al. (2012). "From Exxon to BP: Has Some Number Become Better than No Number?" *Journal of Economic Perspectives* 26(4): 3-26.
   - Plott, C. R. and K. Zeiler (2005). "The Willingness to Pay-Willingness to Accept Gap, the "Endowment Effect," Subject Misconceptions, and Experimental Procedures for Eliciting Valuations." *The American Economic Review* 95(3): 530-545.

Experts' and reviewers' comments

4. Wysokie koszty całkowite projektu
   - Projekt idealnej wielkości na moim etapie kariery naukowej
     - Np. łatwiejszy do koordynacji i zarządzania niż ERC Consolidator Grant

5. Ryzyko związane z zatrudnieniem doktorantów – wnioskodawca zakłada, że wynagrodzenie będzie wystarczającą zachętą
   - Budżet projektu poniekąd wynika z potrzeby zapewnienia atrakcyjnych stypendiów dla najlepszych doktorantów
     - Wielu bardzo dobrych studentów, ale wysokie koszty alternatywne (konkurencja sektora prywatnego)

Experts' and reviewers' comments

6. Reviewer 1:

   I could not detect any major weaknesses in the proposal. ***If one wants to be very critical one can find some minor shortcomings in the fact that perhaps more than only two new surveys will be needed to provide data for all the questions that are to be investigated.*** *However, the proponent seem to have already a large number of datasets at his disposal and more can be obtained from his wide network of international contacts. So, this might not be a problem after all.*

   - W projekcie planujemy wykorzystywać także istniejące zbiory danych, np. z wcześniejszych badań czy badań finansowanych z innych źródeł

7. Reviewer 2:

   The Weaknesses of the proposal could be represented by ***the general difficulties to distinguish the rationality of the behaviour of decision makers and to find the right equilibrium to model these behaviours, by considering rational aspects, but also to individuate the heuristics that characterize the behavior.*** *Another difficulty is represented by the necessity to* ***manage and to interpret big quantities of data****. But these are difficulties implicit in the topics of the project, not necessarily Weaknesses of the proposal.*

   - Rozwój różnych metod ekonometrycznych pozwalających na lepsze modelowanie heterogeniczności preferencji (zob. https://github.com/czaj/)