Ludvig Sinander

Northwestern
Economics

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Citizenship: Swedish

Fields

Research: Microeconomic theory

Teaching: Microeconomics, mathematics

Education

PhD, Economics, Northwestern University — 2021 (expected)
    Dissertation: 'Essays in economic theory'
    Committee: Eddie Dekel (chair), Alessandro Pavan, Bruno Strulovici

MA, Economics, Northwestern University — 2016

MPhil (with Distinction), Economics, University of Oxford & Nuffield College — 2015

BA (First Class), Philosophy, Politics & Economics, University of Oxford & St Catherine's College — 2013

Invited talks

Oxford (2020)

Refereeing

American Economic Review,   Theoretical Economics,   Journal of Economic Theory,   Games and Economic Behavior,   Mathematics of Operations Research,   Journal of Mathematical Economics

Job market paper

'Screening for breakthroughs', with Gregorio Curello

An agent privately observes a technological breakthrough that expands utility possibilities, and must be incentivised to disclose it. The principal controls the agent's flow utility, and cannot use monetary transfers. Optimal mechanisms keep the agent only just willing to disclose promptly. In an important case, a *deadline mechanism* is optimal: absent disclosure, the agent enjoys an efficient high utility before a deadline, and an inefficiently low utility afterwards. In general, optimal mechanisms feature a (possibly gradual) transition from the former to the latter. Even if monetary transfers are permitted, they play no incentive role in optimal mechanisms, and may not be used at all. We apply our results to unemployment insurance and to task delegation in organisations.

Further papers

'The converse envelope theorem'
R&R at *Econometrica*

I prove an envelope theorem with a converse: the envelope formula is *equivalent* to a first-order condition. Like Milgrom and Segal's (2002) envelope theorem, my result requires no structure on the choice set. I use the converse envelope theorem to extend to abstract outcomes the canonical result in mechanism design that any increasing allocation is implementable, and apply this to selling information.

'Agenda-manipulation in ranking', with Gregorio Curello
R&R at the *Review of Economic Studies*

A committee ranks a set of alternatives by sequentially voting on pairs, in an order chosen by the committee's chair. Although the chair has no knowledge of voters' preferences, we show that she can do as well as if she had perfect information. We characterise strategies with this 'regret-freeness' property in two ways: (1) they are *efficient*, and (2) they avoid two intuitive errors. One regret-free strategy is a sorting algorithm called *insertion sort*. We show that it is characterised by a lexicographic property, and is outcome-equivalent to a recursive variant of the much-studied *amendment procedure*.

'Strictly strategy-proof auctions', with Matteo Escudé
published in *Mathematical Social Sciences, 107*

> A strictly strategy-proof mechanism is one that asks agents to use *strictly* dominant strategies. In the canonical one-dimensional mechanism design setting with private values, we show that strict strategy-proofness is equivalent to *strict* monotonicity plus the envelope formula, echoing a well-known characterisation of (weak) strategy-proofness. A consequence is that strategy-proofness can be made strict by an arbitrarily small modification, so that strictness is 'essentially for free'.

'Strategic research funding', with Matteo Escudé

> We study a dynamic game in which information arrives gradually as long as a principal funds research, and an agent takes an action in each period. In equilibrium, the principal's patience is the key determinant of her information provision: the lower her discount rate, the more eagerly she funds. When she is sufficiently patient, her information provision and value function are well-approximated by the 'Bayesian persuasion' model. If the conflict of interest is purely belief-based and information is valuable, then she provides full information if she is patient. We also obtain a sharp characterisation of the principal's value function. Our proofs rely on a novel dynamic programming principle rooted in the theory of viscosity solutions of differential equations.

'The preference lattice', with Gregorio Curello

> Most comparisons of preferences have the structure of *single-crossing dominance*. We examine the lattice structure of single-crossing dominance, proving characterisation, existence and uniqueness results for minimum upper bounds of arbitrary sets of preferences. We apply these theorems to monotone comparative statics, ambiguity- and risk-aversion and social choice.

Awards	Distinguished Teaching Assistant Award	Northwestern University, 2019
	George Webb Medley Prize for best thesis (MPhil)[*]	University of Oxford, 2015
	George Webb Medley Prize for best examination performance (MPhil)[*]	University of Oxford, 2015
	Top First (ranked top in class of 239, BA)	University of Oxford, 2013
	Gibbs Prize for best performance in philosophy (BA)	University of Oxford, 2013
	John Hicks Foundation Prize (BA)[†]	University of Oxford, 2013
Fellowships	Susan Bies Fellowship	Northwestern University, 2019–20
	ESRC Studentship	University of Oxford, 2013–15
	Philip Fothergill Scholarship	St Catherine's College, Oxford, 2011–13
Conference talks	Econometric Society North American Winter Meeting (scheduled for 2021, talk & poster session), Econometric Society European Winter Meeting (scheduled for 2020), Econometric Society World Congress (2020), SAET Annual Conference (2019), Berkeley–Columbia–Duke–MIT–Northwestern IO Theory Conference (2019, short talk)	
Teaching assistantships	MMSS 311-1 (advanced undergraduate game theory)	Northwestern University, 2017–19
	Econ 410-3 (PhD game theory and mechanism design)	Northwestern University, 2018
	Econ 202 (undergraduate introductory microeconomics)	Northwestern University, 2017
	Math 385 (undergraduate probability theory)	Northwestern University, 2016

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[*]Shared with Gregorio Curello. [†]Shared with Hong Quan Lock.

Research assistantships	Bruno Strulovici	Northwestern University, 2017 & 2019
	John Quah	Johns Hopkins University, 2017–18
	Eddie Dekel	Northwestern University, 2016
	Charles Gottlieb	University of Oxford, 2014
	Sophocles Mavroeidis	University of Oxford, 2014
	Erik Mohlin	University of Oxford, 2014

Languages English, German & Swedish (fluent); French (decent)

References

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