2024 York-Durham-Edinburgh Theory Workshop

MONDAY, MAY 20, 2024

Alan Maynard Auditorium, Alcuin Research Resource Centre,
Alcuin Way, Heslington Ln, Heslington, York YO10 5DD

9:30 - 10:00	**Welcome Coffee and Tea**

10:00- 12:00	**Session I (York)**	
	10:00 - 10:40	Bojia Li, “Matching with Endogenous Constraints”
	10:40 - 11:20	Zaifu Yang, "Proper Exclusion Right, Priority and Allocation of Positions"
	11:20 - 12:00	Peter Achim, “Product Recommendations and Strategic Pricing”

12:00 - 13:00	**Lunch**

13:00- 15:00	**Session II (Durham)**	
	13:00 - 13:40	Cole Williams, "Popularity or Price: Which Should Determine the Display of Top Firms?"
	13:40 - 14:20	Ayse Yazici, "Random non-revelation mechanisms in college admissions"
	14:20 - 15:00	Andis Sofianos, "Revising Beliefs in Light of Unforeseen Events"

15:00 - 15:30	**Coffee Break**

15:30- 17:30	**Session III (Edinburgh)**	
	15:30 - 16:00	Dimitri Migrow, "Disclosure in Insurance Markets with Limited Screening"
	16:00 - 16:30	Andy Zapechelnyuk, "Optimal Inquiry"
	16:30 - 17:00	Aidan Smith, "Disclosure and Endogenous Attention"
	17:00 - 17:30	Andrew Clausen, "Deterring bribery with Scotch Hold'em Poker"

18:00 - 20:00	**Dinner at L'Osteria, 31 Stonegate, York**

Participants: Peter Achim (York), Andrew Clausen (Edinburgh), Spyros Galanis (Durham), Jorgen Kratz (York), Daniel Li (Durham), Dimitri Migrow (Edinburgh), Sergei Mikhalishchev (Durham), Anastasiia Parakhoniak (Durham), Aidan Smith (Edinburgh), Andis Sofianos (Durham), Cole Williams (Durham), Tsz-Ning Wong (U Barcelona), Zaifu Yang (York), Ayse Yazici (Durham), Andy Zapechelnyuk (Edinburgh), Gabriel Ziegler (Edinburgh)

ABSTRACTS

Peter Achim "Product Recommendations and Strategic Pricing": We investigate monopoly pricing in the presence of an information intermediary, an expert, who receives a benefit from providing a buyer with information about the value of the seller's product. We demonstrate that the additional information that the intermediary provides benefits the buyer only when the cost of obtaining this information is not too low. When the buyer faces a moderate cost of obtaining information, the seller 'prices out' the intermediary by offering a discount to dissuade the buyer from seeking advice. This pricing strategy is inefficient and hurts the intermediary, but benefits the buyer. In contrast, when the buyer's cost of acquiring information is low, the seller prefers to 'price in' the expert, leveraging the buyer's easy access to information to demand a premium. This pricing strategy improves efficiency and benefits the intermediary, but hurts the buyer.

Andrew Clausen, "Deterring bribery with Scotch Hold'em Poker", with Christopher Stapenhurst: Corruption requires a coalition to form and reach an agreement. Is there a cheap way to stop any agreement from being reached? We find an optimal mechanism that resembles Poker. The players' hands are synthetic asymmetric information, and they create a lemons problem in the market for bribes. Our Poker mechanism is robust: it thwarts bribes regardless of the negotiation procedure, including alternating offers bargaining, Dutch auctions, arbitration, and so on. Our mechanism's cost is inversely proportional to the number of players. So when we embed our mechanism in regulatory approval and regulatory compliance settings, we find that it is optimal to hire competing auditors to each case.

Bojia Li, ""Matching with Endogenous Constraints": In the English Premier League, the regulation states that the ceiling constraint imposed on the club is endogenously changed with the number of players a club hires. Motivated by this feature, we propose a two-sided matching model with endogenous constraints. The model draws a sharp contrast to the literature, in which constraints are given exogenously and fixed. We examine the problem of how to assign players to clubs under endogenous constraints and propose a mechanism called the Club Proposing Multiple Stages (CPMS) mechanism for finding a stable and efficient matching. We also show that it is a dominant strategy for each club to report true preferences in this mechanism.

Dimitri Migrow, "Disclosure in Insurance Markets with Limited Screening": We investigate the impact of information disclosure, via a statistical instrument, on consumer welfare in competitive insurance markets with limited screening. We demonstrate that, under natural constraints on information disclosure, no statistical instrument is "safe" to implement. There always exists an open set of prior beliefs about the risk types of consumers, compatible with the currently observed market allocation, under which additional information disclosure strictly worsens welfare.

Aidan Smith, "Disclosure and Endogenous Attention": When should customers pay a cost to monitor firm disclosures? How does this depend upon their private information? We study a sender who seeks to persuade an inattentive and privately informed receiver via voluntary disclosures, where attention is the costly probability of observing disclosures. When attention is chosen ex-ante receiver payoff is convex in attention, so in general equilibria feature either full attention and unravelling or no attention. When attention is chosen conditional on receiver outside option, equilibria feature partial disclosure: below some threshold, receiver types pay no attention; at that threshold, attention jumps up to a strictly positive level, and then decreases as type rises further. We show mandatory disclosure polices can be welfare improving for all sender and all receiver types.

Andis Sofianos, “Revising Beliefs in Light of Unforeseen Events”: Bayesian updating is the dominant theory of learning. However, the theory is silent about how individuals react to events that were previously unforeseen. We study how decision makers update their beliefs if unforeseen events materialize, and under which conditions they revise their views about previously observed relationships. We base our analysis on the framework of "reverse Bayesianism", under which the relative likelihoods of prior beliefs remain unchanged after an unforeseen event materializes. We find that participants do not systematically deviate from reverse Bayesianism when the unforeseen changes result in a new world that contains elements of the old world. In contrast, if a regime change is possible, decision makers eventually overhaul their model of the old world in favour of a completely different view of uncertainty.

Cole Williams “Popularity or Price: Which Should Determine the Display of Top Firms?”: In this paper, we consider the problem of an online platform designing its marketplace when sellers use pricing algorithms that tend toward collusion. We introduce demand steering rules which feature popularity-based prominence, wherein the platform rewards prominent positions to sellers which have proven themselves to be more popular than their competitors. Recent work has shown that rewarding prominence to the lowest-priced sellers can improve competition when products have homogeneous quality. In contrast, when products can vary in quality, we demonstrate that popularity-based prominence outperforms mechanisms based on lowest prices and, moreover, cannot be dominated by any other steering mechanism. Our theoretical findings are largely validated through simulations utilizing Q-learning pricing algorithms.

Zaifu Yang, “Proper Exclusion Right, Priority and Allocation of Positions”: Multiple positions will be allocated to a group of individuals without side payments. Every individual has preferences over the positions, can have at most one position and may behave strategically. The right of using each position relies on individuals' given priorities. We propose a new solution called the proper exclusion right core which always guarantees to have precisely one solution. The solution is efficient, weakly and properly fair, can be supported by competitive prices and easily found by a procedure in a strategy-proof way. It is built on a novel exclusion right system that respects priorities and maximizes self-consistent exclusion rights.

Ayse Yazici, “Random non-revelation mechanisms in college admissions”: We study a two-stage random non-revelation mechanism in college admissions. In the first stage colleges, who are endowed with a quota, simultaneously propose to students and in the second stage a random sequence of students, respecting quota, each decides which college to accept among those who proposed to her. It is shown that there may be an unstable subgame perfect equilibrium outcome of the game induced by a deterministic mechanism defined by a given sequence of students. We restore stability by introducing random sequences of students and establish that when preferences of colleges are responsive, in any stochastic dominance subgame perfect equilibrium the random mechanism produces a unique outcome for any sequence of students. Furthermore, the outcome is stable for the true preferences.

Andy Zapechelnyuk, "Optimal Inquiry" (joint with Tai-Wei Hu, U of Bristol): We propose a new framework of costly information processing. A decision maker processes information about an uncertain state of nature by a procedure called inquiry. An inquiry starts with an initial question about the state, specifies subsequent questions depending on earlier answers, and, eventually, prescribes decisions. The decision maker bears a cost proportional to the length of inquiry. Thus, more refined information is costlier. We characterize optimal inquiries and show their dynamic consistency. We also show that optimal inquiry exhibits two behavioural biases: focused attention (the decision maker restricts attention to a subset of decisions and assigns them different priorities) and confirmation bias (the decision maker seeks evidence through inquiry to confirm her prior guess of which decisions are optimal).