

Research Statement – Moritz Meyer-ter-Vehn

I am a microeconomic theorist with interests in both pure and applied economic theory. My research agenda in pure theory focuses on robust mechanism design. On the applied side I study firm reputation, competitive contracting and information aggregation.

Robust mechanism design: Mechanism design studies how to allocate resources when the relevant information is dispersed among the self-interested members of the economy. For concreteness, consider the problem of auctioning some object to bidders with unknown valuations. An auction is deemed robust if it performs well for a broad class of assumptions about bidders' attributes. One attribute that is both critical to bidders' behavior in an auction, and realistically unknown to the seller, is bidders' beliefs over each other's information. One way to address this uncertainty of the seller imposes strong belief-free solution concepts, such as ex-post equilibrium. For example, a 2nd-price auction allocates objects efficiently in ex-post equilibrium when values are private. "The Limits of Ex-Post Implementation" (with Jehiel, Moldovanu and Zame) highlights the limits of the ex-post approach. It shows that an ex-post incentive compatible auction must always assign the object to the same bidder if bidders' values are "sufficiently interdependent". More precisely, this assumption requires that the types of any bidder i cannot be ordered in a way that, for any type of other bidders, i 's value of the object increases in his own type; this assumption is generically satisfied if players' types are multi-dimensional.

Our result indicates that ex-post equilibrium is an excessively demanding solution concept in many circumstances, directing attention to weaker solution concepts. "Posterior Implementation vs. Ex-post Implementation" (with Jehiel, Moldovanu and Zame) gives an example where posterior implementation leads to more permissive results; this concept requires an agent's actions to be optimal conditional on the information inferred from others' actions. "Locally Robust Mechanism Design and its Limits" (with Jehiel and Moldovanu) assumes that the seller has some knowledge of bidders' beliefs but maintains the assumption that the allocation be independent of beliefs. We show that locally robust implementation is more permissible than ex-post implementation, but it is still subject to a similar impossibility result. Finally, "The Robustness of Robust Implementation" (with Morris) studies auctions that are robust, yet not belief-free. Allowing for belief-dependent allocations avoids the generic impossibility results of the above papers, and close-to efficient allocations are robustly implementable for all settings that are close to some super-modular benchmark.

Reputation: "Reputation for Quality" (with Board) considers a firm that can invest or disinvest in product quality and whose revenue depends on its reputation, which is defined as the market's belief about this quality. Traditionally, reputation is modeled as the market's belief about some exogenous type, and the firm exerts effort in order to signal this type. In our model, the firm's quality serves as an endogenous type, and the firm invests to actually build this type. The model gives rise to simple Markovian equilibria in which investment incentives are determined by the present value of future reputational dividends. We investigate these incentives for a class of Poisson learning processes. If the market learns through good news events, such as successful product trials in the bio-tech industry, low-reputation firms invest while high-reputation firms rest on their laurels; thus, reputational dynamics are cyclical. If the market learns through bad news events, such as exploding batteries in the computer industry, low-reputation firms give up while high-reputation firms invest to protect their reputation; thus, reputational dynamics diverge. "A Reputational Theory of Firm Dynamics" (with Board) embeds this idea into a firm life-cycle model and focuses on investment incentives of firms that are about to exit.

Competitive Contracting: "Relational Contracts in Competitive Labor Markets" (with Board) studies a labor market with observable but non-verifiable effort, where firms cannot commit to future wage promises and incentivize workers with efficiency wages. The power of these relational incentives depends on the longevity of the relationship, which in turn depends on job offers by competing firms. We find that this interdependence generates endogenous contract dispersion, with some firms offering high-productivity, high-wage jobs and other firms offering equally profitable entry-level jobs with low productivity and wages. The relative competitiveness of employed and unemployed workers on the labor market plays a key role in our analysis. If employed workers are sufficiently competitive, free entry by firms leads to full employment and workers are motivated by wage dispersion rather than the risk of unemployment. "Competitive Insurance Markets with Limited Commitment" (with Board) applies the competitive contracting framework to an insurance market where policy holders can walk away from their contracts at any time, while insurers can commit to their policies in the short term but not in the long term.

Information Aggregation: "A Conversational War of Attrition" (with Bognar and Smith) introduces a simple model of costly dynamic deliberation. Two partially informed jurors with common interests sequentially argue to convict or acquit the defendant of a crime. A verdict is taken once both jurors argue for it in succession. The model admits multiple equilibria corresponding to different discussion cultures. In a communicative equilibrium each juror parses his information finely and plays the devil's advocate, arguing his cause past the time when his posterior belief favors conceding. In a deferential equilibrium one juror forces the other to defer at some time; such equilibria represent an inefficient break-down of communication and require that jurors interpret deviations from the equilibrium path as mistakes. We also find that as a conversation transpires, it becomes increasingly likely that the decision is moot. So, surprisingly, the length of a conversation correlates negatively with the value of the underlying information.