

1. Contact information

Mailing address:

Daniel P. Gross

Department of Economics

University of California, Berkeley

530 Evans Hall #3880

Berkeley, CA 94720-3880

Email and phone:

grossd@berkeley.edu

(214) 769-7725

2. Fields and Course of Study

I am currently a 5th-year Economics PhD student at UC Berkeley, with academic training in Industrial Organization and Economic History. I have taken several courses in these fields, as well as courses in applied and computational econometric methods, in addition to the core first-year economics sequence, and my research studies innovation in modern and historical settings. I am especially excited about the opportunity to attend the Digitization Meetings and Tutorial because (i) a subset of my work studies the creative act using empirical content extracted from digital media such as images and audio, and (ii) all of my projects have required collecting data from untraditional sources, such as HTML markup collected and parsed in real-time using scrapers or digitized archival records.

3. Research Papers and Work in Progress

My current body of work consists of three drafted papers and three projects underway. In the interest of brevity (and page limits), I focus on my job market paper and another project in progress that involves novel digitization and data collection methods. I am currently on the job market and being advised by Ben Handel of UC Berkeley. My other committee members are Barry Eichengreen, John Morgan, and Steve Tadelis, all of UC Berkeley.

JMP: *“Creativity Under Fire: The Effects of Competition on Innovation and the Creative Process”*

My job market paper uses a combination of economic theory and evidence to study the effects of competition on the creative process. I do so in a setting where creative experimentation and competition can be both precisely measured and disentangled: commercial logo design contests. Using content-based image comparison algorithms to measure experimentation, and exploiting the quasi-random provision of feedback that reveals the quality of every player’s work, I provide causal evidence that competition both creates and destroys incentives for innovation: some competition is necessary to motivate high-performers to experiment with novel, untested ideas over tweaking tried-and-true approaches, but heavy competition will drive them out of the market altogether. The implication of these findings is an inverted-U effect of competition on innovation, implying the existence of an intermediate level at which incentives for taking creative risk are maximized. Empirically, I find that the optimal, intermediate level of competition for motivating creative risk-taking is precisely one equally-capable competitor.

Project in progress: “*Creative Influence and the Diffusion of Content in Classical Music Composition*”

In this project, I seek to measure the strength of creative influence in classical music composition. The project is motivated by the observation from personal experience that teachers can wield considerable influence over their student’s creative and intellectual tastes: for example, graduate students’ research philosophy and tastes for different fields and methods often seem to reflect back those of the faculty who taught them. I would like to explore whether such influence exists in music production, how strong it is, how long it lasts, and what effects it has on the variety and quality of creative works.

To do so, I am collecting data on the content of tens of thousands of classical music scores and compiling teacher-student genealogy trees from composer biographies. With these data, I will be able to evaluate the similarity of works produced by composers with student-teacher or peer connections as well as trace the diffusion of musical ideas (e.g., chord progressions) across space and time. Compositions’ quality can be measured as their longevity using modern performances and radio plays.

Other projects:

- *Interim Feedback in Creative Competition: Trading Off Participation for Quality* (drafted)
- *Scale versus Scope in the Diffusion of New Technology: Evidence from the Farm Tractor* (drafted)
- *Railroad Gauge Standards and Interregional Trade in the 19th Century U.S.* (in progress)
- *Trust or Bust? Evaluating the Competitive Effects of the Interstate Commerce Act* (in progress)

These projects have involved digitization in their own ways. The first paper uses data from the same platform as my job market paper, which was collected via web scraping. The latter three papers use digitized historical data, some of which had to be collected on site from library archives, and all of which had to be extracted from digital scans or photographs.

Further details on my research, including drafts of all papers, are available at:

<https://sites.google.com/site/dpgecon/home/research>.

Thank you for your consideration.