

Apsara Iyer, Class of 2016

“The Location of Inventive Activity in U.S. History,” Dr. Naomi Lamoreaux

With the recent rise of Silicon Valley, the intersection of innovation and entrepreneurship has demanded attention. Yet this latest focus is indicative of a larger theme, a pattern of economic growth in times of new technology and design. This research project delved into the trend by examining the factors that affected the location of inventive activity around turn of the 20th century. There were three hypotheses for the location of inventive activity: first, that production related factors motivated inventors’ movements, suggesting a link between patenting activity and local production issues, second, that social networks helped drive activity, suggesting dense concentrations of inventors facilitated patenting, and third, that proximity to markets affected inventors’ locations, suggesting movement based on access to capital and demand.

To evaluate these three factors, I helped create a database of inventor’s locations based on a sample of patent applications. Previous work on this project had generated a list of inventors from a series of patent applications around the turn of the 20th century. Using the names of these inventors, and the locations of where their patents were filed, I could reconstruct a biography that focused on the location of various events in their lives. The primary tools to create these biographies were Ancestry.com, Fold3, newspaper databases, and trade publications.

The basic “process” for constructing these mini-biographies depended on coordinating information from the patents with historical records. Once a match was made, I could follow the individual’s life through the relevant censuses, city directories, birth and death certificates, military service files, and, if necessary, immigration papers.

The first two essential pieces of information from the patent record were the inventor’s name and location where the patent was filed. Beginning with Ancestry.com, I could sift through inventors with similar names by trying to find individuals’ whose locations matched those of the patent’s author. The next step was to consider the year the patent was filed. This helped distinguish between two individuals with the same name and the same locations. For example, if “John Boe” was filing a patent in 1897 in Philadelphia, but another “John Boe” appeared in the 1930 Federal Census as 12 years old and living in Philadelphia, then the second record could be eliminated.

The skeleton of an individual’s movements came from the Federal Census records, which provided information about their occupation and location every ten years. Between census records, more detailed movements were captured in State Censuses, often conducted mid-way through each decade, and City Directories that were often published annually. Military service records helped identify inventor’s location and occupations in 1918 and 1942. Fold3 was particularly helpful for finding military records. For immigrants, a whole other set of documents needed to be also considered. These included Passenger Lists, Naturalization Records, Citizenship Applications. Google Books searches yielded family biographies or trade publications that had more detailed information about an individual’s history. Finally, newspaper databases provided a final layer of documentation of an individual’s movements and activity. It was thrilling to find

details in family genealogies that corroborated information I had gathered independently on Ancestry.com. After taking screenshots of all these historical records, I could assemble them chronologically to construct a timeline of the inventor's life.

The next step was to synthesize the information from the digital screenshots into an Excel spreadsheet, charting an individual's occupation and location in a given year. This database allowed for a clearer view of the overall movements of a given inventor pre- and post-patenting activity. The next step is to code this information for future statistical analysis.

Each biography was a unique, educational process—sketching the contours of an individual's life with fragments of written records and histories. Beyond giving me a rigorous training in the tools and process of this research, I learned a great deal about the different inventors whose lives I followed. I still remember Jean Burlingame Beatty, a female inventor whose daughter went on to become a famous New England artist. Or Osmond Belcher, a daring aviator and mechanical engineer who perished while testing his latest airplane apparatus in 1924. The result of learning about these remarkable individual lives was a deep respect for economic research of this kind, evaluating larger trends by caring about hundreds of individual micro-details.

The SRO experience was hugely educational—throughout the process Dr. Lamoreaux was a source of sage advice and support. I had never participated in a project like this, and I am happy to have had the opportunity to do so. Overall, I felt the SRO program augmented what I learned in the classroom to inform my understanding of economics and research.