

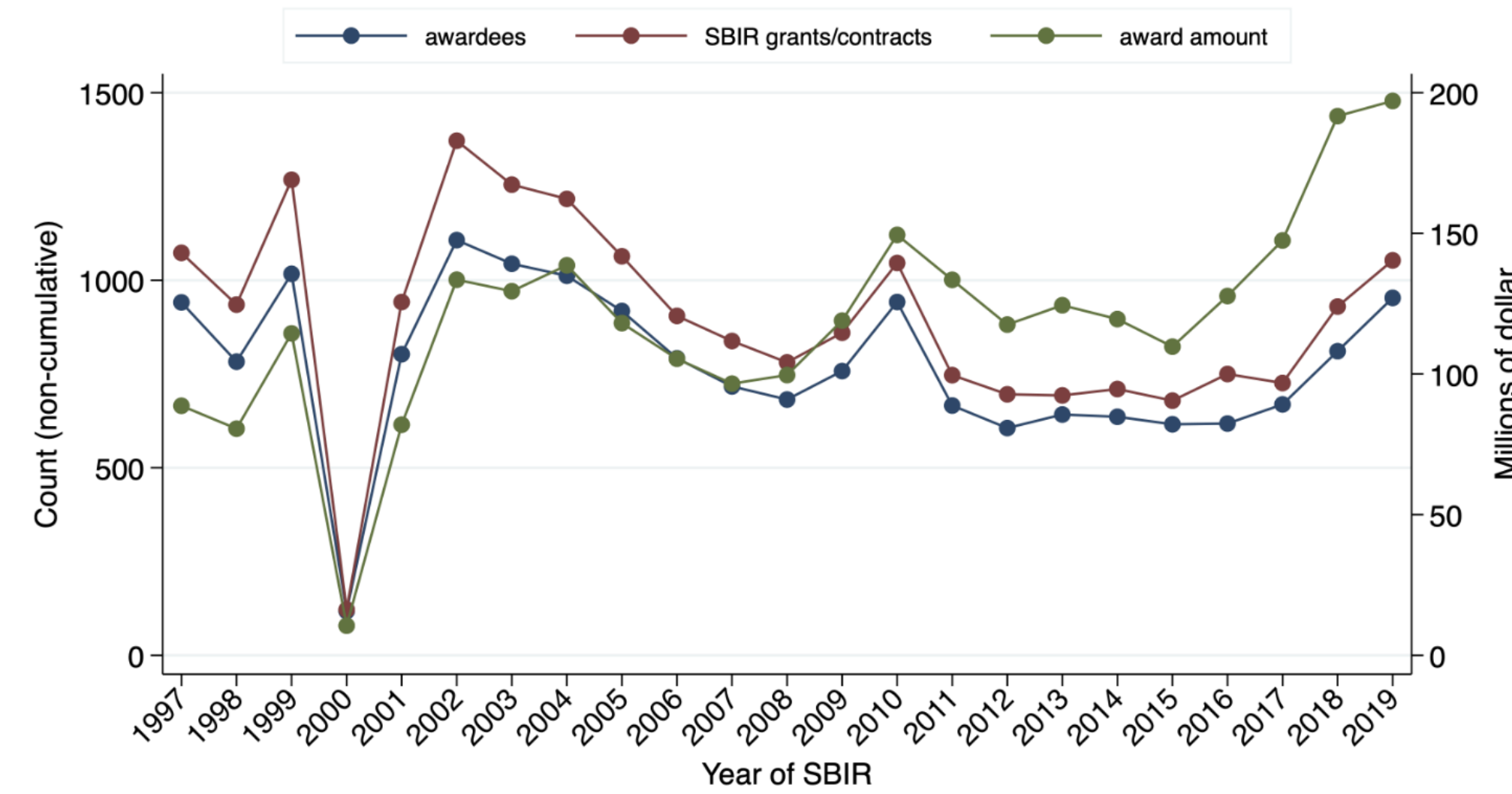
MEASURING THE MARKET FOR STARTUP ACQUISITIONS

The problem:

The majority of successful equity outcomes for startup companies are acquisitions. Acquisitions take place in specific markets, in which buyers and sellers strategically interact. While these markets are crucial to entrepreneurial strategy, surprisingly little evidences are presented to understand them directly. The challenges mainly include the lack of definition of such a market, as well as the means to characterize it.

Data:

Using data from the Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) program — a governmental program supporting the young and small firms doing high-quality innovative research, we come up with a novel measure of the “acquirability” of the firm. Aggregating the measure at the US Census Core-Based Statistical Areas level helps us shed lights on the local markets for acquisitions in recent decades across the US.



Between 1983 and 2019, 37,074 firms receiving 114,213 SBIRs. Firms receiving their first SBIR before 1997 are dropped. Firms having acquisitions or IPOs before their first SBIR are dropped. Firms with no or inaccurate locations are dropped. The analytical subsample between 1997 and 2012 includes 12,906 firms receiving 15,121 first-ever SBIRs.

Figure 1. An overview of the SBIR program Phase I awards 1997-2019.

The measurement approach:

We take advantage of a rich set of covariates, mixing text-based measures, intellectual property, early stage financing, and others, to measure a startups likelihood of being acquired at founding as the predicted probability of acquisition in a Random Forest.

This allows us to measure the acquisition potential of each company, independent of locaiton

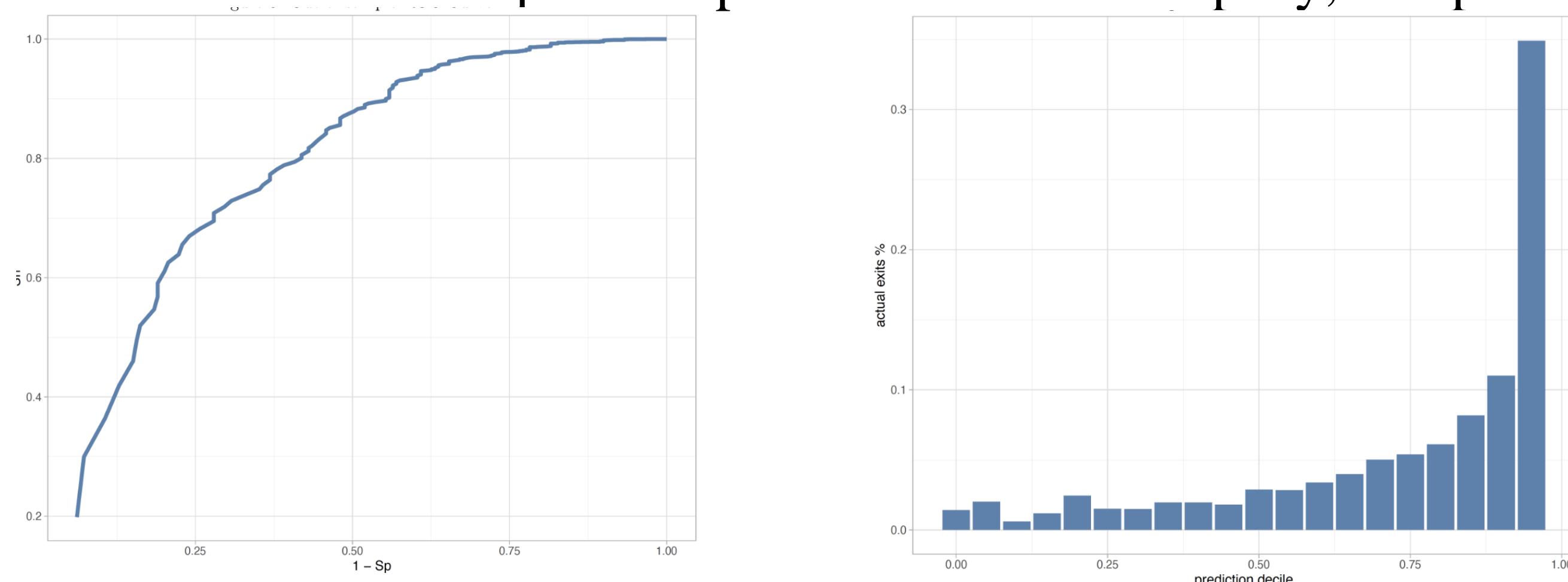


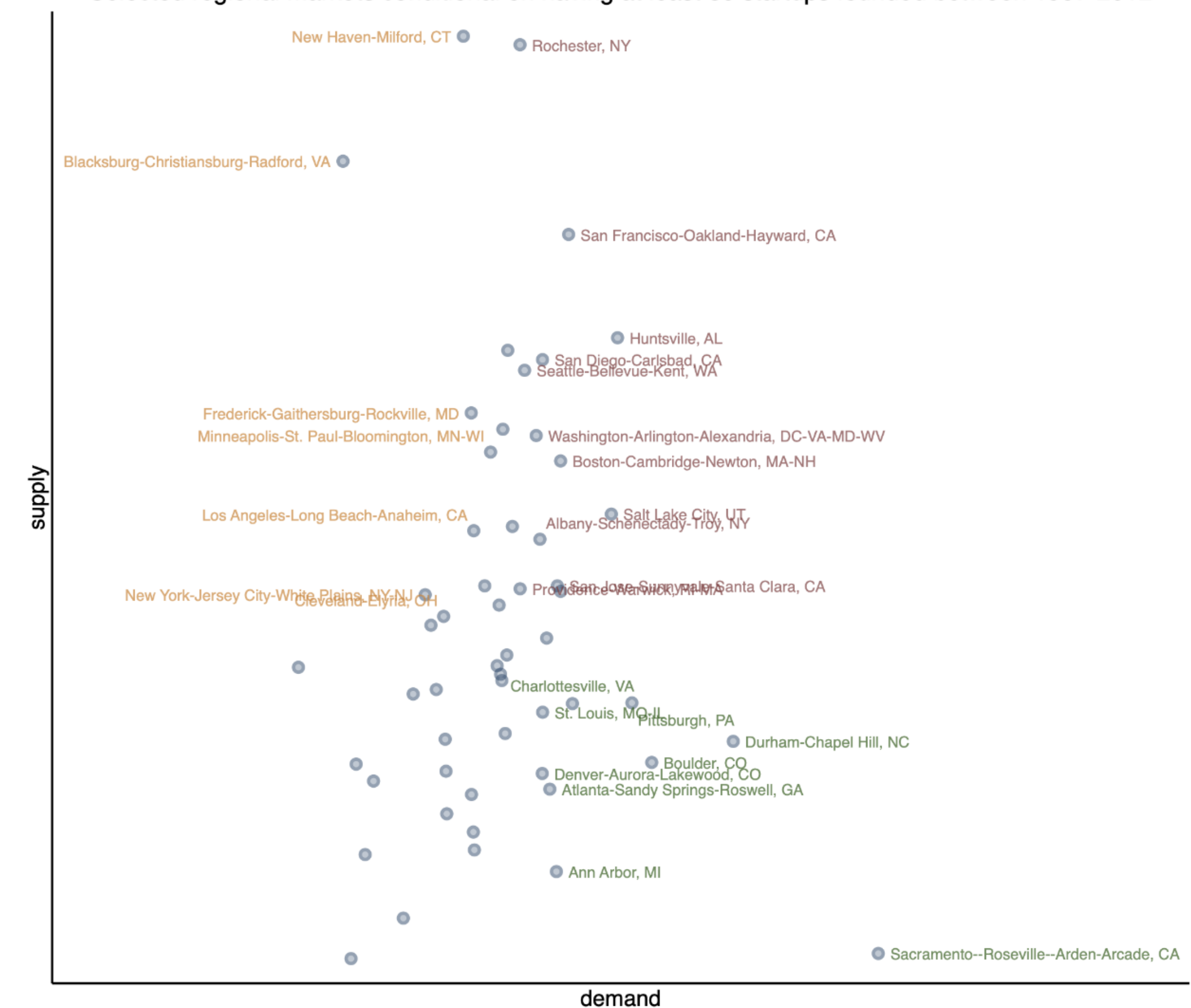
Figure 2. Random Forest Model performance in predicting firm acquirability: ROC = .7748 (left) and lift plot (right).

Preliminary results:

1. We observe a substantial drop over time in how acquisition oriented are new firms created, resulting in an equal drop in the incidence of startup acquisitions.
2. We are able to develop measures by region of the actual number of realized acquisitions conditional on the underlying characteristics of firms, finding ample variation in the performance of the city-level ‘market for acquisitions’.



Selected regional markets conditional on having at least 80 startups founded between 1997-2012



Next Steps:

Our next step is to consider the city level determinants of a strong (or weak) market for acquisitions, thus allowing us to differentiate across multiple theoretical constructs and their role in determining the performance of startups and regional ecosystems.