

The Rise of American Corporate Science, 1926-1940

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Abstract

The rise of corporate science in America has been one of the most consequential changes in the innovation ecosystem during the twentieth century. The scientific workforce at firms grew over tenfold in the interwar period, while basic research done at GE, AT&T and DuPont earned Nobel Prizes and led to path-breaking inventions in radio communication and synthetic fibers. Such examples have often been contrasted with applied research and testing done before World War I in the railroad and telegraph sectors to suggest a general paradigm shift in the inter-war period. However, our evidence shows that the pursuit of basic science in corporations remained the exception, rather than the rule. Using a Group Based Trajectory Model (GBTM) on scientific publication and patenting data from 296 American firms between 1926 and 1940, we find that only around 21% of the firms in our sample appear to engage in basic science. Firms classified as performing basic research in our sample produce more scientific publications, are cited more often, and are cited by a wider group of scientists compared to firms that are classified as performing applied research. These firms are 2.5 times larger than applied research firms, and tend to be part of diversified corporate entities with affiliates in different industries. Moreover, as American university research expanded, we observe a relative decline in the scale and quality of corporate basic research. This paper adds to the growing empirical literature on the relationship between research at universities and corporations.

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