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## Numbers, Quality, and Entry: How Has the Bayh-Dole Act Affected U.S. University Patenting and Licensing?

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### Executive Summary

This paper summarizes the results of empirical analyses of data on the characteristics of the pre- and post-1980 patents of three leading U.S. academic patenters—the University of California, Stanford University, and Columbia University. We complemented this analysis of these institutions with an analysis of the characteristics of the patents issued to all U.S. universities before and after 1980. Our analysis suggests that the effects of the Bayh-Dole Act on the content of academic research and patenting at Stanford and the University of California were modest. The most significant change in the content of research at these universities, one associated with increased patenting and licensing at both universities before and after 1980, was the rise of biomedical research and inventive activity, but Bayh-Dole had little to do with this growth. Indeed, the rise in biomedical research and inventions in both of these universities predates the passage of Bayh-Dole. Both UC and Stanford university administrators intensified their efforts to market faculty inventions in the wake of Bayh-Dole. This enlargement of the pool of marketed inventions appears to have reduced the average “yield” (defined as the share of license contracts yielding positive revenues) of this population at both universities. But we find no decline in the “importance” or “generality” of the post-1980 patents of these two universities. The analysis of overall U.S. university patenting suggests that the patents issued to institutions that entered into patenting and licensing after the effective date of the Bayh-Dole Act are indeed less important and less general than the patents issued before and after 1980 to U.S. universities with longer experience in patenting. Inexperienced academic patenters appear to have obtained patents that proved to be less significant (in terms of the rate and breadth of their subsequent citations) than those issuing to more experienced university patenters. Bayh-Dole’s effects on entry therefore may be as important as any effects of the Act on the internal “research culture” of U.S. universities in explaining the widely remarked decline in the importance and generality of U.S. academic patents after 1980.