

The Cambridge Phenomenon¹

John Eatwell

Financial Policy Professor, University of Cambridge
Queens' College President, Cambridge, CB3 9ET, UK
president@quns.cam.ac.uk

1. Introduction

Over the past 30 years the economy of the City of Cambridge and of the surrounding area (Greater Cambridge) has been transformed by the growth of predominantly high-technology industry. This transformation, often referred to as the “Cambridge Phenomenon” has produced the largest concentration of high-technology research and production in Europe (the leading rival being, probably, Munich). This brief essay will examine the history of that phenomenon, its impact on the British economy, and the changing nature of the technological basis of that phenomenon as the engine of growth moves from electronics towards biotechnology. Emerging constraints on the growth of new industries in Cambridge will also be considered in the light of policies now being developed to attempt to overcome those constraints. Some comparisons will be made with other concentrations of high-technology industrial growth (in a global context the competition to Cambridge), such as Silicon Valley, Munich or Sophia Antipolis, seeking lessons from the policies that have been adopted there, and assessing their relevance for the Cambridge region.

¹ This paper is a reprinting already published in *Atti dei Convegni Lincei, Distretti Pilastri Reti. Italia ed Europa* (Roma, 8-9 aprile 2003), Accademia Nazionale dei Lincei, 2004. This paper is based on the work of my colleague Barry Moore, of Downing College, Cambridge.

2. History

High-technology growth in the Cambridge area did not arise from any conscious plan or even any set of broadly coherent policies. Instead it came from very informal structures, very modest local financing and essentially organic growth from small, existing independent companies. There have been scientific companies operating in Cambridge for many years. The Cambridge Scientific Instruments Company (now Cambridge Instruments) was founded in 1881 to serve the needs of the University's expanding new laboratories. The Pye Group, an electronics company, was founded in 1896. These companies first served the growing scientific University and, having done that, they expanded to providing electronic and scientific products to the world market.

The key event in the modern era occurred in 1969 when a Cambridge University report recommended the establishment of a 'science park' for science-based industry "accessible to the University of Cambridge". The Cambridge Science Park was established the next year, in 1970, by Trinity College (the wealthiest of the Cambridge colleges), on land that had been owned by Trinity for hundreds of years. Not very much had happened at first. It was only after 1979, nine years later, that there emerge the first signs of a dynamic relationship between high-technology companies and the university. This important beginning took the form of what was called the 'Cambridge Computer Group', a group of small companies who gathered together to promote their mutual interests and which attracted the attention of one of Britain's biggest banks, Barclays Bank, which actually provided the premises and the secretariat for this group. Barclays Bank later provided significant financing for small start-ups. (It is worth noting the Cambridge branch of Barclays Bank acted in a way that was not typical of the major British banks. The initiatives taken by Barclays at the time are attributable to the foresight of one particular local manager, a crucial figure who has since left Barclays).

Early growth was characterised by two sorts of companies: *first* those created by people leaving existing companies or the research laboratories of the University to form new start-ups, *secondly* subsidiaries of existing companies in the area, like Cambridge Instruments and Pye, that were started and operated as independent companies. There was a significant movement of people between these companies, the university and the research laboratories, providing very high quality technology transfer right from the beginning. However, only 17% of new companies were actually started by people coming straight from the university. More of the new companies were spin-offs from existing companies.

Typically the new firms were very small. They used little external finance. Many people, for example, borrowed money against the value of their houses to start their small company, although (as noted above) the local branch of Barclays Bank was very supportive with overdraft facilities, loans and business advice.

Such were the beginnings of high-technology growth in so-called Greater Cambridge. This is a geographical region (i.e. not a political or administrative region) with the City of Cambridge and the University at its centre, with a population of about 635,000.