Executive Summary

Entrepreneurial ventures, especially ventures in the early stages of development, are a vital component of a region's economic future. In the short term, they create jobs and opportunity; in the longer term, they create wealth and fuel a process of innovation that renews and sustains economic growth. Since the end of World War II, institutional venture capital has been responsible for funding a great number of these "breakthrough" companies. Investments in early-stage companies, however, are inherently the most risky of all investments in entrepreneurial ventures -- the innovative idea behind a product or service is usually untested; the period of time for a return on an investment to be realized (if it is realized at all) is comparatively long; and the capital infusion required for growth can be steep. The high risk associated with companies in the very early stages of development and the high transactions cost necessary to invest in such firms have convinced many that there is a financing gap for early-stage companies, which includes seed, start-up and first-stage financing.

There is some evidence that Greater Philadelphia region lags in its ability to create and sustain high-growth entrepreneurial ventures. Entrepreneurial researcher David Birch's 1996 analysis of the 50 largest metropolitan areas ranked Greater Philadelphia 43rd in its ability to start and grow "significant companies." Boston, a region often compared to Philadelphia, was ranked 35th in that analysis. Interestingly, Birch's research suggests that Greater Philadelphia leads Boston in its ability to *start* new companies, but lags considerably in its ability to *grow* significant new companies. Data like Birch's raise an important question about the supply of early-stage venture capital in the region as it relates to the startup and growth of significant companies.

With this in mind, the Greater Philadelphia Venture Group (GPVG), an organization of leading venture capital firms based in the area, asked the Pennsylvania Economy League--Eastern Division (PEL) to analyze the financing of early-stage companies in Greater Philadelphia by the venture capital industry. The primary purpose of the project was to assess venture backing of early-stage companies in the region over the past 10 years (1986 to 1996), with particular emphasis on:

- the level of investment made in early-stage companies;
- the industries of early-stage companies that were backed by venture capital; and
- the origin of venture capital investments (e.g., from local venture firms or firms outside the region).

Several findings emerged from the analysis:

- **Venture backing of early-stage companies in Greater Philadelphia grew significantly from 1986 to 1996,** from $27.4 million in 1986 to $96.8 million in 1996. This was a real increase of 253 percent, compared to a national increase of 190 percent. From 1986 to 1996, the share of investments going to early-stage companies in the region nearly doubled (from 14 percent to 27 percent); by 1996, it closely resembled the share at the national level in 1996. Growth in venture capital financing of early-stage companies was mostly in the size of deals being struck, as opposed to the number of deals. Deals with seed-stage companies, for example, increased from an average of $631,000 in 1986 to an average of $3.9 million in 1996.
- **Venture backing of early-stage companies in Greater Philadelphia was predominantly in the biotechnology and medical/health industries.** These industries' combined share of early-stage investments was the largest in 1996, having more than doubled from 30 percent in 1986 to almost 70 percent in 1996. This strong showing in early-stage investments was a reflection of the region's

growing strength in the biotechnology and medical/health industries. The nature of these industries also helps explain their high share of early-stage investments -- compared to other early-stage investments, entrepreneurial ventures in biotechnology and medical/health tend to require larger infusions of financing over longer periods of time.

- **Venture backing of early-stage companies in Greater Philadelphia increasingly came from venture capital firms located outside the region.** In 1996, venture capital firms located outside Greater Philadelphia invested $77.5 in local early-stage companies, about 80 percent of the total investments in early-stage Philadelphia companies. Outside firms increased their focus on early-stage investing over the 10-year period -- in 1986 early-stage investing made up 15 percent of outside firms' total investing; by 1996 their early-stage investing increased to 26 percent. Clearly, the region's early-stage companies offered favorable investment opportunities to outside venture capital firms, especially firms specializing in the financing of biotechnology and medical/health entrepreneurial ventures.

The strong growth in venture backing of regional early-stage companies was very much a reflection of trends that are being played out at the national level. Early-stage deals have become larger as competitive pressures force companies to "get big fast." Venture capital has become more mobile, flowing more quickly around the country and indeed around the world as never before. The strong stock market of the last few years has increased IPO activity, and the formation of new funds and the flow of funds into venture capital has increased enormously.

For growth-oriented entrepreneurs in Greater Philadelphia, the good news is that early-stage venture capital has grown dramatically, much faster than the national rate. The fact that those funds have come increasingly from outside the region, however, may suggest a continued need to develop more "homegrown" early-stage venture capital -- all things being equal, locally-managed early-stage venture capital will be more conducive to supporting local growth company activity. Current efforts by the Commonwealth of Pennsylvania pension funds, Safeguard Scientifics, and the Ben Franklin Partnership seek to address that issue. However, while this analysis demonstrated that venture capital investments in Greater Philadelphia early-stage companies have grown tremendously, it does not shed light on whether a true early-stage financing "gap" exists, since the demand side of that equation is nearly impossible to quantify.

The research and analysis presented in this report were conducted by PEL staff, most notably Associate Annette B. Goldberg, under the guidance of Senior Associate Steve Brockelman and Executive Director David B. Thornburgh.