ATP and Venture Capital Funding Criteria Differ

ATP Project Selection Criteria[1]

- ATP funds high-risk, enabling technologies that may require collaborative efforts among corporations, universities, federal laboratories, and non-profit institutions.
- ATP provides funding past basic research and up through prototype.
- ATP does not fund product development or commercial activities.
- All research project proposals submitted to ATP are evaluated against two published selection criteria—scientific and technological merit (50%) and potential for broad-based economic benefits (50%).

Venture Capital Funding Criteria[2]

- Venture capitalists avoid funding early stages, when the technologies are uncertain, and market needs are unknown or unclear.
- Venture capitalists also avoid funding later stages, when competitive shakeouts and consolidations are inevitable and growth rates slow dramatically.
- Majority of venture capital goes to follow-on funding for projects originally developed through the far greater expenditures of governments and corporations.
- Venture money is not long-term money. Venture capitalists invest in a company's balance sheet and infrastructure until it reaches a sufficient size and credibility so that it can be sold to a corporation, or public equity markets can step in and provide liquidity.
- In essence, venture capitalists buy a stake in the entrepreneur's idea, nurtures it for a short time, and then exits with the help of an investment banker.

Venture Capital Funding Strategies[3]

- VCs should *never* invest to discover new scientific phenomena.
- VCs should *almost* never invest to prove a scientific principle.
- VCs should *rarely* invest to develop enabling technology.
- VCs should *often* invest to use a technology to develop a product.
- VCs should *very often* invest to revise and improve a product.

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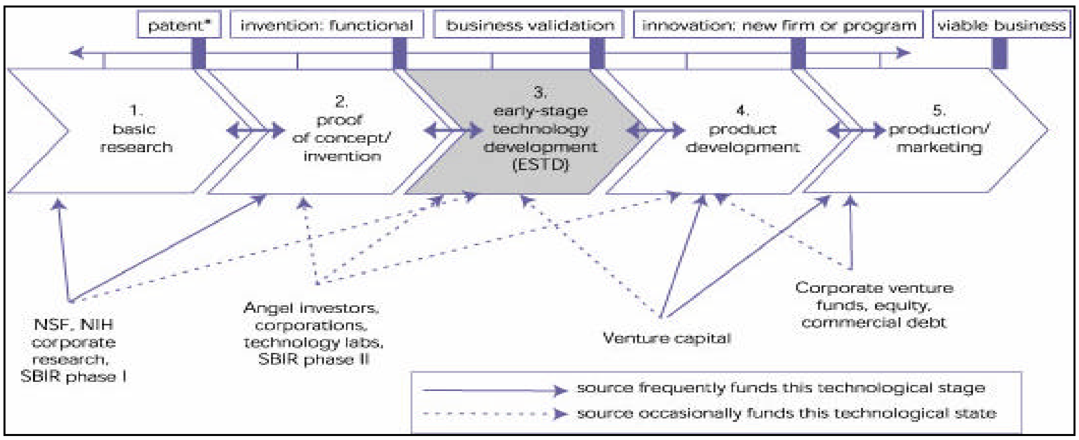
[1] ATP's statute is codified in 15 CFR § 278n. The ATP Proposal Preparation Kit (February 2004) provides more specific guidance on selection criteria.
[2] From B. Zider, venture capitalist, in "How Venture Capital Works," *Harvard Business Review*, Nov 1998 (pp. 131-137).
[3] David Morganthaler, former president of the National Venture Capital Association, in Branscomb, Morse, and Roberts, "Managing Technical Risk" NIST GCR 00-787 (2000).

Highlights from ATP's Economic Studies

Economic Assessment Office

Stages of technology development

The following diagram shows a conceptual chart of the different phases of research and the entities usually involved in funding those phases.[4] By design, projects for which ATP provides cost-share fall in Stage 3, early-stage technology development.



[4] Branscomb and Auerswald, "Between Invention and Innovation: An Analysis of Early-Stage Technology Development" NIST GCR 02-841 (2002).

Frequently Used Terminology in Academic and Financial Language

NSF definition[5]	**Model of development and funding** (Branscomb/Auerswald)	**Venture capital terminology** (Source: PwC/Thomson Economics/NCVA MoneyTree Survey[6] and Venture Economics Information Services [7])
Basic Research To gain more comprehensive knowledge or understanding of the subject under study without specific applications in mind.	**Basic Research** Beginning with the research base on which innovative ideas rest.	Typically does not fund projects or companies at this level.
	Proof of concept Proof of principle or concept of a technical device or process believed to have unique commercial value.	
Applied Research To gain the knowledge or understanding to meet a specific, recognized need.	**Early-stage technology development** In the third stage, product specifications appropriate to an identified market are demonstrated, and production processes are reduced to practice and defined, allowing estimates of product cost. This is the point at which a business case can be validated and might begin to attract levels of capital. This is the stage that ATP provides cost-share for projects.	**Seed** The initial stage. The company has a concept or product under development, but is probably not fully operational. Usually in existence less than 18 months. The emphasis is on examining business idea feasibility and getting the firm ready to commence operations.
		Start-Up Stage Provides funds to companies for product development and initial marketing. This type of financing usually is provided to companies just organized or to those that have been in business just a short time but have not yet sold their product in the marketplace. Generally, such firms have already assembled key management, prepared a business plan, and made market studies. At this stage the business is seeing its first revenues but has yet to show a profit. This is often where the enterprise brings in its first "outside" investors.
Development The systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes	**Product development** The activities at the start of stage 4 are initial production and marketing. At the end of stage 4, the product has been introduced in the marketplace and an innovation has taken place.	**Early Stage (1st or "A", 2nd or "B" round)** The company has a product or service in testing or pilot production. In some cases, the product may be commercially available. May or may not be generating revenues. Usually in business less than three years.
	Production and marketing In stage 5, investors can expect to see the beginning of returns on their investments.	**Expansion Stage ("C" or 3rd round and up)** Product or service is in production and commercially available. The company demonstrates significant revenue growth, but may or may not be showing a profit. Usually in business more than three years.
		Mezzanine ("Bridge funding") Short-term debt is used to support continued growth opportunities while preparing for an acquisition, a management buyout, a leveraged buyout or an IPO.

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5 http://www.nsf.gov/sbe/srs/seind04/c4/c4s1.htm#sb1
6 http://www.pwcmoneytree.com/moneytree/nav.jsp?page=definitions#stage
7 Venture Economics Information Services. 1999. *National Venture Capital Association Yearbook.* Arlington, VA: National Venture Capital Association.