

Exploitation of research results: Creation of spin-offs



ARTEMIS SAITAKIS
DIRECTOR
SCIENCE & TECHNOLOGY PARK OF CRETE

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EXPLOITATION OF RESEARCH RESULTS

THE SOCIOECONOMIC DIMENSION

- ▶ *Research and technological Innovation creates wealth and contributes to national development.*
- ▶ *Exploitation of research results (patents, spin-offs, new products and services, license agreements etc) is an indicator of investment impact and effectiveness/efficiency in the society.*
- ▶ *For the research to be effective and to have an impact a critical mass is necessary. (expressed in number of patents, % GDP for R&D, VC investment etc)*



SPIN-OFF CREATION CONTRIBUTION TO NATIONAL ECONOMY

Research & Technological development contributes to the introduction of “new blood” to the productive sector

Creates extrovert businesses

Creates high quality and skilled jobs

Creates wealth and improves the competitiveness of the country

Supports the National Innovation System and the RTD activities



SPIN-OFF CREATION

CONTRIBUTION TO THE DEVELOPMENT OF HEIs

Fulfillment of one of the basic roles of academic and research institutions (third stream activities)

Contributes to the development of a new technology market

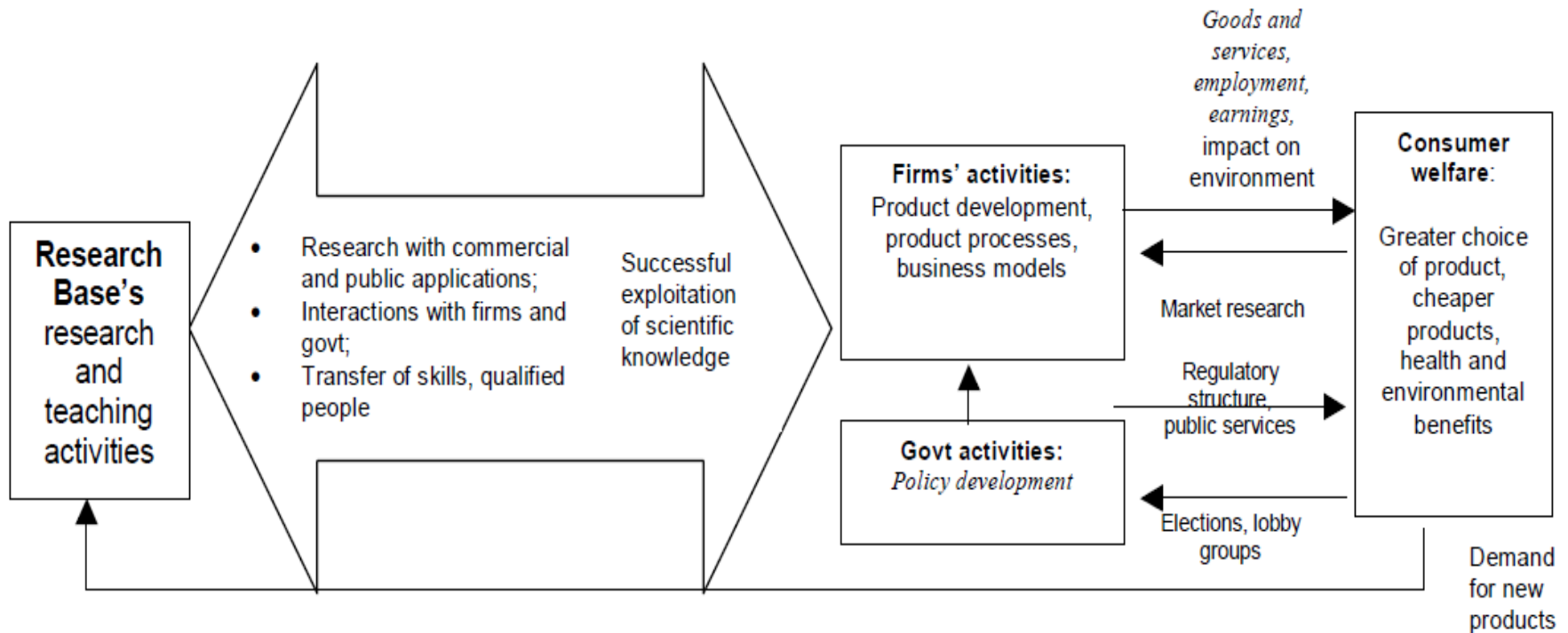
Contributes to the budget of the HEI

Creates high quality jobs

Cultivates entrepreneurial culture and creativity among the students and researchers.



KNOWLEDGE TRANSFER & ECONOMIC IMPACT



Knowledge transfer process

Economic impacts

Source: Advice to DTI from Res. Council Economic Impact Group, UK, 2006



IP EXPLOITATION PRACTICES

- ▶ *Patents, licenses, spin-offs: the three main common practices*
- ▶ *Building relationships with industry*
- ▶ *Networking and associations*
- ▶ *Consultancy*
- ▶ *Knowledge Transfer Networks*
- ▶ *Collaborative R&D partnerships and projects*
- ▶ *Continuous professional development*
- ▶ *Funding of proof of concept*
- ▶ *Internal programmes to foster academic entrepreneurship*

The *sine qua* condition for successful exploitation is the commitment of senior university administrators to supporting the exploitation and commercialisation of their universities IP.

Without this, the TTO may find itself isolated and may not be staffed with professionals who understand the technology/knowledge transfer processes between academics and industry.



CRITERIA FOR SPIN-OFF CREATION

The decision to form a spin-off company is affected by such factors as:

- The degree of innovation of the invention***
- Scientific, patent, and market position***
- Interest of potential licensees***
- Development of complementary or other enabling technologies***
- Availability of capital or the interest of investors***
- Commitment of the inventor(s) to the commercialization process***
- Framework conditions***



QUESTIONS TO BE ANSWERED

- *Who owns the technology?*
- *What will the 'Products' be?*
- *What are the objectives of the team?*
- *What is the market potential of the products?*
- *Who are the competitors and cooperators?*
- *What's the company's expected growth?*
- *Who are the potential partners?*
- *What kind of support is needed (technology - business - cash)*
- *Is there any available financing?*
- *How to run the business?*



PREREQUISITES

▶ *Prerequisites*

- *Determination - Strategy - Cash*

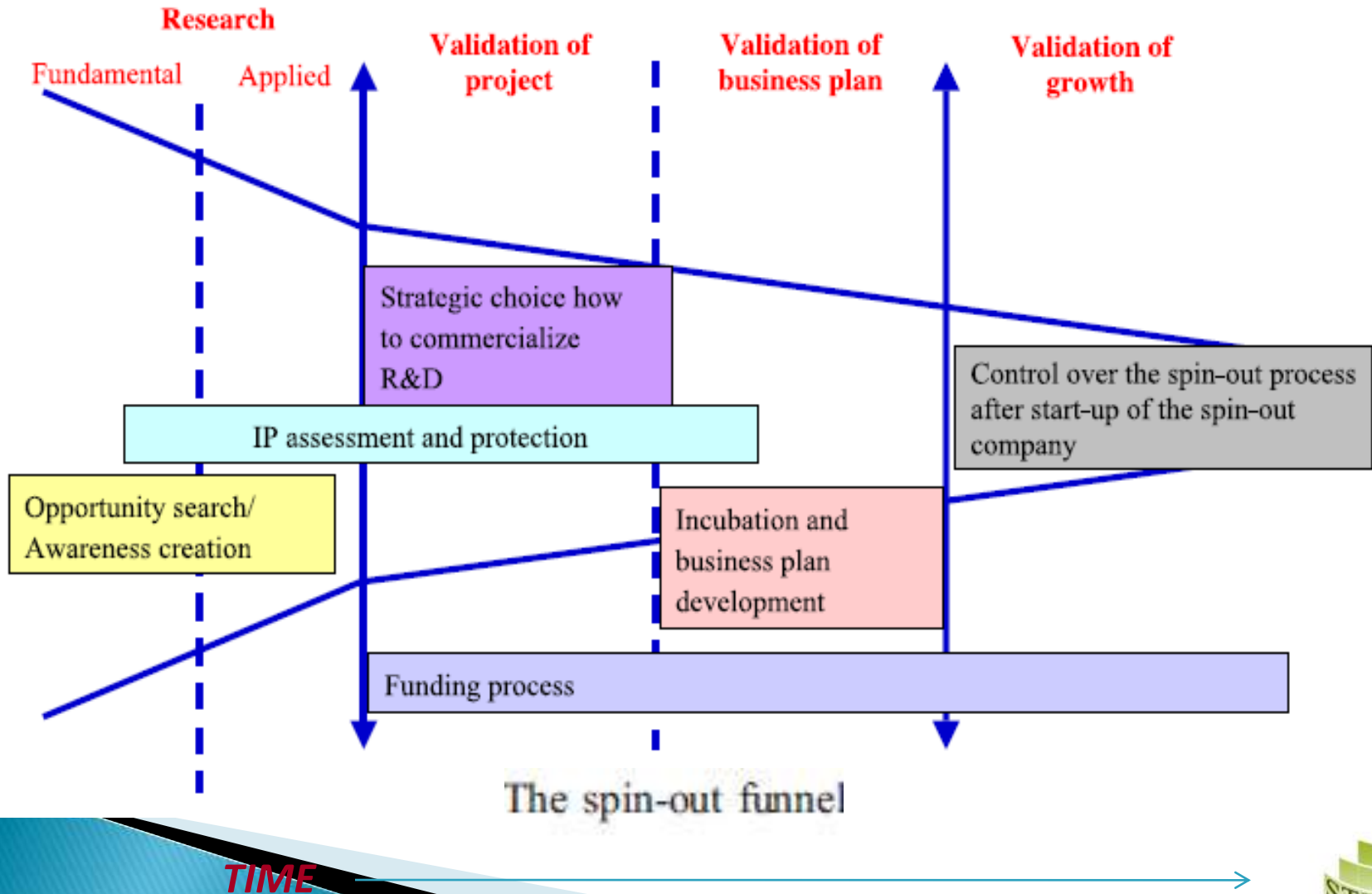
▶ *Business plan*

- *Executive summary*
- *The Market*
- *The product(s), process or innovation*
- *The Business and its position in the business field*
- *Marketing strategy*
- *Tangible / intangible “production”*
- *Forecasts of “sales”, cash flow, break-even*
- *Management and control of the Business*
- *The required financing package*



SPINNING-OUT NEW VENTURE

B. Clarysse et al. / Journal of Business Venturing 20 (2005) 183–216



10 CRITICAL FACTORS FOR SPIN-OFF CREATION

1. *Technology must be “market driven”*
2. *Do not underestimate time and funds required*
3. *Fast exploitation (“window of opportunity”)*
4. *Business Plan and well trained managers*
5. *Experienced investors*
6. *Experienced Board of Directors*
7. *Evaluation of all investment opportunities*
8. *Inventors are not necessarily good managers*
9. *Use of intermediary organisations (ILOs, Technology Parks & Incubators, Business Angels VCs, etc)*
10. *Networking – Networking – Networking !!!*



RISK OF FINANCING SPIN-OFFS

HIGH RISK

FFF

Business Angels

Venture Capitals

Strategic partners

Stock market

Banks

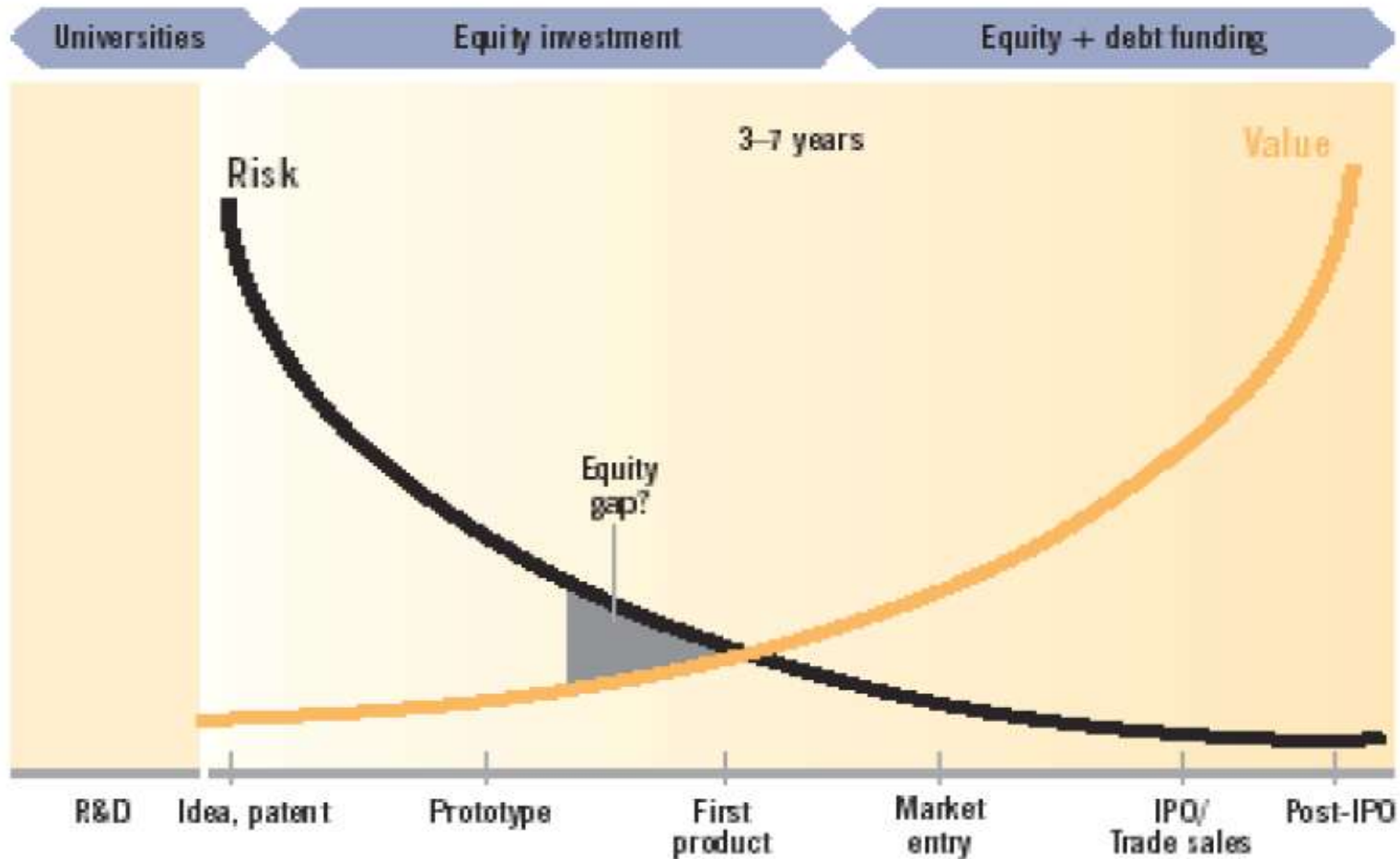
LOW RISK

START UP

MATURITY



STAGES OF INVESTMENT



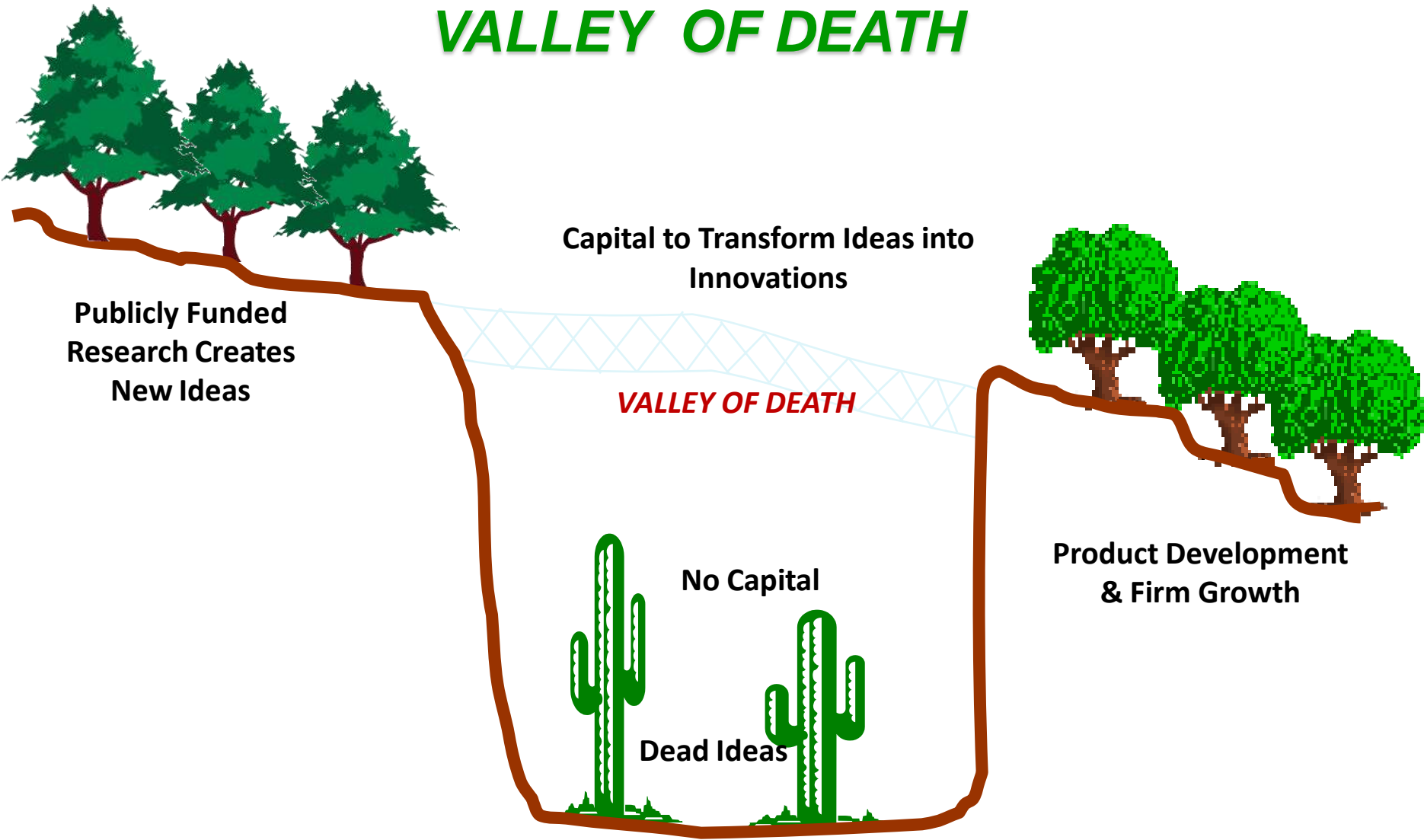
Source: Adapted from Siemens Venture Capital

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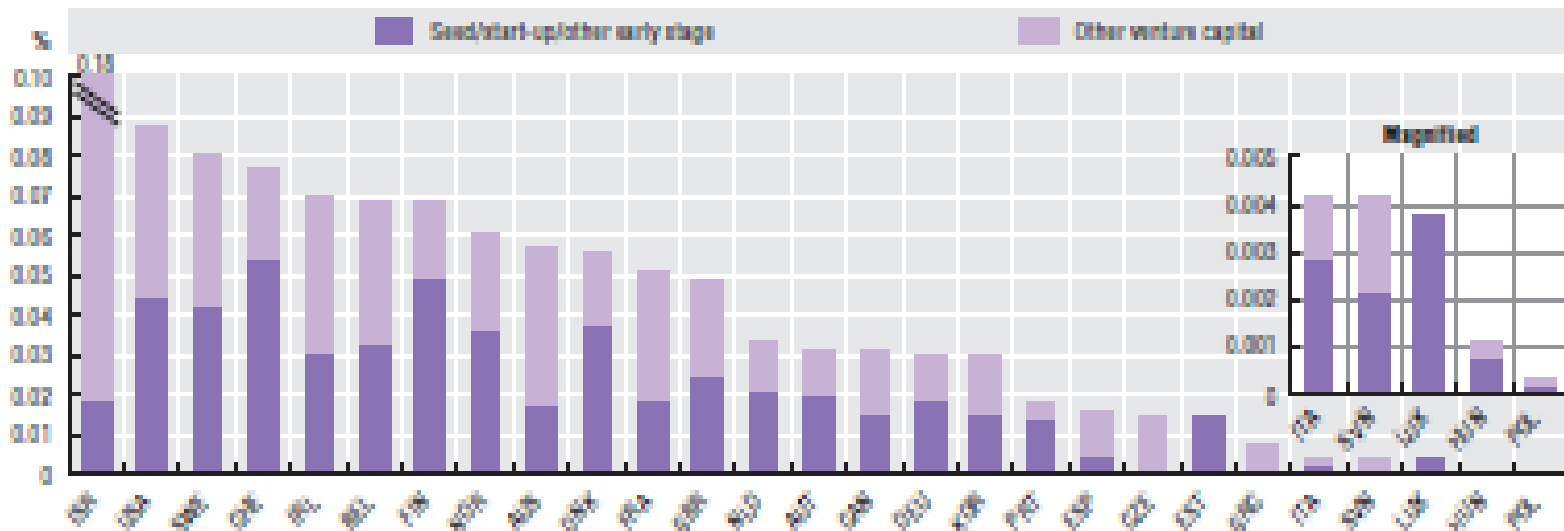


VALLEY OF DEATH



VC INVESTMENTS, 2009

Venture capital investment, 2009
As a percentage of GDP



Source: OECD (2010), Entrepreneurship at a Glance 2011, OECD Publishing, Paris, based on OECD Entrepreneurship Financing Database, June 2011. See chapter notes.

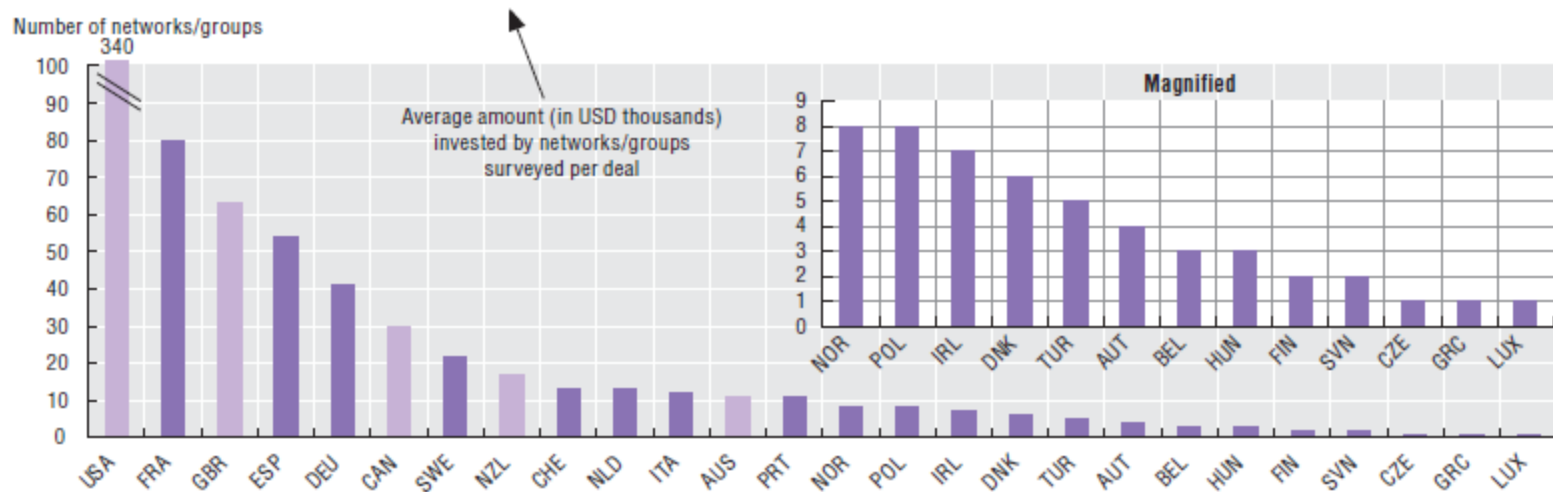


VC AND THE CRISIS

- ▶ *Venture capital is a major source of funding for new technology-based firms. It plays a crucial role in promoting radical innovations and is one of the key determinants of entrepreneurship.*
- ▶ *The Internet bubble in the early 2000s clearly showed that venture capital is very sensitive to economic downturns. The total amount of US venture capital investment dropped by about 42% in just one quarter at the beginning of 2001. By the end of first quarter of 2003, venture investment had decreased by a striking 85% since the first quarter of 2000.*
- ▶ *At a time when access to bank credit and stock market financing is very tight, venture capital becomes rare as venture capitalists wait out the crisis. In the United States, for example, total venture investments started declining in early 2008. In the first quarter of 2009, they plunged 60% from a year earlier. The small increase in the second quarter of 2009 remains too timid to indicate an inversion of this trend.*



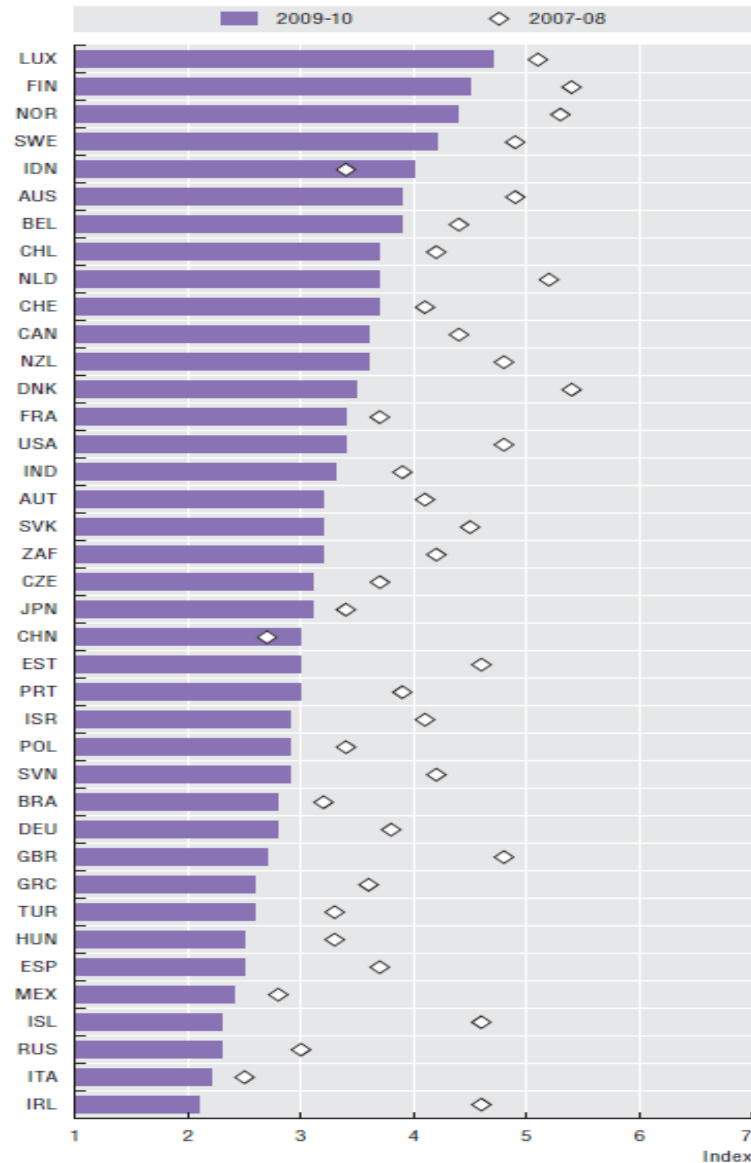
BUSINESS ANGELS NETWORKS



Source: OECD, calculations based on EBAN (The European Trade Association for Business Angels, Seed funds and other Early Stage Market Players), ACA (Angel Capital Association), NACO (National Angel Capital Organization) and AANZ (Angel Association New Zealand), March 2011. See chapter notes.

EASY TO ACCESS LOANS

Ease of access to loans, 2007-08 and 2009-10
Scale from 1 to 7 from hardest to easiest, weighted averages



Source: World Economic Forum (2010), *The Global Competitiveness Report 2010-2011*; and World Economic Forum (2008), *The Global Competitiveness Report 2008-2009*, World Economic Forum, Geneva.



REQUIREMENTS FOR THE DEVELOPMENT OF KNOWLEDGE INTENSIVE BUSINESSES

Basic question: employee or entrepreneur ?

- *Information - Training– Development of entrepreneurial culture*
- *Preparation phase (ideas, human resources, Intellectual Property Protection, etc)*
- *Scope – Business Planning*
- *Infrastructure for business support (Incubators, Technology Parks, Innovation Centres etc)*
- *Technology Support (Universities, Research labs)*
- *Mentoring and coaching schemes*
- *Framework conditions*
- *Availability of financing (seed capital, business angels, VC etc)*



THANK YOU

FOR YOUR ATTENTION

QUESTIONS?

Info: saitakis@stepc.gr

