

# Doctoral Programme on Electrical and Computer Engineering

## ***New Venture Financing***

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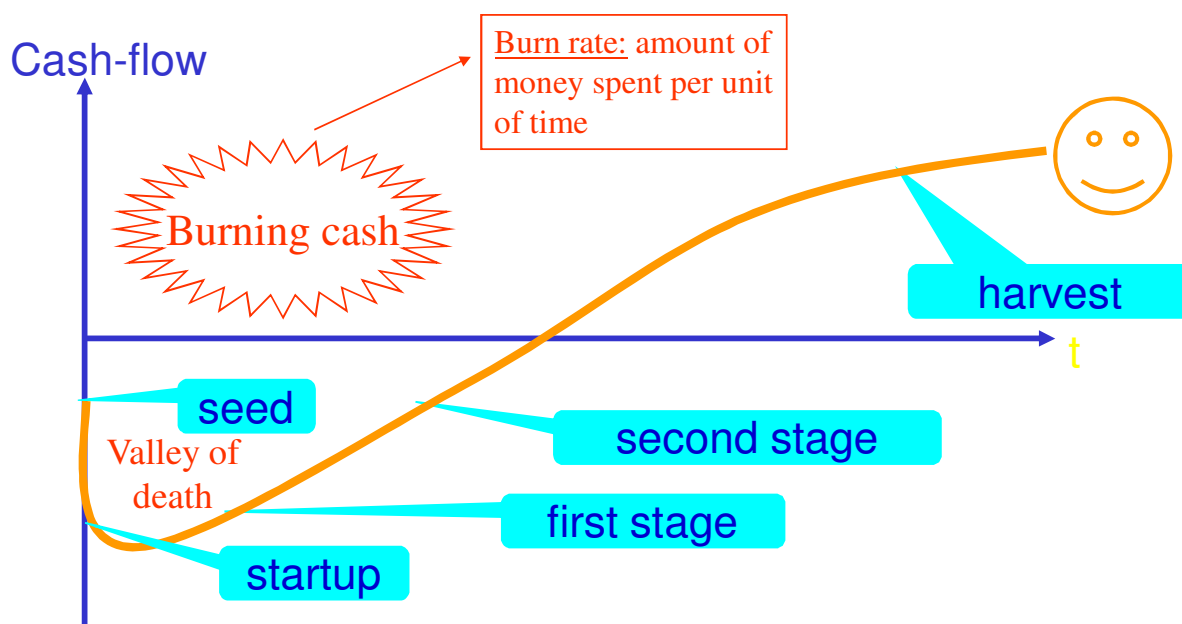
## **Today's speaker:**

- Lic Economics (UNL); MBA (UNL)
- PhD Banking and Finance (Cass Business School)
- Associate Professor (FEUNL)
- Pro-Rector of UNL in charge of Entrepreneurship
- President *Fundo de Sindicação de Capital de Risco*
- Board Member of Sonae Capital, SGPS
- Director at Venture Valuation, Switzerland
- Visiting Professor at Luxembourg Business Academy (Univ. Luxembourg) and Cass Business School, London
- Formerly, Executive Director and Board Member at REN – Redes Energéticas Nacionais

## New venture evolution

- New ventures go through a long building-up process
- Organisational form must evolve along that process
- Available sources of finance differ between the stages
  - And be flexible enough to accommodate the impact of later-stage requirements
  - Have different valuations at different stages
  - Have different investors at different stages
    - Which in turn may have different roles (financing, strategic, etc)

## The “valley of death”



## Typical Stages: 1a. Development (or “PowerPoint”)

- Building-up the “opportunity” before making important physical investments
- Project is still too infant to be able to attract outside finance
- Incorporation not necessary at this phase
- Sources of finance:
  - Personal savings
  - Founders, family, friends... and fools
  - Consumer loans and credit card,...

bootstrapping

## Typical Stages: 1b. Seed

- Idea requires some R&D, marketing study, or other pre-launch studies demanding some moderate funding needs – time for a first business plan
- Incorporation not necessary at this phase
  - Depends upon how seed capital is attracted
- Sources of finance:
  - Personal (bootstrapping)
  - Angel financing
  - Government R&D support
  - Early-stage venture capitalists

At this stage the “idea” still has a very high chance of being unsuccessful (high risk)

## Seed Funding: the “bootstrapping”

- Founders
  - Use your own assets (garage companies)
  - Cash: Accumulated savings; credit card (not recommended)
  - Take a second mortgage on your home
- Friends and Family
  - Are they ideal investors? (what if it goes wrong?)
    - Would you like to have your mother in law as an investor?
  - Can they provide collateral for a loan? (what if it goes wrong?)
  - Can they open any doors? Where: banks, VC's; customers; suppliers

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## Typical Stages: 2. Startup

- Cash is required to set-up facilities and commence production and marketing
- Must be incorporated as an independent company
- Sources of finance:
  - Equity: founders, angels, Venture Capital
  - Debt: Venture Capital
  - Suppliers (?)
  - Leasing and other Asset-based lending

At this stage risk is still too high to attract traditional forms of bank lending

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# Startup Funding

- Suppliers
  - Negotiate credit terms (pay at the last allowed date)
    - What if they demand letters of credit?
  - Make them see you as a strategic partner
  - Do you want them as an investor?
    - Under which terms?
    - How will potential future investors (VC's?) react?
- Customers
  - Make them see you as a strategic partner
    - In other words, convince them to pay fast or to finance your purchases
  - Do you want them as an investor?

# Startup Funding

- Internally-generated cash-flow
  - At initial stages do not concentrate exclusively on R&D, etc  
Try to generate cash-flow from sales of services
- Cash-management
  - At early stages cash is a very scarce commodity: save-it
    - Limit your costs to the absolute minimum
      - Starting with your own salary
    - Negotiate generous paying terms with suppliers
    - Don't sell on credit, unless you have no other choice
    - Minimise your inventory; be as "just in time as possible"
  - One day you'll have to decide which bills not to pay
    - Be careful to avoid harming strategic relationships or/and bankruptcy or even personal liability

# Startup Funding : Debt

- Asset-based lending
  - Leasing vs buy
    - Flexibility: if you lease it is easier to abandon the (bad) investment
  - Inventory financing
    - Typically via short-term credit lines secured by inventory
    - Better keep inventory under strict control and make sure you're not selling on credit...
  - Other credit lines
    - Typically they are short-term and with covenants attached
    - You may be required to pledge your own assets and other forms of personal guarantees. Are you willing to take that risk? Do you fully understand the consequences?

## Is bank credit an alternative at early-stages?

- Companies lacking track-record may fail to attract traditional unsecured bank loans due to their high-risk
- Some bank lending possible, but:
  - Increases your firm's (and yourself's) bankruptcy risk
  - Imposes an extra cash-outflow: interest payments
  - May hinder future growth prospects
- Bank guarantees sometimes possible, especially letters of credit to support imports
  - Remember that defaulting on them is more dangerous than delaying a supplier's payment
- Debt should be avoided by firms facing:
  - High risk; High growth prospects; high "burn rate"

## Typical Stages: 3. First (and second) -Stage Financing

- Cash is required to support growth of a company that is still on a negative cash-flow position
- As the business grows other sources of finance may become available:
  - Equity: founders, angels, Venture Capital, strategic partners
  - Debt: Venture Capital; Venture debt; bank loans
  - Leasing and other Asset-based lending

Uncertainty will progressively decline allowing outsiders to fine-tune their risk evaluations

## Manage for cash

- It's more than “collect early pay late”
  - Transform a supplier into your investor & partner?
- Plan carefully – but do not depend on business plans
- Keep costs and investments under strict control
  - Starting with founders' own salaries
- Keep activities and productivity under control
- Outsource rather than do
  - Except critical production aspects / processes
- Lease rather than buy
  - And chose the cheapest equipment for the job
    - Without sacrificing critical quality elements

## Typical Stages: 4. Harvesting

- Venture is successful and close to maturity
- Some investors chose to cash-in their capital gains and abandon the company:
  - Venture capitalists
  - Business angels
  - Founders ?
- Exit possibilities:
  - IPO
  - Trade sale
  - Sale to a private equity fund
  - Management/founders buy-out ?

## New Venture Investors

# The Financial Deal

*“From whom you raise capital is often more important than the terms”*

- Valuation; Value and risk sharing
- How much money is really needed (now)?
  - Staging: How much is needed in this round and how you measure success?
- Whom you get money from?
  - At which terms?
  - Are you (and them) protected/prepared for future rounds?
  - How will they exit?
  - How are incentives aligned (or not) ?
  - What else can they provide besides cash? Can they add value?
    - What is their expertise? How helpful and involved will they be?
- Other deals
  - Suppliers; customers; employees

## Understand that finding investors is not (just) about money

- At Seed stage
  - Bootstrap; founders, family, friends and fools!
  - Business Angels?
    - Chose them well; Pick their talent + their money
- Venture Capitalists
  - Always ask: What do they provide besides money?
  - Are incentives clearly aligned?
- Strategic Investors
  - Are they bringing money, a market, a technology, supplies or preventing us to compete against them?

# Problems

- Asymmetric information
  - Entrepreneurs know more about venture than investor
  - If there is un-proportional sharing, entrepreneurs receive a call option (paid by investor) on their own venture – nothing to lose
  - Information risk leads investor to require high cost of capital
- Differences in expectations
  - Typically, entrepreneurs' is higher
- Investors' under-pricing
  - Some investors, including VC's, offer low prices at initial finance rounds to compensate for low liquidity and asymmetric information
- Entrepreneur's key-role on venture
  - Demanding special incentive mechanism to tie them to venture

# Post-Contractual Implications

- Once the financing has been agreed moral hazard may occur:
  - Entrepreneur acts according with his own interest
    - This demands contracts to limit such behaviour
  - Moral hazard problems arise from:
    - Incentive conflicts; “lifestyle companies”
    - Seeking opportunities outside the venture (other venture; job)
    - Selling the majority stake of the firm at premium
    - Specific investments (non-recoverable) sunk costs leading the company to pursue low-price lines of business
  - If outside finance is primarily debt:
    - Opportunistic strategies by entrepreneurs (risk-seeking)

# Solving asymmetric information

- Signalling
  - Give credible demonstration about your statements:
    - Ex: success-fees; tie your performance to landmarks; warrants
    - Accept investors protection clauses
    - Earnouts: price is determined by future performance (in entrepreneurial finance that can be implemented through warrants that may be exercised by investor, at low prices, if performance targets are not met) or ratchets and anti-dilution provisions
- Screening
  - The party with low information offers a choice of alternative terms to the informed one
    - Ex: Low salary vs high success-fee (avoids “lifestyle” behaviour)

# Solving asymmetric information (2)

- Bonding
  - Penalty incurred by the party who does not fulfil promises
  - Examples:
    - Governance rules
    - Fully committing to the venture, not being allowed to work outside it for x years)
    - Entrepreneur’s share on the venture tied to milestones; Vesting
    - Investor has right to appoint majority of management under pre-specified conditions
- Monitoring
  - Demanding a “hands-on” approach

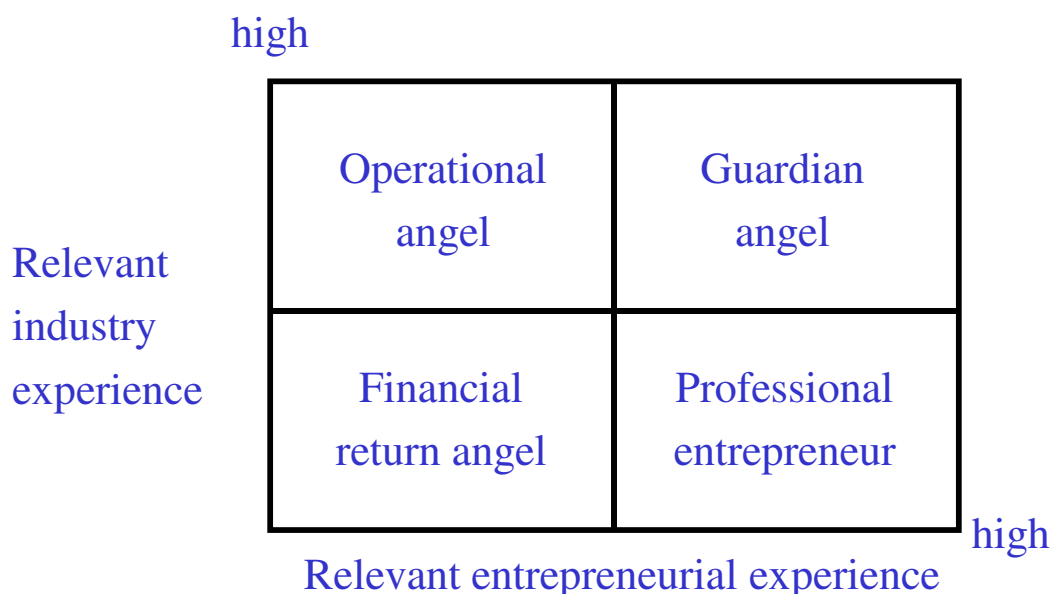
# Angel financing - who are these angels?

- High net worth individual who invests a portion of his wealth in startup companies aiming at profiting at exit
  - They are a very diverse (risk-prone) group
  - Typically invest on industries they understand
  - Tend to invest in very early-stages
  - Use terms and conditions much more “informal” than those of venture capital firms
    - Typically invest in straight equity
  - May contribute with connections and advice
    - Being shareholders they have incentive to promote company value
    - May even source for later rounds (VC, banks, etc)
  - Some are successful entrepreneurs themselves

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## Angel types



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## How to find more about them?

- European Business Angel Network
- <http://www.eban.org/>
- Associação Portuguesa de Business Angels
- <http://www.apba.pt/>

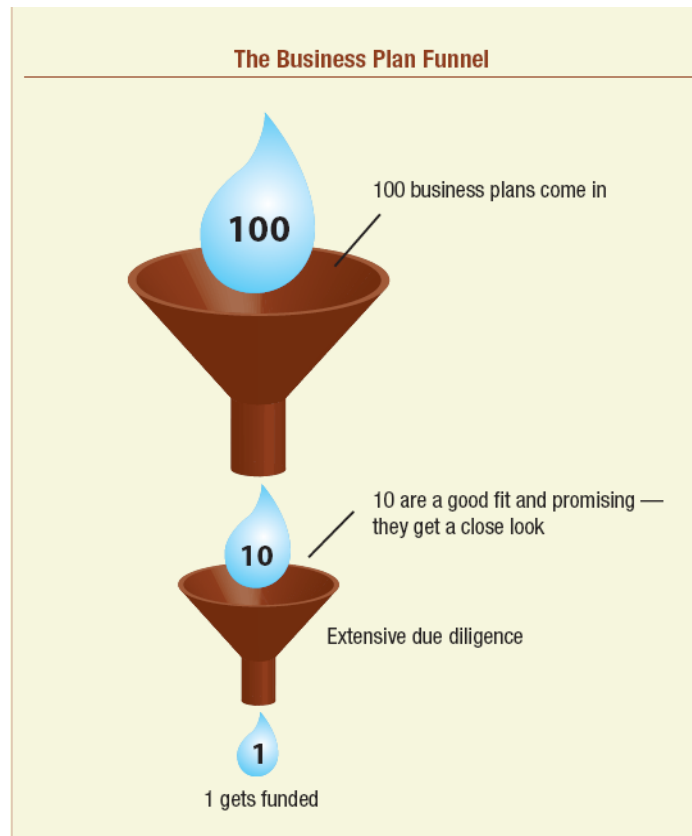
## Venture Capital

# What is venture capital?

- VC is capital devoted to high-risk investments
  - Typically, recent firms with innovative (uncertain) projects
  - Because risk is too high, expected returns must be consistently high (average: 30%-60%)
    - VC investors expect, on average, a very high return
    - VC investors anticipate that a high percentage (2/3) of their investments will be liquidated or generate negative returns
    - Therefore, the few highly successful projects must generate extremely high returns (> 700%)
    - Thus, prices paid by VC investors must be low enough to generate expected returns consistent with these goals

## Risk Capital for Business

Venture capital firms are professional, institutional managers of risk capital that enables and supports the most innovative and promising companies. This money funds new ideas that could not be financed with traditional bank financing, that threaten established products and services in a corporation, and that typically require five to eight years to be launched.



## What are VC goals?

- VC's are managers of "other people's money"
- In order to remain in business they have to show significant returns to their investors
- VC's generate these returns by selling their portfolio companies at a multiple of initial investment
- Thus VC's have all incentive to make their portfolio companies prosper and succeed.
  
- What about Government-owned VC's?

# Returns

IRR												
Multiple	1.25x	1.5x	1.75x	2x	2.5x	3x	3.5x	4x	5x	6x	8x	10x
Year 2	12	22	32	41	58	73	87	100	124	145	183	216
3	8	14	21	26	36	44	52	59	71	82	100	115
4	6	11	15	19	26	32	37	41	50	57	68	78
5	5	8	12	15	20	25	28	32	38	43	52	58
6	4	7	10	12	16	20	23	26	31	35	41	47
7	3	6	8	10	14	17	20	22	26	29	35	39
8	3	5	7	9	12	15	17	19	22	25	30	33
9	3	5	6	8	11	13	15	17	20	22	26	29
10	2	4	6	7	10	12	13	15	17	20	23	26

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## Portugal: private equity performance benchmark

### Private Equity Performance Data

Cumulative Returns

Preliminary data as of 12/31/2006

Cumulative Returns as of 12/31/2006 - Private Equity Performance Benchmark by Thomson								
	Sample size	Pooled IRR since inception			Upper quartile	Pooled DPI	Pooled RVPI	Pooled TVPI
		All funds	Venture funds	Buyout funds				
Portuguese funds	37	-3.3	-2.8	-8.3	0	0.19	0.65	0.84
Southern Europe*	117	8.2	-2.6	15.1	1.6	0.68	0.59	1.27
European funds**	1129	10.2	6.4	13.6	10.0	0.83	0.56	1.39
US funds**	1831	14.2	15.9	12.7	16.7	0.97	0.56	1.52

Source: Thomson Financial (VentureXpert)

Note: Data is continuously updated and is therefore subject to change.

Calculation in € for European funds, in US\$ for US funds, as of 12/31/2006

\* Southern Europe includes Albania, Andorra, Bosnia/Herz. Bulgaria, Croatia, Cyprus, Greece, Italy, Macedonia, Malta, Portugal, Romania, Serbia and Montenegro, Slovenia and Spain

\*\* Preliminary data as of 12/31/2006

## Private Equity Performance Data

Investment Horizon

Preliminary data as of 12/31/2006

Investment Horizon as of 12/31/2006 - Private Equity Performance Benchmark by Thomson					
	1-year	3-year	5-year	10-year	20-year
Portuguese Funds	-3.9	-5.8	-5.2	-3.5	-3.3
Portuguese Venture Funds	-3.5	-4.7	-4.6	-2.8	-2.8
Portuguese Buyout Funds	N/A	-4.2	-4.8	-10.8	-8.3
Southern Europe*	-27.3	0.1	-0.8	8.7	8.2
European Funds**	20.0	10.5	4.0	10.1	10.4
US Funds**	23.3	12.7	7.5	11.0	13.9

Source: Thomson Financial (VentureXpert)

Note: Data is continuously updated and is therefore subject to change.

Calculation in € for European funds, in US\$ for US funds, as of 12/31/2006

\* Southern Europe includes Albania, Andorra, Bosnia/Herz. Bulgaria, Croatia, Cyprus, Greece, Italy, Macedonia, Malta, Portugal, Romania, Serbia and Montenegro, Slovenia and Spain

\*\* Preliminary data as of 12/31/2006

## Value added by VC investing

- Focus: Selecting investments based on the general partners' field of expertise (industry; stage; regional; etc) / *1-hour flight rule*
  - Supporting opportunities that otherwise would not get funding
  - Screening for high-growth potential opportunities
- Deal structuring
  - Structuring deals in such a way to make sure all parties have the right incentives (contracts)
  - Making sure that VC's position is protected: paid the "right price"; anti-dilution provisions; shareholder's agreement; invested on the right type of securities (convertible, etc)

## Value added by VC investing

- Effort allocation
  - General partners team has to dedicate to several activities: fund-raising, screening for opportunities, selection, due-diligence, deal-structuring, monitoring investments, etc
  - However, monitoring and associated activities seem to play a crucial role on VC fund performance, thus recommending that an important fraction of effort is allocated to this activity
- Monitoring investments (portfolio companies)
  - (Active) Participation (non-exec) in boards (“hands-on” approach)
  - Providing advice (managerial, financial, etc)
  - Active monitoring of managerial performance
    - Active involvement in the management control process, including budgeting, budget analysis, monitoring key performance indicators

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## Value added by VC investing

- Contracting with portfolio companies
  - Monitoring will be more successful if at deal stage the right contracts (ex: shareholders agreement) have been structured and signed
  - Contracts limiting managerial appointment and compensation
  - Contracts allowing for management dismissal
  - Contracts stipulating exit/harvest rights
- Risk limitation
  - Risks may be mitigated through deal-making and contracting (incentive-alignment, monitoring rights, use of convertibles, etc)
  - Risk may be shared with other VC's through syndication (actually, an appropriate tool to minimise adverse-selection)

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## Value added by VC investing

- Majority (of the votes - not of equity)
  - Although controversial, having shareholder majority simplifies most of the contractual/monitoring/exit issues
    - A particularly important issue when different VC's are present
  - This allows VC to better impose a value-maximising path
- Exit rights
  - VC Fund must secure a way-out
    - One possibility is to grant VC the right to initiate IPO
    - Other is to set up a “equity loan” type of contract
  - By having exit rights the VC will behave in order to accomplish the highest possible valuation at exit

## Venture Capital Deals

- The critical issue is to know how is value shared at exit
  - This is much more important than pre-money valuations (by themselves) and share prices
- The structure of the deal determines how value is split, via:
  - The type of security on which the VC invests
  - The special rights given to the VC
  - Ratchets used to change the percentage at exit
  - Stock options, warrants and other rights given to founders
  - Provisions concerning dilution at future rounds
    - Founders must be prepared for them