

Entrepreneurial Financing



The Future Of Entrepreneurial Finance

Prepared by Dr. Mohamed Soliman

Lecture 10

ENT 632

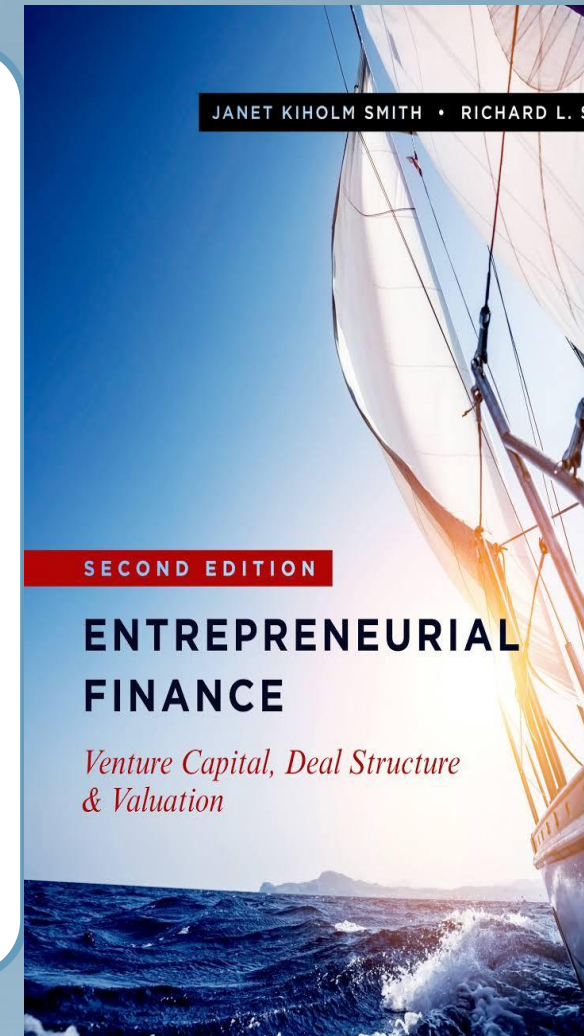
Entrepreneurial Financing



- a) Highlighting essential concepts and tools that have emerged from the study of entrepreneurial finance.
- b) Discussing about breaking new ground and the future of entrepreneurial finance.

Introduction

- In this Final chapter, we cover several forward-looking topics related to entrepreneurial finance.
- We begin by highlighting essential concepts and tools that have emerged from the study of entrepreneurial finance.
- As a field of study, entrepreneurial finance builds on the concepts and methodology of finance and economics.
- In particular, we have stressed principles of finance, investments, valuation, and contracting, all in the context of new ventures.
- The concepts and methodology are helpful not only to prospective entrepreneurs but also to those who supply funds to entrepreneurs—angel investors, VCs, family firms, lenders, employees, friends, trading partners, universities, and governmental agencies.



Introduction

- The study of entrepreneurial finance is not limited to new ventures or even to small or privately owned businesses.
- A great deal of entrepreneurial activity is carried out by corporations, social entrepreneurs, and researchers working in universities.
- We have discussed how financing choices vary over the life of the venture from inception to harvesting.
- Thus, we address the financial aspects of a venture's development up to the point where the principles of corporate finance can be applied directly.
- In much of our analysis, we stress the importance of incentive and information problems that face participants in the market for entrepreneurial finance.
- Addressing these problems gives rise to key features of the market, including experimentation and staging of investments in the context of hypothesis-driven entrepreneurship, negotiating the terms of financial contracts, the role of reputation, trade practices, and valuation approaches.
- Entrepreneurs and investors who understand the financial determinants of new venture organizational and contractual structure, including the incentive and information structure, can more effectively design their own contracts to reflect deal-specific issues and to increase the value of an opportunity.

14.1 Completing The Circle

Entrepreneurial Investment and Financing Decisions are Interdependent

- The decisions entrepreneurs and investors make concerning allocation of outside and inside ownership have important implications for the venture and for the values of financial ownership claims.
- You now have the tools to evaluate these claims and design and negotiate value-enhancing financial contracts.
- In *corporate finance*, we usually assume that a firm makes its investment decisions without regard to choice of financing.
- This is strictly justified only if corporate investors care only about non diversifiable risk and debt and equity financial claims are taxed equivalently.
- Although the assumption is a reasonable approximation for a publicly held company, it **is not** appropriate for a new venture.

Entrepreneurial Investment And Financing Decisions Are Interdependent (*Cont.*)

- An entrepreneur is often compelled to decide whether to make a large under diversified investment in the venture or to forgo pursuing the venture.
- Under diversification exposes the entrepreneur to risk that is specific to the venture.
- **Opportunity-cost reasoning** implies that an entrepreneur who must either be under diversified or forgo the venture should require compensation for bearing venture-specific risk.
- Because well-diversified investors do not care about venture-specific risk, the entrepreneur's required rate of return will be higher than that of an investor who can diversify.
- Another way in which investment and financing are interdependent for new ventures but possibly not for large corporations is that the entrepreneur usually needs to convince an outside party that the opportunity warrants investment.
- This is less likely to affect the investment choices of **public corporations**, where the projects they undertake are small relative to their total size and internal resources may be sufficient to fund the investment without the need to convince an outside investor.

Investment Value Depends On The Entrepreneur's Ability to Diversify

- **For the entrepreneur, ability to diversify increases the value of a new venture opportunity.**
- You have the tools to estimate the entrepreneur's wealth and to value an opportunity in light of the entrepreneur's under diversification.
- When an entrepreneur participates in a venture along with an investor who can diversify, the parties place different values on the same financial claims, even if they agree about the expected cash flows and risk.
- The diversified investor values the claims more highly.
- It follows that the value of an opportunity depends on how the financial claims allocate risk and expected return.
- All else equal, allocating more nonmarket risk to diversified investors increases the value of an opportunity.
- Thus, effective use of financial contracts to allocate risk can enhance project value and even change negative-NPV opportunities into positive-NPV ones.
- **Even if no investor is involved, the entrepreneur's ability to diversify affects value.**
- The entrepreneur's required rate of return for investing in a venture depends on the fraction of total wealth the entrepreneur must commit.
- The larger the fraction, the higher the entrepreneur's required rate of return.

Investment Value Depends On The Entrepreneur's Ability To Diversify *(cont.)*

- Project value also depends on how the risk of the venture relates to the risk of the entrepreneur's other investments.
- You can value an opportunity when the entrepreneur's other wealth is invested in a market index portfolio or a riskless asset.
- **Because more wealth enables an entrepreneur to achieve greater diversification, the same venture is more valuable to an entrepreneur who is wealthier.**
- It follows that reducing investment in the venture can also enhance its value to the entrepreneur.
- Pursuing an opportunity on a smaller scale, bringing in an investor, or finding ways of reducing the duration of the entrepreneur's commitment can reduce the size of the entrepreneur's investment.

Investors supply more than money to the ventures in which they invest

- Active involvement by investors can add value.
- Understanding the contributions of active investors enables the entrepreneur to better evaluate financing alternatives.
- New ventures raise capital from myriad sources.
- **Some provide only financial capital; others provide both capital and managerial skills.**
- **Angel investors and strategic partners** are often involved in managerial aspects of the enterprise.
- VC firms are involved at critical junctures and continuously monitor their investments.
- Investors such as these seek returns on both their financial and human capital investments.
- An important theme of the book has been to illustrate how managerial and monitoring efforts affect investment and financing choices and the structure of financial claims.
- Investors who are actively involved can add value by changing both expected returns and risk.
- You can use the tools and techniques you have learned to study how different financing sources impact expected return and risk and how different types of investors are likely to affect the values of the parties' financial claims.

Financial Contracts and Other Devices Can Address Information Problems

- Information problems present a significant obstacle to raising financing.
- Entrepreneurs are often overly optimistic and presume that their venture ideas will be successful; consequently, investors often severely discount the entrepreneur's projections.
- The business plan, financial contracting, and devices such as signals, reputation, and certification can help overcome such problems
- **In the new venture environment, both the entrepreneur and investors can have trouble credibly communicating their beliefs to each other.**
- The communication difficulties not only impede raising capital but also can result in **two** types of mistakes: investing in ventures that should be forgone and failing to invest in those that should be pursued.
- **The parties to a new venture financial contract can use contractual provisions to signal their beliefs to each other.**
- An entrepreneur, for example, can give credibility to projections that otherwise would seem optimistic by tying ownership interest to future attained performance and by using milestones that enable some of the investment to be postponed until important uncertainty is resolved.
- Well-chosen contract provisions help convey the beliefs of the parties.
- However, contract terms often shift additional risk to the entrepreneur, a factor that works against the risk-allocation benefits of contracting with a diversified investor.

Financial Contracts And Other Devices Can Address Information Problems (*cont.*)

- An investor's assessment of the value of an opportunity depends on more than the financial contract terms.
- **The business plan can also signal the entrepreneur's capabilities and commitment to the venture.**
- **By supporting and documenting the assumptions behind the financial projections in the plan, an entrepreneur can narrow the information gap between the parties.**
- By identifying critical milestones and assessing the financing needs for moving from one to the next, the parties can limit the investor's financial commitment.
- Doing so enables the entrepreneur to preserve a larger ownership stake in the venture.
- **An advantage of thinking about information problems in this way is that it focuses attention on how to design contracts that benefit both parties.**
- Dealing with information problems is an ongoing concern.
- **Information asymmetry affects subsequent financing arrangements, even at the harvesting stage.**
- Throughout the process, financial contracting, signaling, certification, and other devices can be used to deal with informational concerns.

New Venture Financial Contracts Can Align Incentives

- Understanding the trade-off between risk allocation and incentive alignment contributes to design of organizational structures and financial contracts that optimally address the trade-offs.
- **Well-structured contracts** anticipate and provide for incentive conflicts that may arise as the venture progresses.
- The direct effect of transferring risk to a diversified investor is to increase the value of the opportunity.
- However, risk allocation also affects incentives.
- **An entrepreneur whose reward is not tied sufficiently to success may not be motivated to work toward that success.**
- **Additionally, the incentives of investors can sometimes be in conflict with the entrepreneur's interests.**
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- A creditor, for example, may emphasize certainty of repayment, even to the detriment of overall value.
- Providers of financing sometimes have options to increase the total amount of financing or to call for repayment.
- They often have the right to force a sale of the venture or a public offering and may have the right to terminate the entrepreneur.

Real Options Are An Important Source of Value for New Ventures

- Decision trees and game trees are particularly useful for describing the real options that are embedded in new ventures.
- Simulation, scenario analysis, and other approaches are useful for assessing the uncertainties that are pervasive in entrepreneurial ventures and for evaluating the real options embedded in alternative organizational structures, financial contracts, and strategic choices.
- **In corporate settings, investment opportunities are often treated as one-time decisions. The investment decision is made at the beginning, as if there were no opportunity to abandon, expand, or change direction.**
- This approach, however, **does not reflect the nature of new venture opportunities that can be structured as portfolios of real options.**

Real Options Are An Important Source Of Value For New Ventures (Cont.)

- **Real-option portfolios** provide opportunities to adapt as the venture progresses.
- Existing investors may also have options to contribute additional funds in exchange for additional ownership, terminate the entrepreneur, and make various other choices.
- **The real-option structures of new ventures are complex, and, in contrast to financial options, real options can be interdependent.**
- Exercising one option can preclude exercising others or change the values of others.
- In addition, the conditions that support using standard option pricing model approaches to valuation are not satisfied.
- **Because a venture is a portfolio of real options, riskiness can change dramatically over time. As the venture progresses from one milestone to the next, risk is likely to decline.**
- **A decision tree** is useful for modeling the real-option structure of a venture.
- Financial modeling and forecasting can be used to project the cash flows, assess uncertainty, and value complex financial claims under different assumptions about exercising or abandoning the options.

Harvesting Is Critical To The Investment Decision

- Understanding the costs and benefits of harvesting alternatives is key to maximizing the value of the investment decision for the entrepreneur and for investors.
- Analysis of **new venture harvesting** contrasts sharply with **corporate investment decisions**, where public capital market investors are not specifically concerned about how the corporation will harvest its investments.
- This is because investors in a company's shares can easily liquidate (harvest) their investment in a public equity market.
- **In contrast, the parties to a venture cannot separately close out their investments and may have different interests and incentives when it comes to harvesting.**
- Solutions can be designed, such as formation of an ESOP, which enable each party to time the liquidation of their shares according to their own objectives.
- We have reviewed the main harvesting alternatives that are available to a venture and the primary factors that influence the choice.
- There are costs and benefits of the various harvesting methods, including IPO and acquisition.
- The investment decision depends on weighing those costs and benefits.
- The expected harvest value will vary across the alternatives and can be incorporated into the valuation at the time when the investment decision is made.
- Doing so helps enable the parties to agree on the fraction of equity an investor would need to receive in exchange for making an investment.

Designing contracts to address Differences in Value Between entrepreneurs and investors

- Because there is a difference between value to the entrepreneur and value to a well-diversified investor, the ability to evaluate financial claims from both perspectives allows the parties to design financial contracts that allocate value in the optimal way.
- **Financial contract structures can be developed to allocate value in ways that reflect the realities of the market for new venture financing.**
- **If the market is very competitive, the entrepreneur can capture most of the value and can shift risk to well-diversified outside investors.**
- **Conversely, if many similar entrepreneurs are competing for scarce financing or the skills of a few active investors, then investors may capture most of the value and may seek to limit risk-taking.**

14.2 Breaking New Ground

- Academic research in entrepreneurial finance has blossomed in the last decade, equipped with more and better data on start-ups and private firms generally.
- Companies like PitchBook, Preqin, and Crunchbase collect detailed statistics on investors, including angels, VCs, and their limited partners, and on deal rounds and contracting structure.
- The focus of academic research that has leveraged these databases has improved our understanding of institutions and practices primarily through documenting and analyzing trends.
- Considerably less research has focused on **tools for improving decision making and for adding value to new ventures.**
- The underlying motivation of this book is to emphasize the latter type of research by drawing on the fundamentals of financial economic theory to generate applications for the practice of entrepreneurial finance.
- In spite of better data and more research, important questions remain.
- We identify some of these questions in the following sections to point out new directions the field may take and to identify research opportunities that have potential to add to our knowledge and improve decision making.

Capital Market Issues

- What is the relative importance of public and private markets for new venture financing? How might this change over time?
- How will markets and policy makers respond to individuals seeking to diversify their portfolios by owning stakes in start-ups and other private firms?

Valuation issues

- What is the opportunity cost of capital for high-risk, long-term investments?
- What is the best way to value investment opportunities involving portfolios of complex and interdependent real options?
- What types of investment opportunities are most effectively pursued by individual entrepreneurs, and what types are most effectively pursued by corporations?

Understanding Performance in The VC And Angel Markets

- To what extent is VC firm performance a result of skill as opposed to initial good luck and persistence?

Economic Policy Issues

- What social and economic institutions foster entrepreneurial activity, and can communities proactively develop such institutions?

Technological Change and The Future of Entrepreneurial Finance

- How does technology affect the financing of innovation?
- Will this type of marketplace technology transform the market for new venture finance?

Capital Market Issues

What is the relative importance of public and private markets for new venture financing? How might this change over time?

- As we have seen, the number of public firms in the U.S. has been declining since 1996 and the number of VC-backed firms going public has remained low since 2000.
- These trends suggest that **firms would prefer to stay private, or at least stay private longer**, and lead many to question the continuing importance of public markets.
- **The decline in public equity is bolstered by an increasingly large pool of private equity resources available from pension funds, family firms, endowments, and the like to finance growth.**
- Even **investors in very large cap private firms can exit via an acquisition rather than by IPO.**
- It is important to determine whether this is an aberration that will eventually reverse or a secular trend and to determine whether other developed countries are experiencing, or will experience, similar changes.
- **More research is needed to better understand the underlying causes of the reductions in the number of public firms and IPOs, the rise of private equity and debt, and the implications for public policy.**

How will markets and policy makers respond to individuals seeking to diversify their portfolios by owning stakes in start-ups and other private firms?

- There currently are substantial institutional and regulatory constraints in the U.S. that limit the ability of most individuals to invest in nonpublic companies.
- Most importantly, with a few exceptions, direct investing in private equity is restricted to high-net-worth individuals (“accredited investors”) and qualified institutional buyers.
- Other individuals can invest in private equity through their holdings of publicly traded mutual funds, but mutual funds also face significant limitations on the percentage of private equity they can hold.
- As noted earlier, the decline in the number of public firms means that investors who do not meet effective wealth accreditation standards do not have access to an asset class that could be important for diversification.
- Currently, opportunities for nonaccredited investors are limited mainly to investing in firms like **KKR, Fortress, and Blackstone.**
- These companies are **private equity fund managers that have publicly traded stock with an underlying ownership claim on the firms’ portfolio of private companies through the manager’s carried interest.**
- An important question is how the nature of offerings in the public market may change in response to this impediment to diversification and investment options available to individual investors.
- The impediment becomes increasingly important with decreases in the number of public firms and narrowing of the sector focus of public firms.
- Ability to diversity across more assets would benefit prudent individual investors as well as entrepreneurs.

Valuation issues

What is the opportunity cost of capital for high-risk, long-term investments?

- The standard approach to valuing investment opportunities in corporate finance assumes that the investor can leverage the market portfolio to achieve comparable systematic risk.
- We employ this **opportunity-cost concept** to value investments in new ventures.
- For high-risk, long-term projects that require patient capital, however, risk levels can exceed practical limitations on the ability of investors to leverage the market.
- New research may suggest a better alternative for estimating the opportunity cost of entrepreneurs and other underdiversified investors.
- In the current environment, **VCs and other well-diversified investors tend to rely on heuristics to make decisions, using hurdle rates and sought-for cash-on cash multiples in valuing early-stage companies.**
- With increasing availability of private company data, opportunities exist for improving on the metrics for investing in early-stage companies.
- This book demonstrates that **it is possible to leverage finance theory to improve on heuristic approaches to decision making—especially in cases where forecasting of cash flows is possible, even if the realized cash flows are highly uncertain.**
- An important research question is the extent to which investors in new ventures who adopt modern financial approaches to decision making will be able to enter the market more easily and can perform better than those who do not.

What is the best way to value investment opportunities involving portfolios of complex and interdependent real options?

- **Real options** are at the core of understanding the value of high-risk ventures with potential for high growth.
- Both founders and investors benefit by recognizing and exploiting real options.
- However, **while there are traditional ways of valuing options in corporate settings, because of interdependencies and the dearth of reasonable tracking portfolios, the approaches are not readily adaptable for new ventures.**

What types of investment opportunities are most effectively pursued by individual entrepreneurs, and what types are most effectively pursued by corporations?

- This question is related to valuation partly because selection of the optimal match of entrepreneur and investor can add substantial value to both.
- As we have seen, investors are positioned to add value beyond the financing they provide.
- **Corporations owned by diversified investors have a cost-of-capital advantage over individuals, are less dependent on quick returns on their investments, and can organize to exploit economies of scope that individual entrepreneurs working separately cannot.**
- However, experience shows that **large organizations have difficulty managing entrepreneurial ventures.**
- Research is incomplete as to the attributes of new ideas that are best pursued by corporations versus individual entrepreneurs.
- We have seen that corporate VC is increasing and firms and other institutions such as universities are cognizant of losing employees with good ideas and have responded by trying to encourage entrepreneurship within the firm or institution.
- However, **most important new ventures are developed outside public corporations and large institutions**, so the question remains as to which types of innovations are best pursued by corporations and institutions.
- Related to this question, there is little empirical research on the determinants of selections entrepreneurs make across financing sources.

Understanding Performance In The VC And Angel Markets

To what extent is VC firm performance a result of skill as opposed to initial good luck and persistence?

- This question has been the subject of several studies, with mixed results, suggesting that the answer may not be neatly characterized as one or the other.
- There is evidence that **VC firms that have funds that do well for the limited partners are more likely than other firms to be successful in their subsequent funds.**
- The correlation of success from one fund to the next seems to suggest that the VC firm has superior skill.
- An alternative view, **however**, is that early success is perceived by entrepreneurs and investors as an indication of skill and that **entrepreneurs and investors seek out VC firms with positive track records, even if the record is based on luck.**
- The result is that the firm has better deal flow and an easier time raising investment capital than do others; so even if the firm has no special skill, it should be expected to do better than others.
- There is some evidence that this sorting effect is an important factor in persistence but that also supports the inference of skill.
- There is a related question as to why, if a VC firm is able to produce superior performance, it does not raise its fees and carried interest to the point where the expected return to limited partners of its funds is normal for the industry.
- The explanation is likely to lie in issues related to reputation formation and maintenance or to the benefits the firm derives from its lower search cost for deals and investors.

Economic Policy Issues

What social and economic institutions foster entrepreneurial activity, and can communities proactively develop such institutions?

- **Independent entrepreneurship is thriving in some countries and regions, largely because of institutional ecosystems that encourage individual risk taking and innovation.**
- However, despite many studies identifying institutions that are correlated with entrepreneurship, it is not clear that a one-size-fits-all approach to public policy would be successful for countries and regions at different stages of economic growth and with different institutional constraints.
- Innovation also takes place in large established businesses, and some institutional structures can favor that form of entrepreneurship.
- To better understand the causal relationships, more research is needed on the complex, and endogenous, relationships among entrepreneurship, economic growth, and public policy.
- Some **nonprofit organizations focus on facilitating networking and mentoring within communities, reasoning that the network effects can encourage high impact entrepreneurship.**
- **Endeavor**, for example, documents the strength of networking as successful entrepreneurs become mentors and sources of financing and monitoring for subsequent entrepreneurs.
- Endeavor has documented success in engendering entrepreneurial networks and having impact in areas of the world that have less-than-ideal infrastructures.
- Their experience indicates that there are multiple approaches for encouraging entrepreneurship and suggests that there is room for innovation and technological change to develop and sustain entrepreneurial countries and communities.

Technological Change And The Future Of Entrepreneurial Finance

How does technology affect the financing of innovation?

- The nature of technological change has implications for the type of financing that is likely to emerge.
- For example, the **industrial revolution** resulted in very large-scale enterprises that required large amounts of capital investment, and this was accompanied by the significant growth of public corporations and a concomitant increase in the ability to raise large amounts of equity and debt in the public market.
- More recently, **technological innovations have affected the way ventures are financed.**
- For example, because of the low cost of cloud computing and web development tools, **new ventures are able to experiment at low cost and to quickly validate or abandon certain kinds of ideas.**
- This has spurred the growth of startups and innovative ideas and the adoption of a more scientific, analytical approach to new venture development, which we refer to here as **hypothesis-driven entrepreneurship.**
- **Investors and entrepreneurs can spend less money and time on new ideas by exploiting opportunities to stage investments around key milestones.**

How does technology affect the financing of innovation? (CONT.)

- As of this writing, a number of nascent technologies appear to offer significant potential for changing the economic landscape and possibly changing the way new ventures are financed.
- For example, **blockchain software** provides a ledger for recording and verifying transactions among multiple parties.
- **Blockchain technology and cryptocurrency** can be combined to offer a virtual venue for raising money by selling digital tokens for use as currency on various types of platforms.
- This type of market features **initial coin offerings (ICOs)**, where tokens can be bought and sold after the ICO by investors.
- **Unlike an IPO, the ICO investment is a form of crowdfunding that is made very early in the company's development.**
- Interesting research questions arise as to how the technology may impact the VC industry and how the blockchain will impact industries and the financing of innovation occurring in them.
- Other questions include whether ICOs will develop into a new segment of more traditional capital markets.

How does technology affect the financing of innovation? (CONT.)

- Companies like **Uber** and **Airbnb** are marketplace companies that connect buyers and sellers and tend to have relatively flat cost structures.
- **Fintech** companies have similar models that compete in the lending business (e.g., Lending club and Prosper).
- These types of crowdfunding platforms have the potential to connect investors with seed-stage businesses.

Will this type of marketplace technology transform the market for new venture finance?

- Similar questions arise with regard to other technological breakthroughs, notably artificial intelligence (AI), virtual reality (VR), and the Internet of Things (IoT), which portend fundamental shifts in the relation between customers and companies.
- It is an exciting time in the development of the field of entrepreneurial finance.

Summary

- The study of entrepreneurial finance is not limited to new ventures or even to small or privately owned businesses.
- A great deal of entrepreneurial activity is carried out by corporations, social entrepreneurs, and researchers working in universities.
- We have discussed how financing choices vary over the life of the venture from inception to harvesting.
- Thus, we address the financial aspects of a venture's development up to the point where the principles of corporate finance can be applied directly.
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Thank You

