Part I
What is Private Equity?

Whenever a company needs financing, two solutions come to mind: the stock exchange and bank loans. The stock exchange is a limited solution. It provides only access to funding for medium- and large-sized companies that meet specific criteria (sales figures, total of balance sheet, minimum number of years of existence, etc.).

The conditions for taking out a loan are also strictly defined. Companies must prove their ability to pay back the bank in fixed instalments, which means that they must show a certain term of existence, stability of cash flows, healthy activity and also a limited existing indebtedness. They also have to provide some guarantees to banks, as collateral for the loan (i.e., if the loan is not paid, the bank will seize the guarantee, sell it and hence get paid back thanks to it).

Bank loans are actually being reshaped. This movement started with the switch in the US from an economy essentially supported by banks to an economy supported by financial markets.[1] It has slowly permeated other countries. Today,[2] banks seem on the verge of retreating further from certain financing operations such as lending to small and medium-sized businesses. This movement is undertaken by banks under the pressure of new regulations (such as the Basel III Agreements), and as a consequence of the last financial crisis. This will pave the way for the rise of 'non-bank finance companies'.

If neither the stock exchange nor banks finance business creation and development, then who, or what, does? Where does the money come from to finance the transmission or take-over of family businesses, for example? Or to restructure an ailing business? From 'private equity' for that matter.

The expression 'private equity' was coined by reference to equity which is not listed and whose exchange is not regulated (Chapter 1). However, this definition only partly reflects the scope of action of private equity players, which has diversified and spread considerably (Chapter 2).

[1] According to *The Economist* (15/12/2012), in the US, banks are responsible for 25 to 30% of total lending. In Europe 95% of total lending comes from commercial banks.

[2] *The Economist*, 2012.

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Private Equity as an Economic Driver

An Historical Perspective

Columbus: scientist, entrepreneur and venture capitalist

After seven years of lobbying Christopher Columbus convinced the Spanish monarchs (Ferdinand II of Aragon and Isabella I of Castile) to sponsor his trip towards the West. His 'elevator pitch' must have been the following: 'I want to open a new and shorter nautical route to the Indies in the West, defy the elements, make you become even more powerful and rich, and laugh at the Portuguese and their blocs on the Eastern routes.'

He probably did not know at that stage that he was structuring a private equity deal (here, a venture capital operation). But indeed he was, as his project combined those elements: financed by an external investor, a high risk, a high return potential, an entrepreneurial venture, and protection of this competitive advantage.

These elements form the common ground for all private equity deals (venture capital, growth/expansion capital, leveraged buy-out, etc.). Another element lies in the 'private' characteristics of private equity deals negotiated privately between the parties: historically, they were made with non-listed companies.

Even though it is difficult to imagine whether, and how, Columbus did his risk-return calculation when assessing the viability of his project, we can assume that the risks borne by the operation were identified and that there was a plan to mitigate them – or at least sufficiently well identified to light enough candles in church.

The risks were high, but not unlimited (thus distinguishing his venture from pure gambling).

The prospect of reaching the Indies gave quite a good sense of what could have been the return on investment for the financial sponsors: the Spanish monarchs and the private investors from Genoa. Not only did the potential return exceed by far that which a conventional investment could provide, but the new route had a potentially disruptive impact on international commerce, giving the newborn unified Spanish Crown a much needed mercantile boost.

Private equity has always existed . . . just in a different form than today

This example illustrates the fact that private equity has always existed, in one form or another, throughout history. Examples of historical buy-outs are more difficult to identify, hence the focus of this chapter on venture capital. Buy-outs transfer majority ownership in exchange for cash and are generally friendly. Typically, buy-outs are conducted with insider knowledge. They have only recently started to become important, as they require sophisticated financial markets and instruments.

Historically, large buy-out operations were 'barters', with a strong real estate/commercial focus. This involved mainly swapping countries or towns for other ones. The state today known as New York was swapped by the Dutch West Indies Company (WIC) for Surinam, a

plantation colony in northern South America, in 1667 (Treaty of Breda[3]). This turned out to be a bad deal.

Modern private equity emerged from large macro changes (and still requires them to emerge)

The emergence of private equity as a dynamic financial tool required the interplay of (i) a supportive social, legal and tax environment, (ii) adequate human resources and (iii) sufficient capital. Together, these three conditions developed slowly until they reached the current level of professionalism and formalism which characterises private equity.[4] The clear identification and separation of the three conditions forming the 'private equity ecosystem' has been a continuous process, which is still under way.

The purpose of this chapter is to identify the key elements distinguishing private equity from other categories of investment. Private equity financing in the early days of venturing was an intricate mix of public policy, entrepreneurship and financing. The quest of European monarchs for greater wealth and power is emblematic for this mix, pooling public and private resources in order to identify and exploit sometimes remote resources (see section 1.1).

Public policies, entrepreneurship and financing became less complex and slowly gained autonomy. The public interest and policies were separated clearly from the King's personal interest and will. Once the basic legal and tax framework had been established and adapted to the alterations in social and economic factors, the entrepreneur emerged as the central figure of the private equity ecosystem (see section 1.2).

Private equity investors developed a capability to identify them, providing capital and key resources to help with their venture and get their share of success. By gaining this know-how and expertise, those investors contributed to further professionalisation, developing strategies to mitigate risks and optimise returns (see Chapter 2).

1.1 POOLING INTERESTS TO IDENTIFY AND EXPLOIT SOURCES OF WEALTH

The fundamental objective of any rational investor is to increase his wealth.[5] Private equity offers investors the opportunity to finance the development of private companies and benefit from their eventual success. Historically, the *raison d'être* of those companies has been to identify and control resources, thereby developing the wealth of venture promoters by appropriation.

[3] In 1626, Peter Minuit, then Director General of the WIC, acquired the island of Manhattan from the Indians and began constructing Fort New Amsterdam. In 1664, owing to commercial rivalry between the Dutch and the English, an English fleet sent by James, Duke of York, attacked the New Netherlands colonies. Being greatly outnumbered, Director General Peter Stuyvesant surrendered New Amsterdam, which was then renamed in honour of James. The loss of New Amsterdam led to the Second Anglo-Dutch War of 1665–1667. This conflict ended with the Treaty of Breda, under which the Dutch gave up their claim in exchange for Surinam.

[4] Lerner (2009), states: 'often, in their eagerness to get the "fun stuff" of handing out the money, public leaders neglect the importance of setting the table, or creating a favorable environment' (p. 12): universities and government laboratories, adapted tax and legal policies, education (see section 4.1 for further developments) and a favourable exit environment.

[5] Selectively, some investors may add secondary items on their agenda, which can vary from gaining a foothold in the market/in a given company (corporate investors), to monitoring technical progress, achieving social recognition and other specific issues. However, viable investment programmes usually put financial returns at the top of their list (at least in order to achieve self-sustainability within a certain period of time).

Private equity operations require a sponsor

The main financial sponsor might have been a political leader, who would legally and financially ease the preparation and the execution of the venture for the benefit of the Crown and himself. The control of resources and the conquest of land motivated the launch of exploration ventures (a). Companies were created to support political efforts,[6] thereby guaranteeing the demand for their product in exchange for their participation in a public effort to build infrastructures, create a new market and more generally encourage commerce and the generation of wealth. They could leverage public action (b). Apparently, conflicts of interest did not ring any bells at that time.

Private equity operations are symbiotic with public initiatives

Often, private investors were complementing this public initiative, convinced by the pitch made by a person combining technical competence and know-how, with a vision and genuine marketing talent. This person would be identified nowadays as an entrepreneur – or the precursor of televangelists, when the marketing presentation becomes a seven-year sermon, in the case of Columbus.

1.1.1 Identify, Control and Exploit Resources

The quest to master time and space has given birth to pioneering public and private initiatives, bearing a substantial risk but also a potentially high reward. This reward was usually associated with the geographical discovery of new resources (land control) and/or effectiveness (new routes to the Indies, for example), allowing a better rotation of assets and improving the returns.

High risk, high return potential

Columbus's project supported *a substantially higher risk* than the equivalent and usual routes to the East. This project was deemed to be possible thanks to progress in navigation and mapping, and some other technical and engineering discoveries. In that respect, Columbus's expedition was emblematic of the technological trend, as well as being political, religious and scientific; all of which he mastered so as to present his project.

The risks taken by Columbus were of two different kinds:

(i) Initial validation of theoretical assumptions, with substantial risks linked to the transition from a theoretical framework to an operational process.[7] Columbus's prediction of the diameter of the Earth (3700 km instead of 40 000 km) proved wrong, but his venture was successful in the sense that he reached an unknown new continent. This kind of outcome (refocusing the 'research and development (R&D) effort' towards a different outcome) occurs from time to time in companies financed by venture capital even today. Hopefully, not all venture-backed companies have a CEO who under-evaluates the effort to be produced by a factor of 10.

[6] As a result, still today, public 'programs geared toward going to nascent entrepreneurs may instead end up boosting cronies of the nation's rulers or legislators' (Lerner, 2009, p. 11).

[7] Today, this would qualify as a transition from 'research and development' mode to 'go to market' mode.

(ii) Execution of the four successive trips, with the presence of favourable winds and currents, the correct calculation of the time spent at sea with embarked supplies, navigation hazards (storms), morale of the crew and other operational aspects. Operational risks are generally financed by later stage venture capital and expansion investors.[8]

For all of the above reasons, Columbus's project was *innovative* in many respects. It was guided by ambition and a vision. It was designed to test concretely the validity of a certain number of theories, which would be of great reward if Columbus touched Indian ground after journeying to the West.

The *high return potential* was related to Columbus's calculations, according to which the new nautical route could save a substantial amount of time (and risk) to reach the Indies despite the Portuguese land bloc. The return potential would be earned not from the initial trip itself, but from opening a new route for future trips to gather expensive goods (mainly silk and spices) and bring them back to Europe.

Another key element was that this new nautical route would have paved the way to developing a certain number of other new ventures using the route to gain other valuable goods. Columbus's success would not have been a one-time pay-off but the source of recurring and long-term income.

A long-term investment, protected by a favourable legal environment

The time horizon of the trip was calculated in months, which represents a *long-term investment*, and the pay-off would have been calculated in years. This represents another element that qualifies Columbus's trip to the West as a private equity project.

Protection by the Spanish monarchs *of this advantage*, by giving a legal right to the private sponsors of the project to the use of this new route (the historical equivalent of the current 'barriers to entry' in a given market), was a crucial element of the evaluation of the return on investments. Columbus was promoted to the status of 'Admiral of the Seas' by the Spanish monarchs, and then to Governor once he succeeded in his venture. This meant that he just had to sit and wait for the profits to come, after making this initial breakthrough.

As an additional incentive, Columbus would have received a share of all the profits made via this nautical route. More specifically, Columbus asked, aside from the titles and an official charge, for a 10% share of the profits realised through the exploitation of the route to the West. He had option rights to acquire one eighth of the shares of any commercial venture willing to use the nautical route that he had opened. This kind of financial incentive (percentage on profits realised and the equivalent of stock options; in private equity this incentive is called carried interest) is often used to reward the management of a company, should it reach a certain number of targets.

In that respect, the dispute about the reward to be granted by the monarchs of Spain to Columbus after his journeys, as well as the difficulty of providing a quick and easy return for the Genoese investors (as there was little gold to capture on the Caribbean Islands), is another point comparable with typical private equity operations, an outcome different from that originally planned. Some disputes held in recent years between creators and managers of

[8] This is an early illustration of a phenomenon which would become Johnson's '10/10 Rule' (Johnson, 2010): a decade to build a new platform, and a decade to find a mass audience (or exploitation).

internet start-ups and their financial backers prove that this still happens today – and, just like back then, before the courts.

Pooling of resources

This pooling of the energies and resources of an entrepreneur (Columbus); of Genoese private investors (representing 50% of the pool of money) and of the Spanish monarchs as a sponsor syndicate for the project, is another criterion for its qualification as a private equity project. Its commercial purpose, even if not exclusive in this example, is another.

Still not a template for modern venture capital

Columbus's venture, however, stands out as different from a typical private equity investment. He benefited from political and legal support which would not be sustainable in an open and fair trade market today – or at least not so openly provided.

The Italian investors were 'hands off' in the project. However, Columbus convinced them and enrolled the providers of the three ships in his venture. This implies that even if there was no equivalent of a 'lead investor' and 'investment managers' (see Chapter 2) to look after Columbus's project, the monitoring was done according to historical standards, that is to say: on site, day-to-day and probably with vigorous debates about the option of continuing and taking the risk of wreckage; or returning and saving both fleet and crew.

1.1.2 Leverage Public Policies and a Favourable Business Environment

Even if Columbus's project was driven by religious and commercial purposes, the political ambitions of the Spanish monarchs were the key factor triggering public commitment.[9] Governmental, and more generally public, support is instrumental in contributing to the emergence of private equity ventures by funding fundamental research, financing key infrastructures and creating a favourable environment for the development of ventures. However, private equity projects which qualify as such and which have served public policies are limited in number – and public programmes alone are not sufficient.[10]

1.1.2.1 The Separation of Public and Private Financing as a Key Element of the Emergence of an Autonomous Private Equity Sector

This stems from the fact that with the separation of the King as a public body and the King as a private person, projects were no longer financed by public subsidies and the specific convergence of interest which had allowed Columbus to set up his project slowly became a rarity.

The increased control of the use of public money, a greater focus on fair trade and the will to let market forces act as far as possible in favour of private and public interests have played a significant role in the limitation of the state's direct intervention in private equity projects. This, however, does not mean that this role has totally disappeared: it has evolved

[9] Interestingly, as noted by Lerner (2009): 'the critical early investments have not been made by domestic institutions but rather by sophisticated international investors' (p. 12).

[10] 'Far too often, government officials have encouraged funding in industries or geographic regions where private interest simply did not exist' (Lerner, 2009, p. 13).

towards the establishment of an appropriate legal and tax framework, as well as more complex intervention, mixing public contracts and the active management of public money. Lerner (2009) confirms that 'policymakers face [today] the challenge of having to consider many different policies. It is often unclear how proposed changes will interact with each other. There is no clear "instruction manual" that explains which changes will have the desired effects.'

1.1.2.2 The Transformation of Public Intervention: Setting up a Legal and Tax Framework

With progress in commerce, transportation and techniques, entrepreneurs could reach a higher number of clients, as well as producing in quantity and more capital intensive goods. To follow this trend, and finance the investments needed, the entrepreneur often had to seek outside financing, and thus set up a formal company, with agreements, contracts and partnerships with third parties.

To enforce these conventions, a legal and tax framework has to be in place and respected. One of the most ancient examples of a legal framework is known as the Code of Hammurabi, King of Babylonia (1792–1750 BC, see Gompers & Lerner, 2006). This set of 285 laws was displayed in public places to be seen by all, so that it could be known and thus enforced. This Code liberated the commercial potential of the Babylonian civilisation, notably *paving the way for the creation of partnerships – and hence later of private equity partnerships*. Until then, most companies were initiated and run by families. Financial support at that time often came from personal or family wealth, and/or from guilds that helped their members set up their venture after being admitted as a member.

With partnerships, Mesopotamian families could *pool the necessary capital to fund a given venture, spreading the risk*. However, these ventures were not financed by equity investment. Capital infusion mostly took the form of loans, which were sometimes secured by the pledge of a man's entire estate, with his wife and children considered as being a part of it. If he defaulted on payments, his family would be sold into slavery to pay his debts (Brown, 1995). Lending to support risky ventures with significant collaterals was still current practice as recently as the 16th century, as described by Shakespeare in *The Merchant of Venice* (where the borrower-venturer puts a portion of his heart as a collateral to the lender).

In that respect, the Code of Hammurabi initiated the distinction between the entrepreneur and the financier, with the distinction between equity and debt, the creation of collateral for the debt and the privileges attached to loans (such as priority of reimbursement in the case of liquidation of the company).

1.1.2.3 The Transformation of Public Intervention: Infrastructure Financing

However, this legal and tax support may not have been sufficient for the emergence of private equity. Besides law, other public actions are usually geared to helping entrepreneurs, directly or indirectly, and create favourable conditions that nurture the creation of companies. However, as mentioned by Lerner (2009), 'for each effective government intervention, there have been dozens, even hundreds, of failures, where substantial public expenditures bore no fruit'. As a result, direct help, because of its cost to the public budget and the distortion in competition that it introduces, tends to be confined and to give way to a more indirect mode of intervention. This indirect mode of intervention had already been identified and used by Hammurabi, who,

aside from being a military leader, invested in infrastructures in order to foster the prosperity of his empire.

During his reign, he personally supervised navigation and irrigation plans, stored grain against famine and lent money at no interest to stimulate commerce. Broad wealth distribution and better education improved standards of living and stimulated extra momentum in all branches of knowledge, including astronomy, medicine, mathematics, physics and philosophy (Durant, 1954). In that respect, the liberation of private energy and the symbiotic relationship between public and private investments greatly rewarded the King for his action. This interaction with the private sector might be a test for modern programmes: if the public initiative does not act as a catalyst or indirect support, then the programme might simply not be relevant.

Indeed, public initiatives and private equity financing are still acting in an intricate way in many respects, but the relations between these two spheres have evolved towards autonomy of the private equity sector and a 'hands off' approach in public intervention. As a result, public intervention is creating the backdrop for private equity, paving the way for a more subtle interaction, combining contracting, incentives and soft regulations.

1.2 CHAMPIONING ENTREPRENEURSHIP

However, this favourable legal and tax environment is useless if the social acceptance of risk and innovation is low. The figure of the entrepreneur, as the individual willing to take the initial risk of creating and developing a venture, is therefore central in the private equity landscape.

Without him, private equity does not have any reason to exist (see section 1.2.1). However, private equity needs very specific entrepreneurs and companies to finance. The role of the entrepreneur is to support the creation of value (for example by converting product/service innovation into business successes), and therefore generate a financial return (see section 1.2.2). Entrepreneurship acts as a transformer of disparate elements in a venture, making it blossom and become an attractive fruit. As a metaphor, private equity could be described as an ecosystem in itself (see section 1.2.3).

1.2.1 No Private Equity without Entrepreneurs

The figure of the entrepreneur is at the centre of the private equity universe. He is the one who can transform inputs into something bigger than the sum of the elements taken separately, which are time, capital, work, ideas and other elements. What distinguishes the entrepreneur from other workers is his ability to innovate (at large), to take risks and to create and manage a company. However, not all entrepreneurs are able to manage a company successfully.

What makes private equity attractive is the reasonable and proven prospect of getting a substantially higher reward than on the financial markets (i.e., listed stocks or bonds, often the result of privately negotiated transactions and not efficient and transparent markets). This reward is the counterpart of a risk that would not be borne by the rest of the financial system (banks, individuals and other sources of capital). Thus, private equity-backed entrepreneurs are in fact a small portion of the pool of entrepreneurs that are active in any given country.

Company creation and disruptive innovation

The chief image of the entrepreneur is the 'company creator'. This individual is guided by a vision, often supported by an innovation. The emblematic entrepreneur financed by venture

capital investors is building a company willing to capitalise on a 'disruptive innovation', which could radically change a market or create a new branch of a given industry. James Watt (1736–1819) is probably the incarnation of this category.

This Scottish mathematician and engineer improved the steam engine, set to replace water and muscle power as the primary source of power in use in industry (Burstall, 1965). Although created in 1689 to pump water from mines, steam power existed for almost a century and several cycles of improvement before the steam engine made a breakthrough. In 1774, James Watt introduced his disruptive 'Watt steam engine' which could be used not just in mining but in many industrial settings. Using the steam engine meant that a factory could be located anywhere, not just close to water. Offering a dramatic increase in fuel efficiency (75% less consumption), the new design was retrofitted to almost all existing steam engines in the country.

Serial entrepreneurs: a cultural or universal phenomenon?

Another figure which has emerged over time is the 'serial entrepreneur', an emblematic figure in the US which has still to appear in Europe. This is probably related to the different cultural contexts and the social fluidity on the two continents. Thomas Edison (1847–1931) invented and developed many important devices such as the light bulb, the phonograph and the stock ticker. He patented the first machine to produce motion pictures and planned the first electricity distribution system to carry electricity to houses (Bunch & Hellemans, 2004). 'The Wizard of Menlo Park' was one of the first inventors to apply the principles of mass production to the process of invention. One of the most prolific inventors, Edison held more than 1000 patents at a certain stage.

In 1878, Edison convinced several investors such as John Pierpont Morgan, Lord Rothschild and William Vanderbilt to invest USD 300 000 in the creation of the Edison Electric Light (EEL) Co., and to fund his experiments with electric lighting in return for a share in the patents derived from his research. JP Morgan continued to support the growing company by acquiring shares and backing the company's merger with EEL's main competitor, the Thomson-Houston Electrical Company. This merger resulted in the creation of General Electric (Frederick Lewis, 1949).

Gompers, Kovner, Lerner and Scharfstein (2010) state that there is a persistence of performance in entrepreneurship. An entrepreneur who has already been 'successful' (an IPO or a take-over of his company has happened) has a 30% chance of succeeding (21% for an emerging entrepreneur and 22% for an entrepreneur who tried and failed).

They hence develop *specific skills, which are critical*. This is important, because some of these entrepreneurs will retire once their success is fulfilled (which is a net loss for the economy), and others will become business angels (see Chapter 4) and will hence provide experience and expertise to other entrepreneurs (some sort of 'entrepreneurial spill-over').

These repeat entrepreneurs have also developed a *reputation*, associated with success. That might be crucial as suppliers, clients and recruits would then be willing to do business with these successful entrepreneurs. Once again, this reputation might be 'portable' to start-ups which are financially supported by a successful entrepreneur turned business angel.

Nursing ideas (laboratories) and nursing companies (incubators and EIR programmes)

Not every entrepreneur is able to come up with an idea ready to be produced. Inventors and developers are sometimes hatched in a laboratory and can develop their ideas before spinning

off, but most are developing new products and technologies in their garages or other more casual places. To help them support their efforts, some funds have developed 'incubators' or 'entrepreneurs-in-residence programmes'. These programmes offered by venture capital funds provide facilities, support and money to entrepreneurs with interesting ideas. Once the idea has matured, the investors can take an early lead on the development of the company and get a greater share in the company in exchange for past efforts.

One of the most famous 'entrepreneurs in residence' (EIR) was probably Leonardo da Vinci (1452–1519). As well as being an inventor, he was also a sculptor, architect, engineer, philosopher, musician, poet and painter. These activities generated substantial investment opportunities, either for mercantile or for patronage purposes. Da Vinci met 'investors' who aspired to both, such as Ludovico Sforza, Duke of Milan, in 1482. Da Vinci wrote a letter to the Duke in which he stated that he could build portable bridges; that he knew the techniques of bombardment and the engineering of cannon; that he could build ships as well as armoured vehicles, catapults and other war machines. He served as principal engineer in the Duke's numerous military enterprises and was also active as an architect (*Encarta Encyclopaedia*). He spent seventeen years in Milan, leaving after the Duke's fall in 1499.

Under the Duke's administration, Leonardo designed weapons, buildings and machinery. From 1485 to 1490, Leonardo produced studies on multiple subjects, including nature, flying machines, geometry, mechanics, municipal construction, canals and architecture (designing everything from churches to fortresses). His studies from this period contain designs for advanced weapons, including a tank and other war vehicles, various combat devices and submarines.

These examples are provided by way of illustration, to show the continuity with the figures of entrepreneurship currently backed by venture capital throughout history. Da Vinci was probably more interested by research than entrepreneurship, but the 'entrepreneur in residence' model that is active in the Silicon Valley today finds its roots in the Italian financial and political support of exceptional men who were able to make breakthrough discoveries.[11]

Interestingly, the model of entrepreneur in residence was developed in Europe throughout the Middle Ages and the Renaissance, but did not manage to survive after the European Revolutions.

The 'incubator' model (the most famous examples being Idealab, CMGI, Internet Capital Group and Softbank) failed. It re-emerged under the form of 'business accelerators' such as Y Combinator and TechStars in the US. Somehow, these incubators or business accelerators tend to emerge as early signs of venture capital bubbles. The number of incubators grew from fifteen in 1999 to 350 in 2000 (Singer, 2000, *The Economist*, 2000), while business accelerators grew from four in 2007 to more than 100 in 2011 (Vascellaro, 2011) confirming this impression. The National Business Incubation Association[12] declares 1900 members in more than sixty countries (75% are in the US).

The main criticism addressed to incubators and business accelerators is that they fall into the same trap as venture capital funds in the US (see Chapter 4 and the 'broken' American venture capital model): they do not work on major breakthroughs, instead aiming at 'flavour of the month' start-ups (Internet business-to-consumer start-ups in 2000, applications for mobile

[11] Indeed, according to Johnson (2010), location contributes to the success of an entrepreneur: 'the average resident of a metropolis with a population of five million people was almost three times more creative than the average resident of a town of a hundred thousand.' Big cities make their residents more innovative than residents of smaller ones.

[12] www.nbia.org.

phones in 2012) with a quick return. They spend little on the ventures, sprinkling money and making a lot of investments hoping for the best to come out of this pool.

It was only in the US that entrepreneurs in residence programmes managed to gain a hold. This is linked to the fact that most of these entrepreneurs in residence are serial entrepreneurs, which are still a rarity in the rest of the world.

The difficulty for the entrepreneur is to communicate his innovation, spread the word of his vision and thus convince his partners (employees, managers, financial backers, bankers, clients, providers . . .) that he is able to lead the company to the next stage and transform his young venture into a business success.

1.2.2 Convert Ventures into Business Successes

Normally, there is innovation in companies financed by private equity, either in the product or in the service it delivers (innovation by destination); or else in the processes it has engineered (innovation by processing); in the way it contributes to structure its market (strategy innovation); or in the way it is managed (financial and management innovation). In order to be able to deliver a consistent and high level of returns, a private equity firm has to focus on value creation and develop specific expertise which is applied to a certain type of innovation (Guerrera & Politi, 2006). However, value creation is not only related to innovation. Value creation can be generated in leveraged buy-outs by boosting companies through top line growth, operational improvements or some other area of company improvement. Innovation financing provides us with a template illustrating the logic behind private equity.

Technological or managerial innovation: a basis for private equity

In the process of mastering space and time, entrepreneurs have discovered breakthrough technologies and invented new ways of communication. The infant equivalent of private equity was instrumental in financing the development and the deployment of these new technologies. An example of this public action helping to convert innovation into business success lies in the support provided to Galileo Galilei (1564–1642) by the Medici family, and especially Cosimo de Medici.

Galileo's achievements included demonstrating that the velocities of falling bodies are not proportional to their weight; showing that the path of a projectile is a parabola; building the first astronomical telescope; coming up with the ideas behind Newton's laws of motion; and confirming the Copernican theory of the solar system. Galileo translated his scientific knowledge into various technologies. In 1598, Galileo developed a 'Geometric and Military Compass' suitable for use by gunners and surveyors. For gunners, it offered, in addition to a new and safer way of elevating cannons accurately, a way of computing quickly the charge of gunpowder for cannonballs of different sizes and materials. In about 1606, Galileo designed a thermometer, using the expansion and contraction of air in a bulb to move water in an attached tube.

In 1609, Galileo capitalised on the invention of the telescope, a patent for which was denied to a Flemish designer, Paolo Sarpi, a friend of Galileo, and lobbied the Venetian government against purchasing the instrument from foreigners, since Galileo could at the very least match such an invention. By then, Galileo had improved upon the principle of the telescope. The Venetian government subsequently doubled his earnings, even though Galileo felt that the original conditions were not honoured (Kusukawa & MacLean, 2006).

However, public intervention itself does not provide the support necessary to create and develop a company and follow it through every step of its life. This is where private equity's intervention is fundamental. Galileo and da Vinci could have greatly benefited from their inventions, if they could have created companies to exploit them. Columbus's wealth was built on his project to go West, which was probably as risky and theoretical in its reach as the discoveries and inventions of the two Italian geniuses. What distinguishes them from Columbus is the fact that they were treated as civil servants, receiving a salary and some additional resources for their work. Columbus's travels were financed as to 50% by Genoese investors willing to benefit from the new nautical route.

The necessity of entrepreneurial talent and enlightened financial support

Converting a disruptive innovation into a commercial success therefore requires not only an entrepreneurial talent, but also some additional competences and resources that only private equity investors can provide. This is not only capital, but also an ability to help tailor a company project to a viable reach and ambitious goals. The expertise of the private equity investor is thus often used in the shadow of the entrepreneur himself. An illustration of this comes from the partnership between Matthew Boulton and James Watt. The innovations of Watt would have never seen daylight without the ever-cheery Boulton, who funded the venture and took a share of the patent rights, even if Watt almost gave up on the project several times.

The responsibilities were clearly distributed: Watt was the inventor and Boulton provided the management experience and the capital. This is one of the first examples of a successful venture by a duo combining entrepreneurship and innovation on one side, and finance and operational management on the other. The *separation of the entrepreneur and the investment manager* is a key landmark in the emergence of the private equity sector as such and this is what was missing from Columbus's project, to transform it into a complete commercial success.

The entrepreneurial and financial relationship: a fruitful tension

The impact of this separation is not theoretical: it changes the way an idea can be converted into a commercial success dramatically. Offering a very high increase in fuel efficiency for what was a minor design change, Watt's new design for the steam machine was soon retrofitted to almost all of the steam engines in the country. Watt's design used about 75% less fuel than the most established steam engine at that time: the Newcomen engine. Since the changes were fairly limited, Boulton and Watt licensed the idea to existing Newcomen engine owners, taking a share of the cost of fuel they saved.

Ten years after Boulton and Watt entered formally into partnership (and after Boulton invested GBP 40 000, taking all the financial risks on his own), the venture began to produce the expected returns. In 1800, the two partners retired from business, now extremely wealthy, and handed it over to their sons, Matthew Robinson Boulton and James Watt junior. This configuration, even though illustrating the separation between investors and entrepreneurs, would be considered unusual now. First, because the investor did not cash out from the company but rather adopted a long-term approach and was willing to stay in the company as long as possible (this approach is actually close to the approach of family offices, managing fortunes and businesses in an inter-generational perspective). This implies a perfect alignment of interests between the entrepreneur and the investor, which may not be the case nowadays, as investors usually sell their stake in companies after three to five years. Closed end funds are

usually created for 10 years, and they must manage to invest and divest from the companies within this timeframe (this will be developed and explained later in this book).

The fact that the company that Boulton and Watt created broke even after 10 years would not disqualify the company from being financed by private equity investors. Investors would probably sell their stake prior to that, either by listing the company (which is what happens for biotechnology companies) or by selling it to competitors, who will be able to generate economies of scale and benefit from the growth prospects of the company. What is unusual, however, is that the entrepreneur and the investor managed to focus on this venture without making a living out of it for a long time. The rule of risk diversification and the necessity to generate returns early would not allow an investor to invest 100% of his time on a given portfolio company, nor wait for such a long time before getting a return.

This is probably because Boulton was investing his own money and that private equity investors today invest as professionals ('general partners') the money they have collected from third parties ('limited partners'). This is another source of possible misalignment of interests. The pressure from limited partners to generate stable and consistent returns above a certain threshold stems from the fact that these limited partners have to deliver a certain return to their shareholders (corporations), or to be able to cash in at least under a certain time constraint, with a given risk-return profile (banks, insurers).

This pressure is then transmitted along the investment value chain to the fund and its managers. These managers have to deal with these constraints and thus exert pressure on the managers of companies to deliver the expected returns within a given timeframe. This pressure should, however, not be perceived as negative.

As seen with the historical examples, the fact that Columbus and Watt had some investors on their side also helped them to get results and stay focused on the outcome. The delicate equilibrium to be maintained between innovation and the strategy to go to market with this innovation is probably the key differentiator between aborted companies and successful but meteoric successes on the one hand, and long-standing and growing companies on the other.

The investor must not only have genuine know-how and talent to support the entrepreneurs, but also challenge them and guide them towards the market. Even though big corporations have financial and technical know-how, very few have the expertise to nurture innovation and bring it to the market. This means that private equity has its own specificities which are not only difficult to replicate, but also to copycat outside of a given ecosystem.

1.2.3 Entrepreneurship and Private Equity Form a Specific Ecosystem

The separation of the roles of entrepreneurs and investors, associated with the emergence of partnerships, has paved the way towards a better collaboration between the financial and the entrepreneurial worlds. Not every partnership was built under the same conditions as the template-like Watt-Boulton relationship. Most of the time, partnerships have to be established between entrepreneurs and investors who did not know each other prior to the contact leading to a potential investment from the investor in the projected venture of the entrepreneur.

Entrepreneurial and financial frictions: the exit scenario

Aside from these conditions, the existence of *exit strategies* from a given investment is crucial for professional investors. If an investor chooses to back an entrepreneur, he usually does it with a certain roadmap in mind. Entrepreneurs can afford to spend all the time necessary to

lead a venture to succeed, their own expectations and the money available being the only limit. This means that, theoretically, an entrepreneur with a company generating positive income could continue to run it for a very long time (possibly until his retirement).

Investors have a given timeframe to make an investment and get the return from it, as their activity is usually to generate profits and redistribute them. In that respect, the presence of an active private equity sector is determined by the existence of exit scenarios, that is to say opportunities to sell investments to third parties. These exit scenarios are usually:

- A listing on the stock exchange, offering to the private equity investor the opportunity to sell his stake on the market. This stock exchange must exist, offering certain liquidity and attractive listing conditions, including adapted regulations. This exit route remains an exception as the majority of exits are trade sales (36 exits for venture capitalists in Q3 2012 in the US according to Demos, 2012).
- A profitable trade sale to another company or private equity group, offering the private equity investor the opportunity to sell his stake to a third party. For some sectors, this exit scenario may prove to be difficult, given the concentration of the number of players (anti-trust regulations) or the nature of the sector (banks and insurers are sometimes barred from take-over by foreign players, and must comply with specific regulations preventing certain operations). Trade sale is the main exit route in private equity (72% of exits for venture capitalists in Q3 2012, according to Demos, 2012).
- A sale to the management, which is rare as this means that the management must structure a private equity operation with its own capital (otherwise, this operation would fall within the trade sale scenario). This, however, could happen in the event that a venture-backed company becomes profitable. As it is debt free, the management could try to structure a management buy-out (MBO) to acquire the stake of the investors in the company, if no other exit scenario is offered.
- A sale to another financial investor, which is rather frequent in the case of secondary leveraged buy-outs, and increasingly from venture capitalists to LBO investors (Demos, 2012): 18 of such acquisitions alone happened in Q3 2012 in the US;
- End of activity, bankruptcy or sale of remaining assets. This exit is more common in venture capital than in other segments of the private equity market. It is compensated by the fact that successes are also more rewarding in absolute terms.

The stock exchange: useful indicator, overbearing influence

One of the first historical examples of a professional exit from a private equity-like operation is the introduction of the company created initially by Thomas Edison. In 1896, General Electric was one of the original 12 companies listed on the newly-formed Dow Jones Industrial Average, and is the only one remaining from that time today. This listing allowed its investors to exit from their investments and realise a profit. However, this exit route is an exception as most of the exits in private equity are trade sales with longer holding periods for companies.

The rise of private equity as a financial tool for funding companies has been enabled by the growth of the stock exchange. Private equity could find not only an exit path for financing on the stock exchange, but also a source of opportunities such as corporate spin-offs, or delisting companies, and even taking parts of public companies.

As we will see (Chapter 4), the influence of the stock exchange can also be overwhelming. As it is a major source of information to establish the value of private companies, and as

it is also an important (even if numerically minor) source of exits, private equity tends to adopt some of the behaviours specific to the stock exchange. This results in overvaluations, over-confidence, booms and busts as we will see later in this book.

Private equity has also influenced the way business is done. More specifically it contributed to create a *true entrepreneurial ecosystem*, with booms and busts, and a process of 'creative destruction'. This process bears a certain risk and it is the role of professional private equity investors to manage this risk, mitigate it and generate a return which is commensurate with this risk. Chapter 2 will explore this question in more detail.

1.3 CONCLUSION: AN ATTEMPT AT DEFINITION

So far, Chapter 1 has identified the main elements which are necessary for the emergence of a private equity sector. In that respect, an investment in private equity could be defined as:

1.3.1 A Negotiated Investment in Equity or Quasi-Equity

Shareholders' equity is the sum of the capital brought into the company by the shareholders and the undistributed profit left in the company (retained profits). Investment in capital may take the form of capital increases (venture capital, expansion capital), replacement (leveraged buy-out) and even reconstitution (turn-around capital) of the company's capital.

To address the increasing complexity of deal structuring and funding requirements, better master the risks inherent in their investments and calibrate the anticipated returns, private equity investors innovate constantly. The underlying trend is to negotiate counterparts for their investments with company managers, such as:

1.3.1.1 Preferred Returns and/or an Increased Control over Decisions

The risk that is taken by professional investors, as compared to other shareholders, increases with the average amount invested in a given business. Professional investors have therefore asked for preferential rights associated with their shares. These rights are negotiated in shareholders' agreements and grant investors such rights as additional voting rights attached to their shares, priority dividends and even preferential and guaranteed profit, to match a predefined multiple of their initial investment in the event that the business is sold.

1.3.1.2 Additional Cover for the Risks Entailed by the Investment

Furthermore, some investors prefer to reduce the relative risk of their investment, even if it means reducing their potential added value. This is how investment in quasi-equity emerged, with less risk than an investment in pure equity: bonds or debts repaid *in fine*, sometimes associated with options to convert them into the company's shares under certain conditions.

This particular kind of debt is riskier than ordinary debt, since it is subordinated to the priority payment of other bank loans. The payment of subordinated debt depends therefore on the complete success of the deal. This justifies a higher interest rate and the creditors' participation in the possible success of the business. The mezzanine debt, usually undertaken in leveraged buy-outs, illustrates this: it is a debt repaid after other debts, so-called 'junior' and 'senior', or even 'second lien'. This debt benefits from options to be converted into capital.

Venture lending is the equivalent of mezzanine debt for venture capital and growth capital deals. It is quite common in the United States but still rare in Europe.

1.3.2 A Fixed Maximum Term

Irrespective of which type of instrument is used (listed or unlisted shares, mezzanine, etc.), a private equity investment is usually held for four to seven years. At the early stage of its investment in a given business, the private equity investor must evaluate when and how it will liquidate this investment. As we shall see in Chapter 4, this is due to a contractual requirement: funds are created for 10 (and maximum 12) years.

1.3.3 Implying Specific Risks

These investments bear specific risks as they target businesses in special situations – such as creation or restructuring, for example. This is the intrinsic risk of each of the segments of this asset class. Furthermore, they are subject to the cyclical nature of private equity as an emerging asset class, and to the general business cycles.

1.3.4 With High Expected Returns

As compensation for the risk borne by private equity investors, return expectations are higher than those from comparable investments in listed securities. Private equity investments theoretically offer a premium compared to listed securities returns. The long-term immobilisation implied by private equity investment is a specific risk remunerated by an 'illiquidity premium'.

1.3.5 Undertaken on Behalf of Qualified Investors

Given the lifetime of a private equity fund (usually 10 years), the risk borne by this type of deal, the relative illiquidity of investments, and the need to diversify investment among several funds to apply a sound investment policy, the great majority of limited partnerships (LPs) are subscribed by institutional investors, that is to say pension funds, insurance companies, banks or even endowments in the United States. According to the European Private Equity and Venture Capital Association (EVCA, 2012), in 2011 banks represented 15.3% of the EUR 39.7 billion (down from 8.1% of the EUR 79.8 billion in 2008) collected by private equity funds in Europe, ranking after pension funds (18.7% down from 25.2%), funds of funds (14.4% down from 14.5%), sovereign wealth funds (10.5%) and governmental agencies (8.1%). Figure 1.1 shows the breakdown of private equity subscribers in Europe.

1.3.6 To Support Entrepreneurs

There is no private equity without entrepreneurs. As confirmed by Monitor Group[13] (2010), entrepreneurship is first and foremost a local phenomenon. Accordingly, private equity is mostly a local activity.

[13] http://www.compete.monitor.com/App_Themes/MRCCorpSite_v1/DownloadFiles/NED_report_final.pdf.

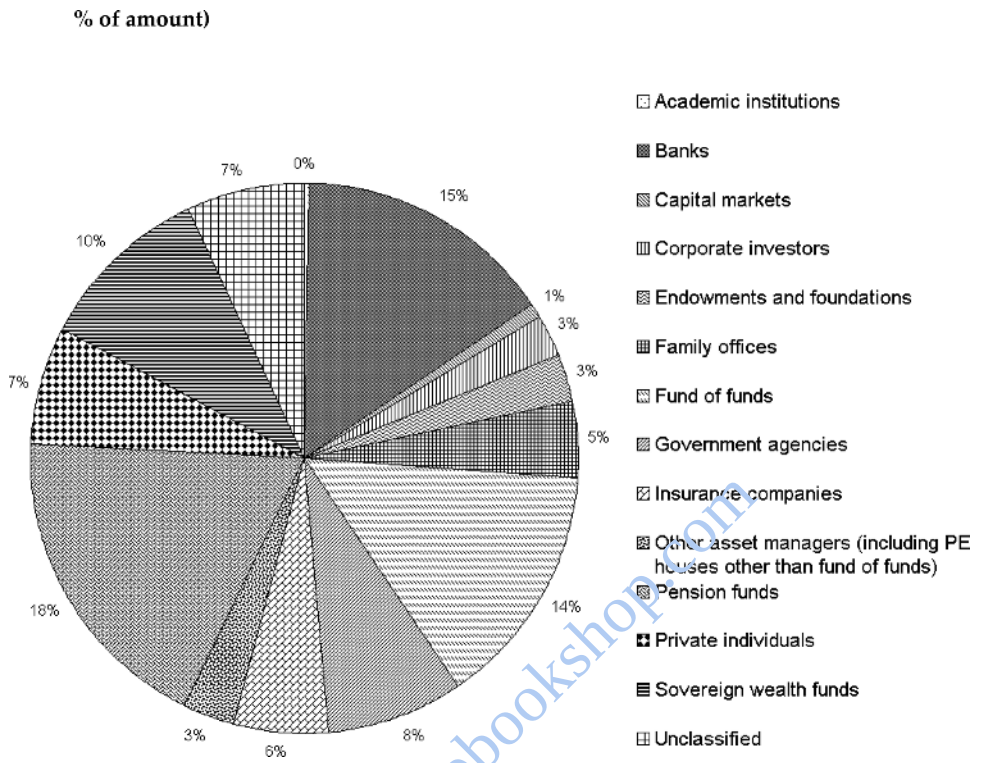

Figure 1.1 Breakdown of investors in Europe in 2011 according to their nature (in % of amount)
Source: EVCA, 2012.

Monitor Group notably states that public policies address with varying success the challenge of supporting entrepreneurship. Actions range from cutting the administrative burden, to setting up incubators or improving access to venture capital. Nevertheless, a few more topics remain neglected, such as: promoting the entrepreneurial spirit (values, attitudes, motivation), developing skills, setting up a fully functional financing framework (seed investing and business angels, as well as initial public offering), as well as taxes. The impact varies strongly as shown by Figure 1.2.

Entrepreneurship is one of the most powerful supports for economic growth and prosperity in a global modern economy. Few factors have as much impact on the emergence of innovation, job creation and the contribution to a dynamic and competitive economy as entrepreneurship. The 'creative destruction' described by Joseph Schumpeter is fuelled by waves of innovation driven by entrepreneurs.

Entrepreneurship is the creation and the management of new companies, often through the discovery of new opportunities or market needs on existing markets. Entrepreneurship leading to fast growth, transforming whole economies and industries, is specific. It is based on innovation, that is to say the successful commercialisation of products and services based on new ideas. It is driven by individuals gifted with specific competences, characteristics and capacities, as illustrated by Figure 1.3.

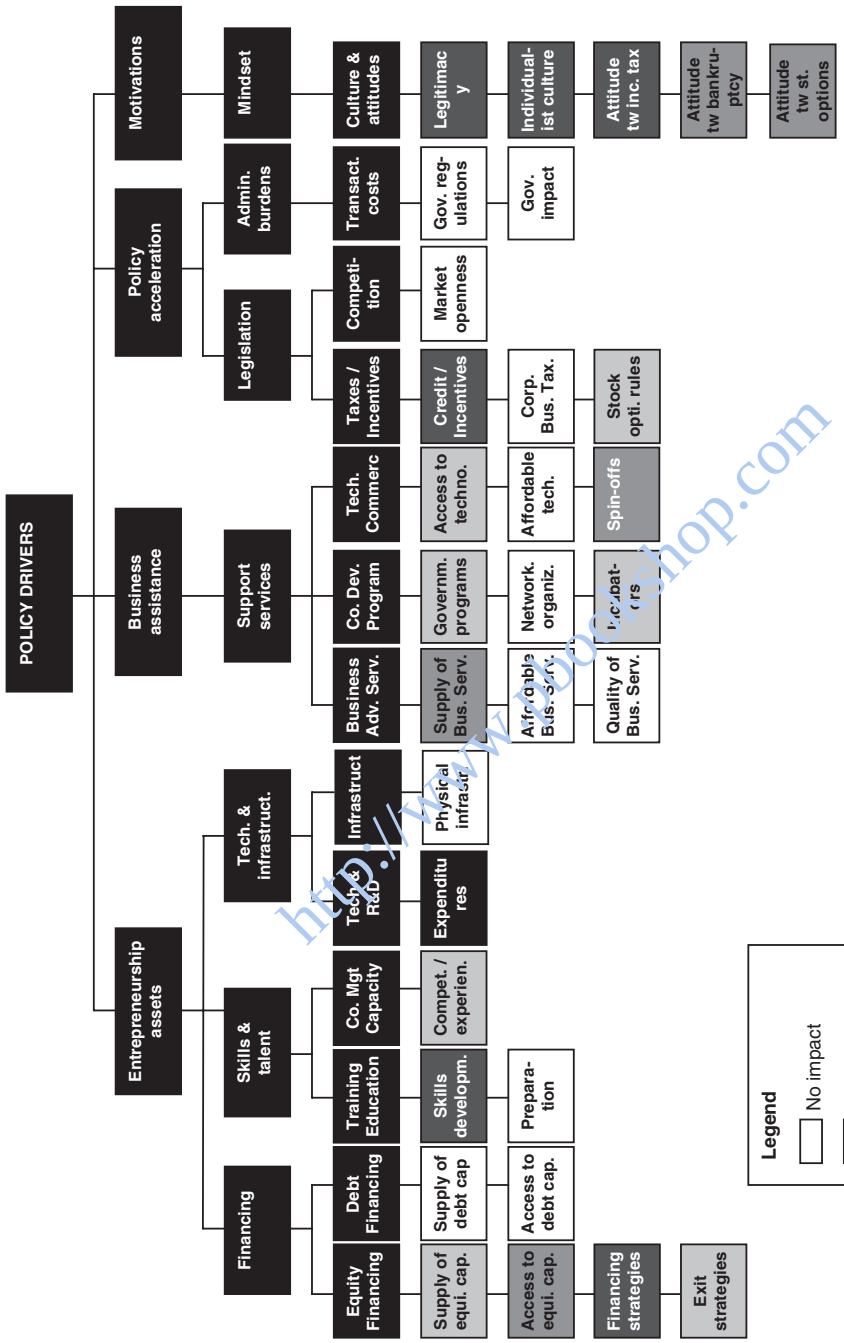

Figure 1.2 Level of impact of public policies on entrepreneurship
Source: Monitor Group (2010).

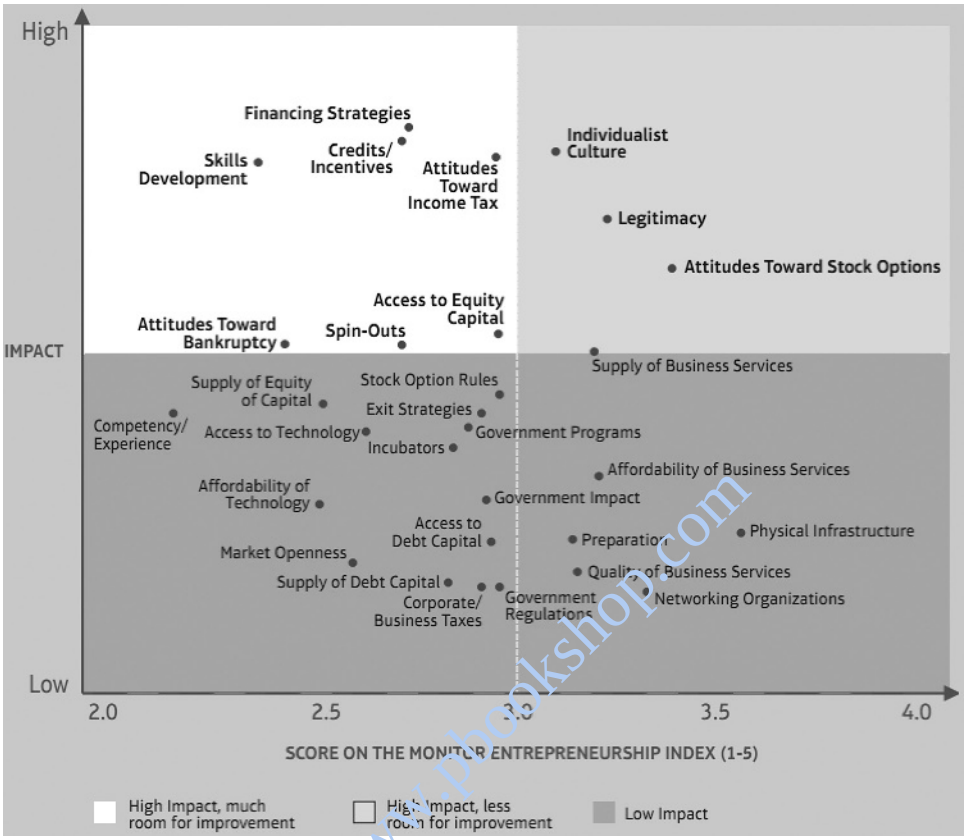

Figure 1.3 Relation between policies (and their impact) and the Monitor entrepreneurial index
Source: Monitor Group (2010).

According to Monitor Group, for a given amount invested, the entrepreneur produces innovations of better quality and with a higher efficiency than large companies as illustrated by Figures 1.4 and 1.5. Four models of entrepreneurship have been identified by the consulting group:

1. The *'classical'* model, illustrated by Silicon Valley: in this high tech entrepreneurship model, the intellectual property developed by university or governmental laboratories is commercialised thanks to the help of venture capital investors. This system has worked for Boston and the Route 128 in the US, and Cambridge in the UK. In general, this model is effective when connected to research of world-class level. The presence of a close financial centre is necessary, as well as a culture of cooperation between the academic and the professional sectors (which is difficult to achieve). Due to the success of this model, many initiatives have been undertaken to replicate it, often without success (Lerner, 2009).
2. The *'anchor firm'* model: ventures emerge from a company either through spin-offs or the departure of experimented employees, who have identified a business opportunity and decide to pursue it independently. The relationship between the new venture and the anchor firm is more symbiotic than competitive, as the latter often acts as the first client (more than

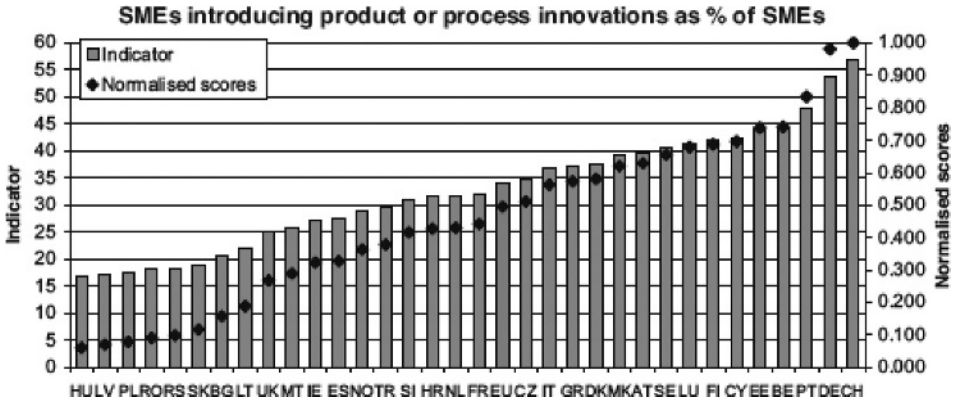

Figure 1.4 SMEs introducing product or process innovations (as % of SMEs)
Source: TrendChart-ERAWATCH database, Pro-Inno Europe (2012).

a source of financing). This is why this model usually gives birth to a cluster of companies. More than creating companies against the former employer, entrepreneurs collaborate with it. This applies to more traditional locations such as the north-west of Saudi Arabia, Vancouver (Canada) or the triangle of research in North Carolina (USA). This is the model which is the easiest to replicate, notably in developed countries.

3. The '*event driven*' model: a major industrial or economical event drives a significant number of unemployed individuals to launch their own company or to leave the sector. Due to a sudden influx of qualified people, the launch of new companies becomes possible, such as in the case of San Diego (USA) at the end of the Cold War, Washington DC (USA) or South Korea after the crisis of 1997. Israel could also qualify under this model after its foundation and the arrival of a million individuals after the fall of the USSR.
4. The '*local hero*' model: a local entrepreneur, who started from scratch, has succeeded and gained international exposure, hence creating vocations among other entrepreneurs. This was the case for Medtronics (which invented the first personal pacemaker) and Minneapolis (USA), Microsoft in Washington (USA) and Wipro in Bangalore (India).

Figure 1.5 SMEs introducing marketing or organisation innovations (as % of SMEs)
Source: TrendChart-ERAWATCH database, Pro-Inno Europe (2012).

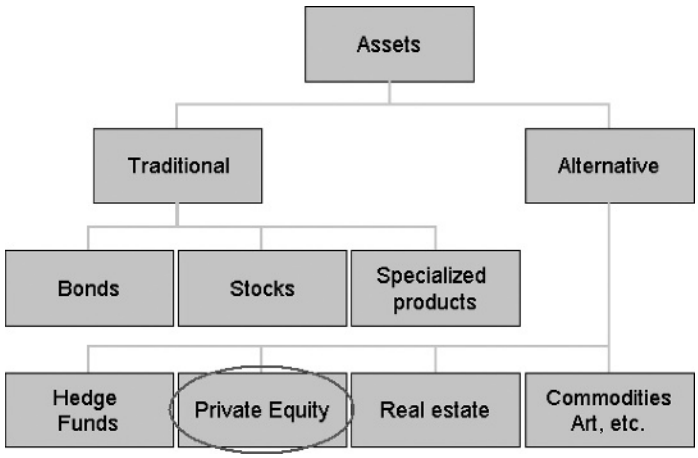

Figure 1.6 Simplified categorisation of financial assets
Source: CalSTRS, Author.

The models can be combined and are rarely identified as 'pure models'. HP, Apple, Google and Intel are anchor companies in the Silicon Valley.

Alternative investments are 'characterized by expectations of enhanced return opportunities, diversification, and lower levels of liquidity' (Mercer Management Consulting, 2012). Being part of the 'alternative investments segment' (see Figure 1.6), a private equity investment is 'a negotiated investment in equity or quasi-equity with a fixed maximum term, bearing specific risks, and generating hopefully high returns on behalf of qualified investors to support entrepreneurs': this definition is an attempt to pin down a sector in constant evolution. According to Mercer Management Consulting (2012), private equity's purpose is to 'improve returns relative to public equity markets [and] access new sources of alpha' (i.e., performance).

Private equity hence differentiates itself from hedge funds (speculative funds using financial leverage targeting liquid assets and applying to them specific strategies, often using options and financial derivatives) and 'exotic assets' (sometimes called 'alternative alternatives', see Blessing (2011)) such as timberland, commodities and real assets, collectables and asset-based lending (see section 4.3).

This definition provides the opportunity to discuss some of the socio-economic consequences which have emerged with the rise of the private equity sector. For example, in the United States serial entrepreneurs appeared because of the fixed maximum term of investments and high expected returns. Slowly, entrepreneurs have begun to specialise in certain roles such as the creation, development, internationalisation, restructuring or turn-around of companies. This list is not exhaustive.

Chapter 2 will take a closer look at the structuring of the private equity sector, the emergence of its key elements and its dynamics. This will be done through an analysis of recent history.

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