

Trajectories of new innovative ventures

Innovative new ventures face a variety of potential trajectories and exits, including “positive” exits (e.g. trade sales and IPO), which influence innovative entrepreneurs’ access to finance, and negative exits (e.g. failures and bankruptcies), which can free up resources and allow a shift to more valuable uses. The exit of innovative businesses will be important if the company did not prove to be profitable. If, however, the company was successful, then a positive exit can result in wider benefits for the innovations provided by these firms. The evidence points to substantial variations in exit opportunities over time. All the framework conditions affect the trajectory of innovative new ventures, as together they shape the conditions for their growth and success. However, exit may be particularly impacted by access to finance and bankruptcy regulations. Public policy can influence the trajectory of successful innovative new ventures by adjusting stock market regulations to allow smaller companies to benefit from access to public markets through initial public offerings, by supporting networking between large and smaller firms, and by developing a range of appropriate financing mechanisms to support innovative entrepreneurs at all stages of the business cycle.

What are the trajectories of new innovative ventures?

There are several approaches to describe the trajectories of new ventures (Hanks et al., 1993; OECD, 2010) and to define the stages of business development. In this brief, the trajectories of new innovative ventures are described by the following stages:

- **Seed stage:** In this stage, the developing business entity has not yet established commercial operations. The business concept and the product or service are not fully developed or tested. Business activities focus on research and product development, market research and the development of business plans.
- **Start-up stage:** In this stage, prototypes are being developed and fully tested. Business activities are still focused on product development but also include initial marketing.
- **Expansion stage:** At this stage, the product or service is being produced and sold. The main objectives of new ventures are typically to increase sales and productive capacity, and to minimize their losses in order to reach the break-even point.

During these stages innovative businesses may exit, which can take several forms:

- **Positive exits** refer to the transfer of the business ownership to other stakeholders. They include trade sales and an Initial Public Offerings (IPO). Trade sales are outright, phased or partial sales of the company to a strategic investor, i.e. an industrial or commercial company that seeks managerial control over the company. The target company is acquired in order to incorporate its product lines as part of the acquiring company’s business line (e.g. a pharmaceuticals company acquires a biotechnology company having attractive product lines). Initial Public Offering (IPO) refers to the first offering of stock by a company to the public.
- **Negative exits** refer to failure or bankruptcy; these represent the majority of exits.

How do the trajectories of new innovative ventures affect innovative entrepreneurship?

- The development stage of an innovative new venture affects its challenges and needs.

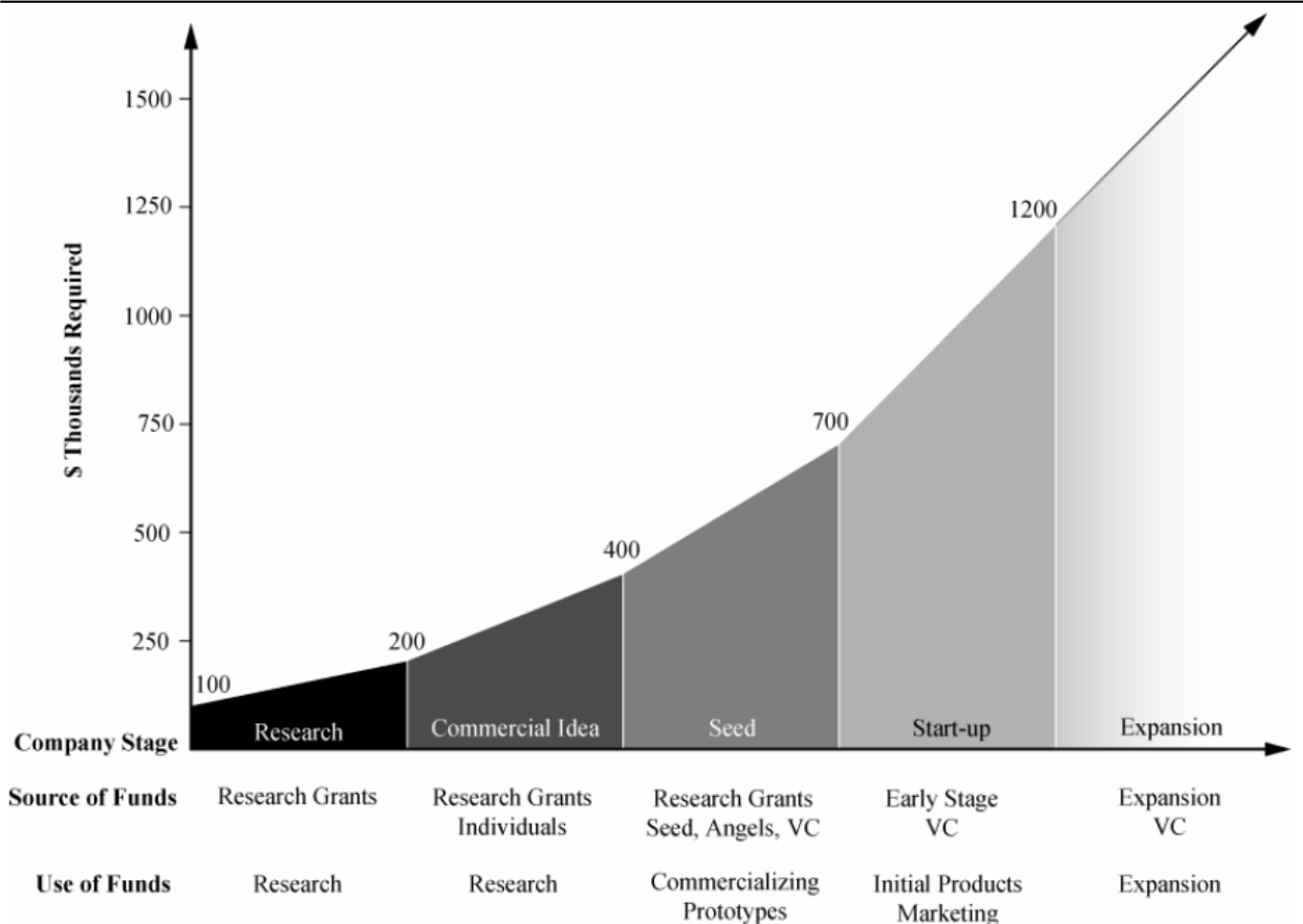
A first challenge for innovative, high-growth new ventures is to manage transitions in the life-cycle development of the firm. Each stage requires changes in entrepreneurial behaviour that can have significant consequences for growth and innovation. This may include, for instance, working with more staff, and changing processes and procedures to adapt them to the new venture size. How entrepreneurs approach critical transitions in their business development is important for their success (Covin and Slevin, 1997).

Another challenge for innovative entrepreneurs is to find the appropriate resources to finance each development stage (see Figure 1). Loans, venture capital, and other sources of finance vary across the stages of business development.

- During the seed and start-up stages, innovative entrepreneurs generally have difficulties securing the required financial investment from friends, family, and business angels and, in a few cases, by seed financing funds and venture capitalists.
- In the expansion stage, innovative firms generally require increasing amounts of finance to maintain and grow their businesses, such as initial public offerings on stock exchanges (IPOs, 2007).

Figure 1. Types and amounts of risk capital financing by stage of development

Technology-driven businesses



Source: Western Technology Seed Investment Fund cited in OECD (2007), The SME Financing Gap (Vol. II): Proceedings of the Brasilia Conference, 27-30 March 2006, OECD Publishing. <http://dx.doi.org/10.1787/9789264029453-en> [1]

Investment at any stage of the life cycle is frequently contingent on there being some potential to advance to the next stage. Thus, providers of funding in the seed stage and start-up phases are more likely to respond positively to business plans when they believe the proposal has the capability of attracting support from business angels. Business angels, in turn, will be encouraged if they believe that the project is a good candidate for venture capital financing. This process is most explicit in the venture capital process, where it is accepted that equity will be injected into the firm in successive rounds, with the objective of realizing an exit through a trade sale or an IPO.

- The opportunities for positive exits (e.g. trade sales and IPO) affect innovative entrepreneurs' access to finance.

The likelihood of positive exits influences investments in innovative new ventures, as positive exits provide an opportunity for investors to realize returns on their investment. Positive exits can in this way contribute to the growth of other innovative young firms, as they free up funding for further investment. In addition, both trade sales and IPOs are publicized and often attract attention to successful innovative entrepreneurs. This can contribute to setting standards of excellence and inspiring other entrepreneurs, as well as facilitating access to finance for the future ventures of successful entrepreneurs.

- Negative exits (i.e. failures and bankruptcies) also influence innovative entrepreneurship by lowering the confidence of investors and by affecting the conditions for entrepreneurs to rebound after failure.

An efficient process of firm entry and exit is important to the economy as a whole, as it allows the death of less productive firms and the success of more productive ones through the shift of resources to more valuable uses. That, however, depends on the process leading to the exits of non-profitable businesses and efficient resource reallocations.

Failures and bankruptcies may also inhibit innovative entrepreneurship in those countries where failure carries a stigma and where there are severe penalties for bankruptcy.

Evidence on how trajectories of new innovative ventures influence their success

- Importance of positive exits (IPOs and acquisitions)

There is a wide consensus in the literature on the correlation between the ability to exit, either through an IPO or sale to strategic investors, and the ability of innovative new ventures to access finance (OECD, 2006).

- Importance of creative destruction and resource re-allocation

Empirical evidence suggests that the process of creative destruction tends to reallocate resources toward more productive activities. Most existing studies tend to focus on labour. For instance, firm entry and exit contributes an estimated 20% to aggregate labour productivity growth over a five-year window in some OECD countries (the estimates are higher for emerging countries), while the contribution from reallocation of labour across existing enterprises is generally much smaller (Bartelsman et al., 2004; OECD, 2003). Some studies indicate that capital also tends to flow from less productive firms to more productive firms (Eisfeldt and Rampini, 2006; Jovanovic and Rousseau, 2002). Finally, evidence suggests that resources flow toward firms that patent, at the expense of non-patenting firms (Kogan et al., 2012).

Empirical evidence highlights that some countries are more successful in channeling resources toward high productivity firms (Andrews and de Serres, 2012; Arnold et al., 2008). For example, Hsieh and Klenow (2009) estimate that if China and India were able to align their efficiency of resource allocation with that of the United States, manufacturing TFP could rise by 30-50% in China and 40-60% in India.

Cross-country differences in the efficiency of resource allocation partly reflect differences in framework policies. Results from a study by Andrews and Cingano (2012) suggest that regulations affecting product, labour and credit markets influence the efficiency of resource allocation, which in turn affects productivity. Furthermore, regulations that hinder the allocation of resources toward the most efficient firms appear to be more disruptive in sectors with greater innovation (Bartelsman et al., 2013) and in firms that are catching up to the technology frontier and are close to international best practices (Arnold et al., 2008).

What is the evidence on the trajectories of new innovative ventures and innovative entrepreneurship?

-
- Evidence on enterprise birth, death and survival

The OECD Entrepreneurship at a Glance (OECD, 2013) provides data on birth rate, death rate, churn rate and survival rate, based on the OECD Structural and Demographic Business Statistics (SDBS) Database. These data provide insight into the trajectory of firms, although they do not specifically focus on innovative high-growth entrepreneurship.

The employer enterprise birth rate corresponds to the number of births of employer enterprises as a percentage of the population of active enterprises with at least one employee. An employer enterprise birth refers to the birth of an enterprise with at least one employee. It does not include entries into the population due to mergers, break-ups, split-offs, restructuring of enterprises or a change in activity.

The employer enterprise death rate corresponds to the number of deaths of employer enterprises as a percentage of the population of active enterprises with at least one employee. An employer enterprise death occurs either as the death of an enterprise with at least one employee in the year of death, or the move of an enterprise below the threshold of one employee for at least two years.

The churn rate, defined as the sum of births and deaths of enterprises, indicates how frequently new firms are created and how often existing enterprises close down. The indicator reflects a country's degree of creative destruction.

The survival rate of enterprises provides information on the share of enterprises surviving one or more years after birth. The number of n-year survival enterprises for a particular year t refers to the number of enterprises that had at least one employee for the first time in year t-n and have not died in year t. An enterprise is also considered to have survived if the linked legal unit(s) has (have) ceased to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (survival by takeover). This definition of survival excludes cases in which enterprises merge or are taken over by an existing enterprise in year t-n.

- Evidence on similarities and differences across countries regarding the trajectory of firms

In most of the industrial countries, annual entry and exit rates are generally positively correlated across industries. The correlations are particularly strong when the entry and exit rates are weighted by employment (Bartelsman et al., 2004). The post-entry performance also sheds light on the market selection process that separates successful entrant firms that survive and prosper from others that stagnate and eventually exit. For most countries the rank ordering of survival is similar, whether using a two-year, four-year or seven-year horizon, suggesting that there is an important country effect that impacts the survival function (Bartelsman et al., 2004).

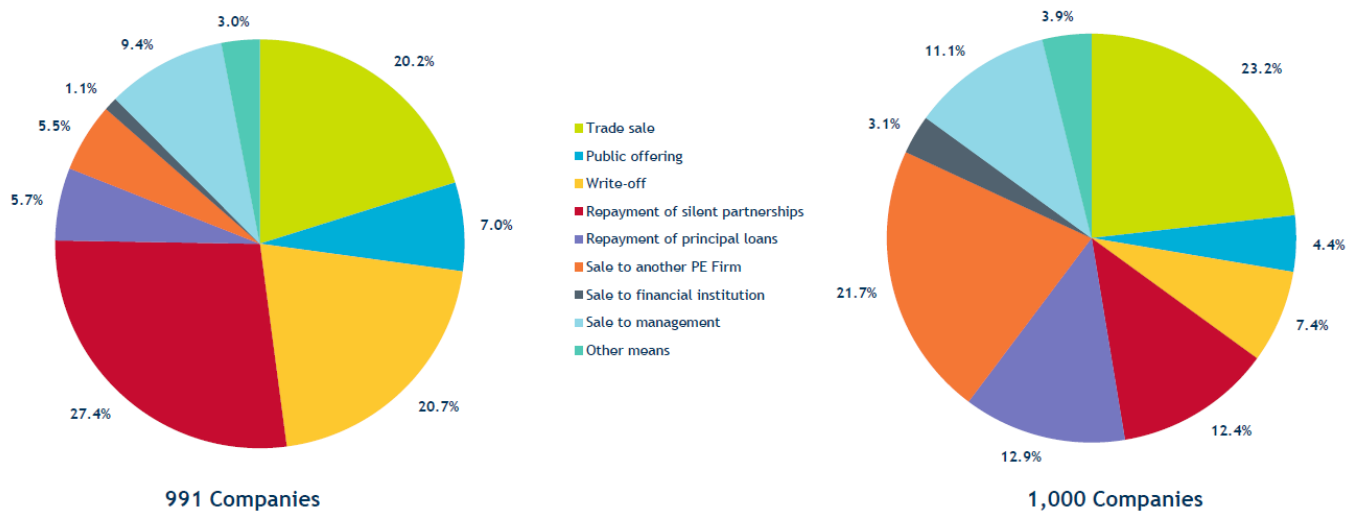
Firm-level empirical studies actually reveal important cross-country differences in the characteristics of firms entering and exiting the market and in ease of resource reallocation. For instance, the size of entering and exiting firms tends to be smaller in the United States than in Europe and successful young firms tend to expand relatively more quickly in the United States than elsewhere (Bartelsman et al., 2004). Institutional factors may contribute to explaining this finding. One interpretation may be that there is a greater degree of experimentation and “learning by doing” among entrants in the United States, while larger entrants and exiting firms in Europe may reflect cautious entry strategies that target more established markets (Bartelsman et al., 2008)

- Evidence on trade sales and IPOs

The majority of positive exits are through trade sales or mergers and acquisitions. Trade sales are much larger than IPOs in terms of volume in almost all instances and places. In Europe, trade sales accounted for 20.2% of venture capital exits (in number of companies) in 2011, while IPOs accounted for only 7% of venture capital exits (Figure 2). In the United States, the NVCA reported 449 acquisitions of venture-backed companies and 49 IPOs of venture-backed companies in 2012, which is far below the 280 IPOs in 1999 (NVCA, 2013). Indeed, the IPO markets in many countries have been heavily affected by the recent financial crisis. In Europe, for instance, the number of IPOs substantially decreased between 2007 and 2011, from 231 IPOs to 132 IPOs (Figure 3).

Figure 2. European Venture Capital divestment by exit route

% of number of companies, 2011



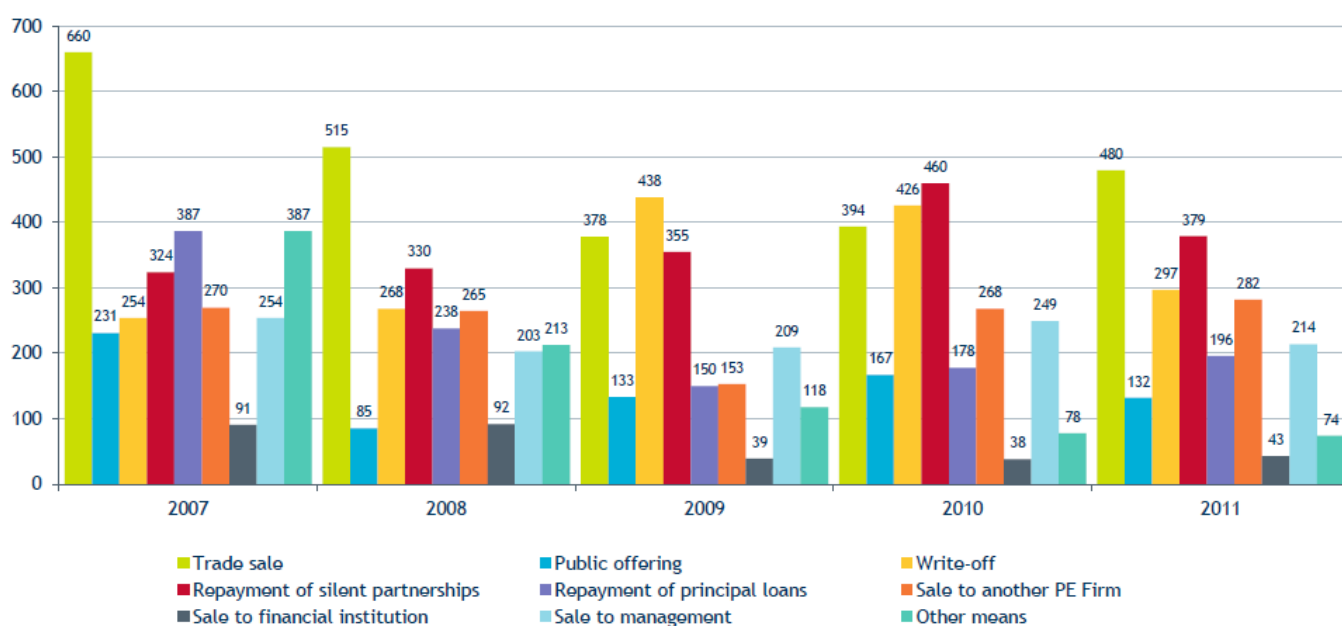
Source: EVCA / PEREP Analytics

EVCA (2012) Yearbook 2012. Activity Data on Fundraising, Investments and Divestments by Private Equity and Venture Capital Firms in Europe

<http://www.evca.eu/knowledgecenter/statisticsdetail.aspx?id=6392> [2]

Figure 3. European Venture Capital divestment by exit route, 2007-2011

Number of companies



Source: EVCA / PEREP Analytics

EVCA (2012) Yearbook 2012. Activity Data on Fundraising, Investments and Divestments by Private Equity and Venture Capital Firms in Europe
<http://www.evca.eu/knowledgecenter/statisticsdetail.aspx?id=6392> [2]

In past decades, multiple countries created or modified existing marketplaces for high-growth SMEs in order to foster the development of risk capital markets and support innovative entrepreneurship. For example, in 2004 Euronext launched Alternext, a market geared to innovative SMEs. But beyond simply creating marketplaces for high-growth SME equity, other prerequisites must be fulfilled in order for the market to develop sufficient liquidity. Most fundamentally, a community of investors must exist and be willing to hold and trade the shares of newer and less well-known companies.

What other topics relate to the trajectories of new innovative ventures and innovative entrepreneurship?

All the framework conditions (i.e. [access to finance for innovative entrepreneurship](#) [3], [entrepreneurial capabilities and culture](#) [4], [regulatory framework for innovative entrepreneurship](#) [5], [firms' access to knowledge for innovative entrepreneurship](#) [6], [market environment for innovative entrepreneurship](#) [7]) described in the IPP module affect the trajectory of new innovative ventures, as they all shape the conditions for their growth and success.

However, some preconditions may be more important at certain stages of business growth to help companies get access to finance, as shown in Table 1 (OECD, 2006). This section focuses particularly on the connection with exit.

Table 1. Funding sources for innovative SMEs and preconditions

Phase	Suppliers of Funds	Preconditions
SEED	Personal assets Family & friends "Type ii" individual investors Academic & professional colleagues Government & university grants Endowments and foundations Seed funds	Framework for entrepreneurship Business/government/research links Government & university support for applied research
START UP	Family & friends "Type ii" individual investors Academic & professional colleagues Government & university grants Business angels Venture capital Endowments and foundations	Robust legal system Enforceability of contracts Efficient bankruptcy regime Support facilities Science parks/incubators Favourable tax environment Business angel networks
EXPANSION	Business angels Venture capital/private equity/mezzanine finance Pension funds Endowments and foundations Corporate venturing Government Foreign venture capital	Institutional savings Sufficient volume Flexible regulation Legal framework Tax transparency
EXIT	IPO Institutional investors Retail investors Trade sale Strategic investors (M&A) Private equity	"Growth" exchanges Environment for M&A
PUBLIC LISTING	Institutional investors Retail investors	Legal and regulatory framework for investment

Source: OECD (2006), The SME Financing Gap (Vol. I): Theory and Evidence, OECD Publishing. <http://dx.doi.org/10.1787/9789264029415-en> [8]

[Venture capital](#) [9] and [Business angels](#) [10]. Strong exit markets, both in terms of vibrant stock markets for IPOs as well as trade sales, are critical for enabling access to finance for young innovative firms seeking equity investments (angels or VC). If there are no exit options in the form of viable routes to IPO and/or trade sales, equity investors will be unwilling to invest.

[Other types of finance](#) [11]. Sources of finance as diverse as subsidies, loans and grants from governments, money and capital provided by family and friends, entrepreneurs' personal financial resources and crowd funding play a key role in new ventures' development, especially at earlier stages. New ventures can avoid an early exit by bridging the financing gaps that arise when innovative entrepreneurs cannot obtain finance from the formal financial system.

[Bankruptcy regulation](#) [12]. Bankruptcy regulation impacts exit decisions of businesses (e.g. through the number of restrictions imposed on a debtor who files for reorganization).

What policies relate to the trajectories of new innovative ventures and innovative entrepreneurship?

Public policy can influence the trajectories of innovative new ventures by:

- Adjusting stock market regulations to allow smaller companies to benefit from access to public markets through initial public offerings. For example, this can involve the creation of secondary stock markets. However, these stock markets need to have sufficient critical mass to attract enough liquidity; otherwise, firms will be better off listing on a more liquid exchange.
- Facilitating the listing of new domestic innovative ventures on overseas markets
- Supporting the acquisition of entrepreneurial firms by larger companies. For instance, governments can ensure that competition and tax policies encourage networking between large and smaller firms in order to facilitate future trade sales, ensure that FDI regulations do not discourage foreign acquisition of domestic companies, and do not create unnecessary obstacles to trade sales of entrepreneurial firms.
- Taking into account the different needs of innovative entrepreneurs at various stages of the business growth cycle and developing a range of appropriate financing mechanisms to support them at all stages. Gaps at any point in the funding cycle can leave entire sectors in an undeveloped state.

Sources

- OECD Structural and Demographic Business Statistics (SDBS) Database.
<http://dx.doi.org/10.1787/sdbs-data-en> [13]

References

- Andrews, D. and F. Cingano (2012), "Public policy and resource allocation: Evidence from firms in OECD countries", OECD Economics Department Working Papers, No. 996, OECD Publishing. <http://dx.doi.org/10.1787/5k9158wpf727-en> [14]
- Arnold, J., G. Nicoletti and S. Scarpetta (2008), "Regulation, allocative efficiency and productivity in OECD countries: Industry and firm-Level evidence", OECD Economics Department Working Papers, No. 616, OECD Publishing. <http://dx.doi.org/10.1787/241447806226> [15]
- Bartelsman E.J., Haltiwanger J., Scarpetta S., (2013), "Cross-country differences in productivity: The role of allocation and selection," American Economic Review, American Economic Association, vol. 103 (1), pp. 305-34, February.
- Bartelsman, E.J., E. Perotti and S. Scarpetta (2008), "Barriers to exit, experimentation and comparative advantage", RICAPE2 Working Paper No. 056, London School of Economics.
- Bartelsman, E.J., J. Haltiwanger and S. Scarpetta (2004), "Microeconomic evidence of creative destruction in industrial and developing countries", IZA Discussion Papers, No. 1374.
- Canada's Venture Capital & Private Equity Association website, <http://www.cvca.ca/resources/glossary.aspx> [16]
- Covin, J. G. and D.P. Slevin (1997), "High growth transitions: Theoretical perspectives and

suggested directions”, in D. L. Sexton, & R. W. Smilor (Eds.), *Entrepreneurship 2000*, pp. 99-126, Upstart Publishing Company, Chicago.

- Eisfeldt, A.L. and A.A. Rampini (2006), “Capital reallocation and liquidity”, *Journal of Monetary Economics*, No. 53, pp. 369-399, Elsevier.
- EVCA Yearbook (2012), Activity Data on Fundraising, Investments and Divestments by Private Equity and Venture Capital Firms in Europe.
http://www.evca.eu/uploadedfiles/home/knowledge_center/evca_research/Yearbook_2012_Presentation_EVCA_Public_120530.pdf [17]
- Hanks, S.H., Watson, C.J., Jansen, E. & Chandler, G.N. (1993), “Tightening the life-cycle construct: A taxonomic study of growth stage configurations in high-technology organizations”, *Entrepreneurship Theory and Practice*, vol. 18, no. 2, pp. 5-29.
- Hsieh, C-T. and P. Klenow (2009), “Misallocation and manufacturing TFP in China and India”, *Quarterly Journal of Economics*, 124(4), pp. 1403-1448.
- Jovanovic, B. and P.L. Rousseau (2002), “The q-theory of mergers”, *American Economic Review Papers and Proceedings* 91, pp. 336-341.
- Kogan, L., D. Papanikolaou, A. Seru and N. Stoffman (2012), “Technological innovation, resource allocation and growth”, NBER Working Paper No. 17769.
- National Venture Capital Association (2013), *National Venture Capital Association Yearbook*, Thomson.
http://www.nvca.org/index.php?option=com_content&view=article&id=257&Itemid=103 [18]
- OECD (2013), *Entrepreneurship at a Glance*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/entrepreneur_aag-2013-en [19]
- OECD (2010), *High-Growth Enterprises: What Governments Can Do to Make a Difference*, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris. doi: 10.1787/9789264048782-en
- OECD (2007), *The SME Financing Gap (Vol. II): Proceedings of the Brasilia Conference*, 27-30 March 2006, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264029453-en> [1]
- OECD (2006), *The SME Financing Gap (Vol. I): Theory and Evidence*, OECD Publishing, Paris.
<http://dx.doi.org/10.1787/9789264029415-en> [8]

Related Link: Other types of finance

Administrative framework for entry and growth

Bankruptcy regulation

Venture capital

Source URL: <https://www.innovationpolicyplatform.org/content/trajectories-new-innovative-ventures?topic-filters=12025>

Links

[1] <http://dx.doi.org/10.1787/9789264029453-en>

[2] <http://www.evca.eu/knowledgecenter/statisticsdetail.aspx?id=6392>

[3] <https://www.innovationpolicyplatform.org/content/innovative-entrepreneurship?topic-filters=11381>

[4] <https://www.innovationpolicyplatform.org/content/entrepreneurial-capabilities-and-culture?topic-filters=11381>

filters=12162

[5] <https://www.innovationpolicyplatform.org/content/regulatory-framework-innovative-entrepreneurship?topic-filters=12029>

[6] <https://www.innovationpolicyplatform.org/content/firms-access-knowledge-innovative-entrepreneurship?topic-filters=12256>

[7] <https://www.innovationpolicyplatform.org/content/market-environment-innovative-entrepreneurship?topic-filters=12270>

[8] <http://dx.doi.org/10.1787/9789264029415-en>

[9] <https://www.innovationpolicyplatform.org/ipp/filters/result-page?topic-filters=12161>

[10] <https://www.innovationpolicyplatform.org/ipp/filters/result-page?topic-filters=12354>

[11] <https://www.innovationpolicyplatform.org/ipp/filters/result-page?topic-filters=12312>

[12] <https://www.innovationpolicyplatform.org/content/bankruptcy-regulation?topic-filters=12027>

[13] <http://dx.doi.org/10.1787/sdbs-data-en>

[14] <http://dx.doi.org/10.1787/5k9158wpf727-en>

[15] <http://dx.doi.org/10.1787/241447806226%20>

[16] <http://www.cvca.ca/resources/glossary.aspx>

[17] http://www.evca.eu/uploadedfiles/home/knowledge_center/evca_research/Yearbook_2012_Presentation_EVCA_Public_120530.pdf

[18] http://www.nvca.org/index.php?option=com_content&view=article&id=257&Itemid=103

[19] http://dx.doi.org/10.1787/entrepreneur_aag-2013-en