

Executive Summary

The KfW/ZEW Start-up Panel

- With the establishment of the KfW/ZEW Start-up Panel in 2008, for the first time a database has become available which tracks start-ups from the time of foundation over several years and meanwhile provides a broad range of firm- and founder-specific information. The unique scientific potential of the panel enables first, studies on the development of individual start-ups over time, second, the comparison of the starting conditions of start-ups from various foundation cohorts among each other and third, the juxtaposition of economic situations of firms of different age at one point in time.
- Annually approximately 6,000 newly founded and young firms are interviewed. During the second survey wave which took place from May to August 2009 start-ups from the years 2005–2008 were included. The sample covers young firms of the cohorts 2005–2007 which had already participated in the interview last year as well as start-ups from the years 2006–2008 which were interviewed for the first time.
- The population of the survey is provided by the Mannheim Enterprise Panel (Mannheimer Unternehmenspanel, MUP) which is based on the start-ups recorded by Creditreform. For the interview, those new firms are chosen which are either registered in the German Commercial Register, or fell back on borrowed capital, business loans, or similar external financial funds, or are in another way actively involved in the economic process (“economically active” start-ups).
- In doing so, the KfW/ZEW Start-up Panel targets larger start-ups than the population survey of the KfW Start-up Monitor, the wider founder concept of which also includes start-ups on a part-time basis, self-employed persons and freelancers and which regularly states a very small-scale picture of the broad founding event.

General effects of the economic and financial market crisis on young firms

- When firms were directly asked on the effects of the economic crisis, almost half of the young firms (48 %) stated to be negatively affected by the economic and financial market crisis by the time of the survey in summer 2009. Only a much more smaller share of the firms (9 %) mentioned that they can gain from the economic crisis.
- The young firms feel the effects of the economic crisis particularly in the order situation as well as in the sales and profit situation. 41 % of all start-ups report order

losses, whereas the order situation of 8 % of all start-ups has improved precisely due to the crisis (sales: 43 % to 7 %, profit: 40 % to 7 %).

- Particularly the firms founded in 2008 look ahead to 2009 optimistically: 73 % of the firms expect that their sales would improve this year in comparison to 2008; only 13 % expect a deterioration. The older start-up cohorts are less optimistic. First, a significantly lower share (44 % of the start-ups from 2005–2007) expects for the full year 2009 an improvement in sales in comparison to 2008; second, the share of the firms which expect lower sales is considerably higher (31 %).

Sales and profit situation of young firms

- Firms founded in 2008 generate in the same year on average sales amounting to 183,000 EUR. Typically, however, sales are much lower (median: 50,000 EUR). Firms staying in the market grow considerably during the first years. This way, firms in the fourth business year generated already average sales of 287,000 EUR (median: 125,000 EUR).
- Already in the foundation year approximately half of the firms (48 %) generate a profit; by the fourth business year this share increases continuously to 75 %. Across all cohorts the mass of the firms first generate moderate profits; only very few firms reach very high numbers already in the first years. This way, the average profit of 5,000 EUR (median: neither profit nor losses) in the foundation year increases to 25,000 EUR (median: 18,000 EUR) in the fourth business year.

Employment in young firms

- At the time of the foundation the 202,000 start-ups of the year 2008 contributed approximately 410,000 full-time-equivalent workplaces to the total employment in Germany. In comparison to the year 2007 this is a decline in the direct gross employment effect by 110,000 full-time-equivalent workplaces.
- This decrease has its roots, on the one hand, in the start-up activity in Germany which was continuously declining also in 2008; on the other hand, it can also be traced back to the lower start-up size of 2 full-time-equivalent workplaces (including founders) on average which was observed in 2008. In 2007, the average start-up size still amounted to 2.5 full-time-equivalent workplaces.

- The employment in the survived start-ups of the cohorts 2005 to 2007 increased in 2008 by 15 % on average. Thus, young firms could positively contribute to the employment in Germany. The employment growth decreases with an increasing firm age: In comparison to the older cohorts, the firms of the start-up cohort 2007 grew most in 2008 with about 24 %.
- The remuneration of the employed persons of young firms largely relies on the payments common in the industry. At the same time, too high personnel costs are referred to as the main reason why young firms refrained from planned (additional) hiring of workers. The latter contributes to the fact that a high share of young firms (for example 53 % of the start-ups of the year 2008) – also in 2008 – did not employ any further persons than the founders.

Innovation behaviour

- The innovation behaviour plays a large role for young firms when creating competitive advantages over their established competitors. Totally, 11 % of the firms founded between 2005 and 2008 introduced in 2008 a product on the market as the first provider (market novelties). In doing so, 4 % of the firms could place regional, 5 % national and 2 % worldwide novelties on the market. From the start-ups of the cohorts 2005 to 2007, 29 % have introduced a – from the firm's perspective – new product on the market (product innovations). Only 15 % of the firms have implemented new production processes in the firm in 2008 (process innovations).
- In 2008, almost one fourth of the young firms could not implement innovation projects as planned. The most important reason for this was an insufficient financing (58 %). Young firms refer to the lack of specialists, which is an important innovation obstacle mainly in established firms from the high-tech sector, as a reason for failed innovation plans comparatively seldom (22 %).
- Already one year after its introduction, the share of sales generated by a product innovation amounts to 37 % on average; and with process innovations a large part of the firms can reach quality improvements (79 %) and cost reductions (37 %) already after one year.
- A high persistence in innovation activities can be observed in young firms. From the firms, which introduced a product innovation on the market in 2007, more than 40 % belonged to product innovators in 2008 again. In the group of firms, which did not offer any product innovations on the market in 2007, more than 80 % had no product

innovations in 2008 as well. When considering the process innovations over time, a similar picture emerges.

- Apart from the innovation frequency, for high-tech firms the persistence of innovation activities is also reflected in the innovation degree of the offered products. Most high-tech firms which have entered the market with a low innovative product also do not increase the innovation degree of their product portfolio later. Conversely, particularly those high-tech firms, the best-selling product of which is characterised by a high innovation degree already in 2007, increase or update their product portfolio with products with the same innovation degree in the following year.

Investment activities

- In general, more than 90 % of the start-ups invest in the year of the start of their business (foundation cohort 2005: 91 %, 2006: 90 %, 2007: 93 %, 2008: 93 %). In 2008, only 7 % of the newly founded firms did not carry out initial investment in machines, real estate, furniture and equipment or similar, whereas 30 % of the start-ups from older foundation cohorts did not carry out (further) investment. On the firm level a considerable degree of persistence can be detected: Approximately three quarters (79 %) of the firms, which have carried out investment already during the year of foundation, invest in the second business year again, and also in the third and fourth business year more than seven out of ten (75 % and 71 % respectively) of these firms invest again.
- The lion's share of all start-ups exhibit only a small investment. Across all foundation cohorts, the majority of the young firms invested in 2008 in the size class up to 10,000 EUR, whereby with increasing age firms fall in this category more frequently (38 % of the investing firms of the cohort 2008, 56 % of the cohort 2005). On the other hand, a number of start-ups handle a considerable investment volume already in early years: 22 % of the investing start-ups spent more than 50,000 EUR for investments in the first business year. Among the firms aged one to four years only around 12 % belong to this size class.
- 22 % of the youngest firms and approximately 30 % of the firms from older foundation cohorts could not realise their investment plans for 2008 to the desired extent, whereby in most of the cases (77 % of the firms with failed investments) the project was not started at all. The firms founded in 2008 consider an insufficient financing to be the main reason for this (67 % of the firms with changes in planning); for the older foundation cohorts, the deterioration of the business outlook is the main cause (59 %

of the firms with changes in planning). Without the problems that had arisen, half of the firms would have invested additional 15,000 EUR. Within the same magnitude lies the realised investment volume of the mean investing firm.

Financing of young firms

- The majority (66 %) of the firms founded in 2008 have used existing tangible assets as well as financial resources. The foundation resources are dominated by the use of financial resources which have been used by 98 % of all start-ups either exclusively or in combination with tangible assets.
- With increasing age, the firms finance their investments more often with sales and retained profits (internal financing): 58 % of the firms founded in 2008 use during the same year internal resources for the investment financing; among the four-year-old firms this number amounted to 90 %. As a rule, the internal financing of the young firms is not sufficient for substantial investments. Thus, the share of the investment volume financed internally amounted in 2008 for the youngest firms to 24 %, for the firms of the foundation cohort 2005 the share was around 66 %. A reverse development can be observed with respect to the young firms' use of external resources including resources brought by the founders (external financing) to finance their investment plans.
- The operating costs of young firms are more frequently financed with sales and retained profits than the investments and also here the increasing ability of internal financing of the older cohorts becomes apparent: 80 % (44 %) of the firms founded in the same year and 97 % (15 %) of the firms founded in 2005 drew upon an internal (external) financing of the operating costs in 2008. 76 % of the total operating costs were financed internally by the cohort 2008; the respective value of the foundation cohort 2005 amounted to 92 %.
- The external financing is dominated by the own resources of the founders which in the foundation year 2008 were used by 90 % of the firms with need for external resources and which cover 52 % of the volume of external financing. The second most important source are longer-term bank loans which cover one fifth of the total financing volume (20 %) and which are used by 18 % of the young firms. Financial support from the Federal Employment Office (28 %) and resources from friends and relatives (13 %) are used if possible; however, they play a subordinate role for substantial foundation financing with a volume share of 3 % and 4 % respectively.

- Difficulties of financing when using external resources from third-party investors occur most frequently in the youngest foundation cohort: Approximately 22 % of all start-ups from 2008 indicate to have faced problems with the provision of external resources. For the older foundation cohorts this share considerably decreases to 14 % in the foundation cohort 2005.
- In comparison to the year 2007, when 16 % of the firms founded in the same year reported financing difficulties, a considerable increase of the difficulties with the start-up financing of six percentage points can therefore be recorded. On the one hand, this result may be a direct effect of the financial and economic crisis. At the same time, however, the share of firms which have used funds of third-party providers has increased from 41 % to 63 % of the firms with need for external financing, so that, on the other hand, also the possibility that the young firms are confronted with financing difficulties at all has increased.

The role of women in the founding event

- Women participate in just under a quarter of all start-ups. 17 % of the firms are “pure” female foundations without male participation and 7 % of the firms are founded by “mixed” teams.
- Start-ups by women are comparably rarely represented in the high-tech sector – particularly in the software industry – and in the construction industry. In contrast, relatively often they are the founders of firms in trade and in the consumer-oriented services.
- The founders in young firms with female participation present a comparable level of formal education to that of founders in firms with no female participation.
- A participation of academics in the start-up in mixed-gender teams is comparably often accompanied by a combination of different specialised knowledge. However, an interdisciplinary cooperation of natural scientists and technicians on the one side and jurists, economists or social scientists on the other side does not take place more frequently in mixed teams than in the team foundations in general.
- Start-ups with female participation tend to be smaller, they grow more slowly and conduct less innovation activities than start-ups without female participation. This finding can be partly explained by the fact that firms with female participation preferably settle in non-technology-intensive sectors with a rather low capital intensity, and it

probably also reflects different private preferences and entrepreneurial goals of women.

- Start-ups by women more frequently make use of financial support from the Federal Employment Office as well as of resources from friends and relatives and use less often longer-term bank loans than start-ups by men. Nevertheless, they do not face difficulties with bank financing more often than start-ups by men do.

Different development paths of newly founded firms

- With regard to the dynamics of start-ups, firms differ considerably already in young years in their development. Most young firms carry out only minor economic activities: Apart from the founders, no other employees work in the firm, apart from the foundation year, no investments are conducted and no product or process innovations are introduced.
- For a second group of start-ups, the figures concerning the development reflect a process of buildup of the firms which step by step comes to an end: The employment growth as well as the investment volumes decrease and the firm implements no further new products or processes.
- The third group covers the firms which show a particularly high activity in the key business areas: Over several years in a row they realise high employment growth rates, implement new products or processes or invest high volumes in the increase or in the update of their capacities. The identification and the provision of the best possible support to this comparably small group is the main challenge for the economic policy.