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**CORPORATE SPIN-OFFS IN THE  
KNOWLEDGE ECONOMY: FACTORS, IMPACTS AND POLICIES**

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**Alexander Tübke**

Institute for Prospective Technological Studies  
European Commission, Joint Research Centre  
W.T.C. Isla de la Cartuja  
E-41092 Sevilla, Spain  
Tel: +34 95 448.83.06  
Fax: +34 95 448.83.26  
e-mail: [Alexander.Tubke@jrc.es](mailto:Alexander.Tubke@jrc.es)

**ABSTRACT**

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In today's innovation-driven world, knowledge and learning are key-factors that foster competitiveness and growth. They are decisive pillars shaping prosperity, social and cultural development of society. Globalisation, international information exchange, and strong competition make it crucial to participate actively and promote the role of knowledge within the socio-economic system as early as possible. Deficits and backlogs, especially if they concern the structure of the system, lead to heavy burdens and can only be remedied at the highest expense. Therefore, the timely possession and non-possession of knowledge and skills will become ever stronger discriminators between systems that are socially and economically intact and those that are not. Policymaking, especially at European level, has not only to provide and foster appropriate conditions for the new knowledge society, but also submit itself to a new policy approach that involves all levels of stakeholders.

Corporate Spin-Offs are a result and a driver of change to a knowledge-driven economy. According to expert estimations, they make up for around 12.9 % of new firm formation in the EU<sup>1</sup>. Existing evidence stresses that Corporate Spin-Offs combine failure rates, which are about one third of those of "normal" start-ups, with the high growth of new or refocused companies. Additionally, Corporate Spin-Offs follow different regional patterns, which are often similar at pan-national level and depend largely on the industrial clusters and regional characteristics present. Corporate Spin-Offs use active relationships and networking as a strategic success factor.

The specific nature of Corporate Spin-Offs makes them an important and pro-active element within the knowledge economy. Already existing knowledge and experience is newly shaped and combined into a new product or process. The Corporate Spin-Off process leads to a shift from internalised to externalised knowledge and from organisational to individual responsibility. Further, Corporate Spin-Offs emphasise networking and relationships as a source of success. In addition, Corporate Spin-Off processes involve economic, organisational, and knowledge-related changes at individual, organisational, local, regional, national, and pan-national levels. They have been shown to produce considerable impacts at all stages. Finally, the development of the local and regional cluster is related to the frequency and success of Corporate Spin-Offs in an interdependent way.

Measures towards Corporate Spin-Offs have the potential to produce superior direct and indirect impacts on employment and competitiveness compared to other measures that support the formation of new firms. Policymaking should give particular consideration, preferably at a pan-European level, to the following major aspects of Corporate Spin-Offs:

First, a support of Corporate Spin-Offs would contribute to the strengthening of the common market and its competitiveness. Second, the calibration of various regional measures on an international level promises considerable synergies, which provides unique possibilities for strengthening European competitiveness and employment while respecting European diversity. Third, due to the diversity of entrepreneurial activities and the complexity of industrial change, political actions in favour of Corporate Spin-Offs should represent an important, but not the sole action within this general area of stimulating entrepreneurial activity and competitiveness within the European Union.

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<sup>1</sup> See Moncada et al. (1999), p.110

## RESEARCH NEEDS AND RESEARCH APPROACH

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Although Corporate Spin-Offs can be clearly distinguished from other types of start-ups and divestments and despite of combining key-characteristics in a unique way, existing investigation is sparse and heterogeneous. On one hand, Corporate Spin-Offs are difficult to identify and extract from the population of enterprises, because most official registers and commercial databases do not contain the necessary information. Only large Spin-Off processes are documented in the press. On the other hand, much of the information needed is sensitive and related to individual corporate strategy.

Existing research concentrates on partial aspects, e.g. evaluation effects, resource complementarities or implementation problems<sup>2</sup>. Although these subjects have some importance, they alone cannot explain the characteristics and success of Corporate Spin-Offs. There is strong evidence that the success of Corporate Spin-Offs is the result of a characteristic combination of a number of factors<sup>3</sup>.

In order to construct a first qualitative picture based on a comprehensive research approach and to assess the potential impact of Corporate Spin-Off processes on the European economy, the European Commission<sup>4</sup> implemented a number of actions between March and December 1999. First, available information about Corporate Spin-Offs was gathered in the United Kingdom, Sweden, Spain, Italy, Germany, France, and Denmark. Complementarily, a questionnaire-survey was addressed to 887 medium and large companies across the EU. Finally, a working seminar was held with high-level representatives from industry, academia and the European Commission.

## NATURE AND CHARACTERISTICS OF CORPORATE SPIN-OFFS

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A Corporate Spin-Off is defined as the division of an existing company into one parent company and one or more independent Spin-Off(s)<sup>5</sup>. It is characterised by the transfer of knowledge and skills, which form the basis for the operation of an often-new economic activity. The majority control of the Spin-Off is shifted to new owners, leading to a high degree of independence for the Spin-Off. In many cases, formal and informal relationships between parent and Spin-Off remain after separation.

In general, two types of Spin-Offs can be distinguished:

- (1) **Restructuring-driven** Spin-Off processes are initiated by the parent company. They are often undertaken for strategic or operational motives related to the parent company, which might be a consequence of restructuring or refocusing activity. Restructuring-driven Spin-Offs can be regarded as a top-down process, because the origin of the decision and the driver of the process is the parent company.
- (2) **Entrepreneurial** Spin-Off processes are driven by one or more individuals (Spin-Off entrepreneurs), who want to exploit an unused potential based on their key-experience acquired within the parent company. Entrepreneurial Spin-Offs are bottom-up processes, where the origin of the decision and the driver of the process is the Spin-Off entrepreneur.

Restructuring-driven Spin-Offs are particularly evident in countries such as France, Germany and Sweden, while Entrepreneurial Corporate Spin-Offs appear to be more common in Spain and Denmark, where there are fewer large companies undergoing major restructuring, and which have a relatively more significant SME base.

Key factors encouraging restructuring-driven Corporate Spin-Offs are based on the pressure to downsize and raise turnover per employee. Activities that are not within the company's core-competencies and that do not meet minimum performance requirements are either closed down or spun-off. However, parent companies are often interested in collaborating with their Spin-Offs in order to fill production or capacity bottlenecks. The costs involved are crucial in terms of the decision whether to spin-off or close down an activity. Moreover, sectors with high Spin-Off frequencies are sectors that undergo a high level of cost-cutting activity. Deregulation seems to have been one of the driving factors in encouraging the emergence of Corporate Spin-Offs in the energy and telecommunications sector. Many Corporate Spin-Offs are highly leveraged, because they have to finance the separation from the parent company, the transition to a stand-alone company and the investment into new

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<sup>2</sup> See for example Parhankangas (1999), Hudspeth and Kliegman (1996), Cusatis et al. (1994)

<sup>3</sup> See Abburrà et al. (1998), pp.29; Arciani et al. (1997), p.5; Garvin (1983), p.16

<sup>4</sup> JRC-IPTS and DG-ENTERPRISE, with the support of the ESTO network. ESTO is the JRC-IPTS' European Science and Technology Observatory, which currently comprises more than 30 major European policy advice organisations and has links to overseas organisations.

<sup>5</sup> See Moncada et al. (1999), p.IV

products and markets. During the transition period of between 3 to 5 years, the asset growth of the Spin-Off is therefore high, while economic performance is relatively weak.

Recently, there has been growing interest of European policymakers in comparing characteristics and effects of Corporate Spin-Offs in order to assess the rationale for political action. Studies cover one region of Denmark<sup>6</sup>, two Italian regions<sup>7</sup>, and a first qualitative perspective at European level<sup>8</sup>.

## MAIN CHARACTERISTICS

Corporate Spin-Offs account for a considerable share of new firm formation. For Europe, the share of Corporate Spin-Offs in new firm formation is estimated at 13%, varying between 8 % for France, 25 % for Finland and 50 % for Swedish New Technology Based Firms<sup>9</sup>. Frequencies change according to areas of activity, regions and parent company characteristics<sup>10</sup>.

Corporate Spin-Offs grow quickly at rates comparable to those of new or refocused companies. One study found that, in terms of employment, entrepreneurial Spin-Offs grew more than twice as fast as non Spin-Offs and 50 % quicker than New Technology-Based Firms (NTBFs)<sup>11</sup>. An Italian study investigated 147 Corporate Spin-Offs in the region of Lombardy. Their growth rates are reproduced in the following table.

Table 4: Growth rates of Corporate Spin-Offs in Lombardy, Italy

No. of Employees at Start	Average Employment Growth after 5 years
1	453.8 %
2	52.8 %
3	68.1 %
4	57.7 %
5	7.5 %
6-10	19.7 %
More than 10	5.5 %

Source: Arciani et al. (1998), p.35

It has to be stressed that around 9 % of the companies investigated reduced their size and 42 % have stayed in the same size class after five years. This means that solely the remaining half of the sample accounted for the high growth.

## EFFECTS OF CORPORATE SPIN-OFFS

Corporate Spin-Offs have important impacts on regional industrial structures, competitiveness and employment. In Europe, they apparently follow patterns that differ from the US or Japan<sup>12</sup>.

Swedish evidence suggests that entrepreneurial Corporate Spin-Offs from New Technology Based Firms play an important role commercialising new technologies, thus fostering innovativeness. They are also a driver of the service sector and power the shift to a service-oriented economy, e.g. for the financial services sector or the local services-to-company sector. Corporate Spin-Offs are new and very focused organisations, which need to establish new relations and select key suppliers and customers. Their activities are much more regionally concentrated than their parents' are, so that Spin-Offs are more likely to appear in vibrant industrial clusters. The Spin-Offs' orientation towards growth benefits the local industrial cluster, producing considerable positive indirect effects on competitiveness and employment within the cluster.

The most important effects are presented in box 1.

### Box 1: Effects of Corporate Spin-Offs in Europe

<sup>6</sup> See Nielsen (1998)

<sup>7</sup> See Abburrà et al. (1998); Arciani et al. (1997)

<sup>8</sup> See Moncada et al. (1999)

<sup>9</sup> See Moncada et al. (1999)

<sup>10</sup> See Teece (1986)

<sup>11</sup> See Lindholm-Dahlstrand (1997(b)), p.668

<sup>12</sup> See Ito and Rose (1998), p.3

- ♦ **Role for New Firm Formation:** Corporate Spin-Offs play an important role for new firm formation. Expert estimations in 8 European countries<sup>13</sup> suggest that they make up for an average 12.9 % of new firms created. However, Spin-Off rates vary considerably between geographic regions and sectors of activity.
- ♦ **Job Growth:** Some studies stress the healthy growth prospects of Corporate Spin-Offs (at least 8 % in employment terms, higher in terms of asset growth) combined with a very low failure rate of around 15 %. UK and Swedish research confirm this. Corporate Spin-Offs display above average growth and low failure rates, producing positive direct employment creation effects. Job displacement effects appear to be negligible.
- ♦ **Innovation:** One study found that Corporate Spin-Offs produce a higher number of innovations than New Technology-Based Firms (NTBFs). Further, Corporate Spin-Offs are an important element in the creation of NTBFs. Corporate Spin-Offs therefore represent a key driver in creating a technologically competitive environment.
- ♦ **Entrepreneurship:** Corporate Spin-Offs are important in unleashing entrepreneurial potential, both by creating new, dynamic enterprises but also by creating leaner, more competitive and more focused parent companies.
- ♦ **Long Term Growth Potential:** Given that Corporate Spin-Offs appear to combine high turnover growth with a significantly lower failure rate, they seem to be driving and -at corporate level- stable factors for industrial growth. However, some restructuring-driven Spin-Offs show weak performance during the first few years after the separation, mainly due to costs associated with the transformation of the Spin-Off to a 'stand-alone' company.
- ♦ **Benefit for the Former Parent Company:** The loss of the activities of the Corporate Spin-Off helps restructure the parent's value chain and reduce its costs or raise its efficiency, whilst the parent company reduces risks from a non-strategic business and gets rid of potential (future) losses. US evidence suggests that restructuring leads to higher parent firm growth and performance.
- ♦ **Fostering Regional Competitiveness:** After the separation process, Corporate Spin-Offs concentrate more on local and regional supplier and customer relations thus fostering regional competitiveness.
- ♦ **New Market Creation:** Corporate Spin-Offs have been shown to create new markets, thus raising European competitiveness.

Source: Moncada et al. (1999)

## **CORPORATE VS. RESEARCH-BASED SPIN-OFFS**

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Public policy as the bearer of public institutions has got a special role incubating Research-Based Spin-Offs. In order to improve the exploitation of research results by industry, to stimulate private investment in research, and support new firm creation, Research-Based Spin-Offs are receiving a high level of attention from policymakers<sup>14</sup>.

Recent research on Research-based Spin-Offs<sup>15</sup> shows that there exists a broad range of schemes and fiscal measures directed towards the commercial exploitation of research and the creation of Spin-Offs in the member states.

Research-Based Spin-Offs are defined as Spin-Offs from universities (University Spin-Offs) or public or private institutions (Institutional Spin-Offs)<sup>16</sup>. They create new, highly-skilled jobs, are flexible and dynamic firms creating new markets, and provide an incentive for researchers to pursue commercially relevant activities<sup>17</sup>. Institutional Spin-Offs from corporate and public R&D centers have played a driving role in developing strong regional industrial clusters. The importance of Spin-Offs from Fairchild Semiconductors for the existence of Silicon-Valley, of Spin-Offs from Nokia for the Finnish cluster on telecommunications technology around Turku, and from MIT for the Boston Route 128 area should not be under-estimated. However, it has to be taken into account that these cluster development processes take tens of years and that a "virtuous circle" is only reached when a number of influencing factors comes together. US corporations have a long tradition in encouraging Spin-Offs from corporate<sup>18</sup> and public R&D laboratories.

<sup>13</sup> Denmark, Finland, France, Germany, Italy, Spain, Sweden, and the UK (see Moncada et al. (1999), pp.109)

<sup>14</sup> see results from the ETAN working group and current actions of the European Commission to create a European research area, and OECD (1999)

<sup>15</sup> see OECD (1999) and the OECD documents DSTI/STP/TIP(99)6 and DSTI/STP/TIP(99)25

<sup>16</sup> OECD (1999), p.3; Lindholm-Dahlstrand (1997(a), p.332)

<sup>17</sup> see OECD (1999), p.8

<sup>18</sup> Lucent Technologies and Hewlett Packard are two prominent examples.

In some European countries, Spin-Offs from public companies in the utility, energy and telecommunications sector show have played an important part in the deregulation and privatization of areas that have formerly been controlled by the state.

Compared to Corporate Spin-Offs, Research-Based Spin-Offs face additional obstacles towards commercial success. In Europe, Research-Based Spin-Offs dispose of less market-related experience and customer contacts than Corporate Spin-Offs. Therefore, they often underestimate the risks associated with commercialization. Often, the technologies used by Research-Based Spin-Offs face a bigger technology-development gap to commercialization. Further, incubator organizations in case of Research-based Spin-Offs generally provide an environment that is less entrepreneurial and more bureaucratic.

A Swedish study compares University Spin-Offs with Corporate Spin-Offs and New Technology Based Firms (NTBFs)<sup>19</sup>. Compared to University Spin-Offs, Corporate Spin-Offs are more innovative firms that put a stronger focus on the exploitation of their inventions<sup>20</sup>. With respect to similar non Spin-Off companies, Corporate Spin-Offs are more innovative and focused on their customers<sup>21</sup>. They combine existing process technologies, that are often similar to those of the parent, with a leaner organisation that permits them to produce more innovative, tailored products at lower costs than their competition. However, due to their weaker market position and a smaller number of clients, the Spin-Offs do not reach the same levels of performance as their parent. In the Swedish study, Corporate Spin-Offs are more frequent than Research-Based Spin-Offs. About 75 % of the Spin-Offs within the sample are Corporate Spin-Offs, 16 % University Spin-Offs and 9 % Institutional Spin-Offs. The study shows that Corporate Spin-Offs profit from experience and contacts acquired before, so that their employment growth is double the growth of other NTBFs. Patent activities are two to four times higher for University Spin-Offs than for Corporate Spin-Offs or NTBFs. It is likely that Corporate Spin-Offs are better equipped to exploit their own inventions, while inventions of University Spin-Offs are exploited by other companies.

Research-Based Spin-Offs and Corporate Spin-Offs have many aspects in common. Both face similar obstacles on their way to success. Therefore, experience from Corporate Spin-Offs could benefit Research-Based Spin-Offs. As Research-Based Spin-Offs are further from the market than Corporate Spin-Offs, public authorities as bearers of public incubators have a special role in providing a positive framework.

## **OBSTACLES AND SUPPORTIVE FACTORS**

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Spin-Off processes are not automatically successful. Examples of failed Spin-Offs can be found. In particular enterprises that are spun-off with short term objectives in order to dispose of unprofitable businesses or to create short-term profit maximisation for the parent face a higher risk of failure. However, the positive effects of Corporate Spin-Offs on competitiveness seem to clearly outweigh the negative ones. There are a number of specific factors, which support or hinder Corporate Spin-Off processes and their success.

The support from the parent company is decisive for the success of the Spin-Off. Schemes offered by the parent company can be a key-driver for the creation of entrepreneurial Spin-Offs and reduce the risk of failure significantly.

The management and implementation of the Spin-Off process is another practical obstacle for the success of the process. The effort put by the parent company into this phase can result extremely beneficial.

The financial incentives for the Spin-Off's management are another important success factor. In the case of Management Buy-Outs (MBOs), an incentive is provided by the management's equity share in the Spin-Off. Unfavourable taxation of equity holdings or stock-options constitutes a major disincentive deteriorating the risk-reward relation of entrepreneurial Spin-Offs in particular.

Furthermore, the comparison of the political, legal and fiscal framework of the United Kingdom with the other countries reveals that more flexibility combined with incentives for new firm creation positively influence the creation of Corporate Spin-Offs. On the other hand, the absence of favourable political, legal and fiscal frameworks constitutes a major obstacle for Corporate Spin-Offs. Countries like the US and Japan have become aware of this and implemented legislation that provides a favourable background for Research-based Spin-Offs<sup>22</sup>.

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<sup>19</sup> Lindholm-Dahlstrand (1997)

<sup>20</sup> See Lindholm-Dahlstrand (1997(b)), p.670

<sup>21</sup> See Arciani et al. (1997), pp. 41

<sup>22</sup> In the US, the Bayh-Dole Act (Public Law 96-517: Patent and Trademark Amendments Act of 1980) constitutes the legal base for technology transfer from public to private institutions. It created a uniform patent policy among the many federal agencies that fund research. In Japan, the "Industrial Revitalisation Law"<sup>22</sup>, enacted in October 1999, allows firms to own intellectual property rights of inventions resulting from government funded research.

Finally, it should be pointed out that, in some EU countries, the negative influence of culture regarding an entrepreneurial failure as a personal failure appears to be an obstacle of considerable magnitude. A well-developed University education of entrepreneurship could be one step to overcome this obstacle.

### **A ROLE FOR POLICY?**

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Measures towards Corporate Spin-Offs have the potential to produce superior direct and indirect impacts on employment and competitiveness compared to other measures that support the formation of new firms. This is due to the fact that Corporate Spin-Offs tap into and profit from their former experience and relations acquired within the parent company to build the new business. Therefore, they begin with a competitive advantage compared with other types of new companies. This produces low failure rates, higher growth, and longer-term stability at corporate level. Policy options regarding Corporate Spin-Offs can thus offer the potential to be more effective than measures aimed at supporting 'normal' firm start-ups. However, it should be taken into account that measures concerning Corporate Spin-Offs should be well-balanced in order not to handicap normal firm formation. A number of policy options are presented in box 2.

#### **Box 2 – Policy options to support Corporate Spin-Offs**

- **Measures that foster the incentive to spin-off** could be created through revised taxation schemes for equity holdings in Spin-Offs.
- **Measures that help parent and Spin-Off companies cope with labour and organisational costs generated by the Spin-Off process.** This could include the support given by the parent company to the Spin-Off or be directed to cover the organisational costs of change for both companies
- **Measures that allow more flexibility in labour relationships** and promote adequate labour arrangements, such as secondments, leaves of absence or transfers.
- **Measures that increase the visibility of successful Corporate Spin-Offs and their wider benefits,** for example via benchmarking of experiences and good practices.
- **Measures that favour the adoption of co-operative practices between parent and Spin-Offs,** for example by supporting the start-up of "horizontal clusters" or "company clubs" concerning Corporate Spin-Offs. These instruments would be managed by-companies-for-companies and provide a platform for the exchange of experience and information.

Source: Moncada et al. (1999)

Corporate Spin-Offs have demonstrated to be an important source for industrial reinvigoration and the achievement of competitive advantage. Spin-Offs create important growth and innovation opportunities. Corporate Spin-Offs have to be adequately considered in innovation and employment policy in a Europe aiming at substantial employment renewal and growth over the next twenty years.

Policymaking should give particular consideration, preferably at a pan-European level, to the following major aspects of Corporate Spin-Offs.

First, a support of Corporate Spin-Offs would contribute to the strengthening of the common market and its competitiveness. Especially when compared with the US, Corporate Spin-Offs have been an instrument that has not sufficiently been considered in European industrial policy

Second, Corporate Spin-Offs follow different regional patterns, which depend largely on the industrial clusters present. The calibration of various regional measures on an international level promises considerable synergies, which provides unique possibilities for strengthening European competitiveness and employment while respecting European diversity.

Third, due to the diversity of entrepreneurial activities and the complexity of industrial change, political actions in favour of Corporate Spin-Offs should represent an important, but not the sole action within this general area of stimulating entrepreneurial activity and competitiveness within the European Union.

In the design of measures that support Corporate Spin-Offs, three major threats have to be taken into account by the policymaker. Public support measures directed to the Spin-Off could replace support that otherwise would have been provided by the parent company. The danger here is that this could result in benefiting the parent rather than the Spin-Off. Further, parent companies could create 'apparent' Spin-Offs that could benefit from public support but still be informally controlled by the parent. A consequence of this could be the creation of a dominant position of the parent company that de facto controls the network of its offspring. Also, public support towards Spin-Offs could put other types of new firm formation at a disadvantage. At last, both companies and policy makers should also consider the possible negative impact, which could emerge when a non-agreed transfer of intellectual property and capital from parent companies to entrepreneurial Spin-Offs takes place.

## CONCLUSIONS

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Corporate Spin-Offs are not a brand-new issue. There is no doubt that many new companies are set-up taking advantage of previous business experiences. However, Corporate Spin-Offs have not been appropriately addressed in the European Union despite their rising importance within corporate strategy and their high benefits for competitiveness and employment.

Corporate Spin-Offs are subject to a complex interplay of entrepreneurial, technological, and environmental factors. The definition and typology of Corporate Spin-Offs needs to be developed and standardised across Europe<sup>23</sup>. Based on this, best practices of Corporate Spin-Off processes and the extent of these effects at national or European level could be identified. Spin-Offs from Small and Medium Enterprises (SMEs) are subject to different restrictions and motivations<sup>24</sup>. A more precise knowledge about the mechanisms that create Spin-Offs from SMEs would open up a huge potential of value creation at a European level. Further, there is evidence that Research-Based Spin-Offs from public institutions could especially benefit from evidence about Corporate Spin-Offs<sup>25</sup>. After having reached a certain level of development, Research-Based Spin-Offs need, and can benefit from, the same instruments like Corporate Spin-Offs.

In conclusion, Corporate Spin-Offs in Europe are important processes in successful industrial transformation and innovation. As a result and driver to a knowledge-based economy, Corporate Spin-Offs play a key role within the socio-economic system. Being clearly identifiable phenomena that spur innovation and create competitiveness and employment, they merit special political attention within European innovation, RTD, employment, and industrial policies.

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<sup>23</sup> The new Swedish approach, using individual career-pattern information, provides an interesting example that could be adapted and applied to other EU countries.

<sup>24</sup> For example, SME Spin-Offs noted the access to finance as a considerable obstacle, while restructuring-driven Spin-Offs from large companies did not consider the access to finance as a major problem.

<sup>25</sup> See OECD (1999)

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