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VENTURE CAPITAL POLICY REVIEW: DENMARK

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VENTURE CAPITAL POLICIES IN DENMARK

Günseli Baygan

Abstract

Denmark has one of the lowest levels of venture capital investment as a share of GDP among OECD countries. The Danish government tried a number of supply-side initiatives in the 1990s with varying degrees of success. Problems stem from a lack of equity investment culture, the high levels and complexity of taxes, a dominant role played by banks in venture financing, and few contributions from other institutional investors. A new strategy focuses on providing seed capital to start-ups through a reorganised government equity fund and technology incubators. The challenge is to build on this momentum to further diversify early-stage financing and deepen the entrepreneurial culture. This paper analyses trends in Danish venture capital markets and makes policy recommendations which have been developed through an OECD peer review process.

POLITIQUES DE CAPITAL-RISQUE AU DANEMARK

Günseli Baygan

Résumé

Au Danemark, le niveau des investissements en capital-risque, exprimé en pourcentage du PIB, est l'un des plus faibles des pays de l'OCDE. Dans les années 1990, le gouvernement a fait plusieurs tentatives pour agir du côté de l'offre, mais les mesures prises n'ont pas toujours obtenu le succès escompté. Les problèmes sont de plusieurs ordres : absence de culture de l'investissement à risque, niveaux élevés d'imposition et complexité du système fiscal, rôle prépondérant des banques et faible contribution des autres investisseurs institutionnels sur le marché. Une nouvelle stratégie a été adoptée qui table maintenant sur un fonds d'investissement public réorganisé et sur des incubateurs d'entreprises technologiques pour fournir des capitaux d'amorçage aux jeunes entreprises. Il faudra poursuivre dans cette voie pour diversifier encore davantage les financements proposés aux entreprises en phase de création et développer la culture de l'entreprenariat. La présente étude examine les tendances des marchés danois du capital-risque et expose les recommandations pratiques qui ont été formulées à ce sujet dans le cadre d'un processus d'examen par les pairs mené à l'OCDE.

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ASSESSMENT AND RECOMMENDATIONS

Denmark has one of the lowest levels of venture capital investment as a share of GDP among OECD countries. The government made several attempts to increase venture investing in the 1990s, which were small-scale and largely unsuccessful. Although private equity investment ceilings on financial institutions were progressively raised, insurance companies and pension funds remain largely uninterested in higher-risk placements. Similar efforts were aimed at loosening bank reserves through the creation of specialised small firm and innovation "unit trusts", but this investment vehicle is still largely unused. Equity guarantees and high-risk loans were extended to small firms, but inexperience in the management of funds led to excessive losses.

Despite the low level of venture capital investment in Denmark, there is little evidence that availability of finance is a constraint. A significant part of the venture funds that are raised in Denmark is invested abroad, while the country attracts important amounts of risk capital from international sources. The low level of venture capital activity may reflect a lack of private equity investment culture and venture management expertise, particularly on the part of financial institutions such as banks, who play a prominent role. In addition, the high rates and complexity of the tax system may discourage entrepreneurs thus limiting demand for capital.

In 2000, the government changed its strategy to focus on providing seed capital to start-ups through both a reorganised government equity fund (*VækstFonden)* and technology incubators. *VækstFonden* is now focused on leveraging private capital to fund start-ups and enhancing the expertise of fund managers. This orientation should be strengthened with a greater emphasis on foreign co-investments. In addition, the untapped pool of resources held by institutional investors should be activated, and exit options through initial public offerings (IPOs) on secondary stock exchanges should be improved. A summary of progress and recommendations concerning Danish venture capital policies is given in **Table 1**.

Table 1. Progress and recommendations on Danish venture capital policies

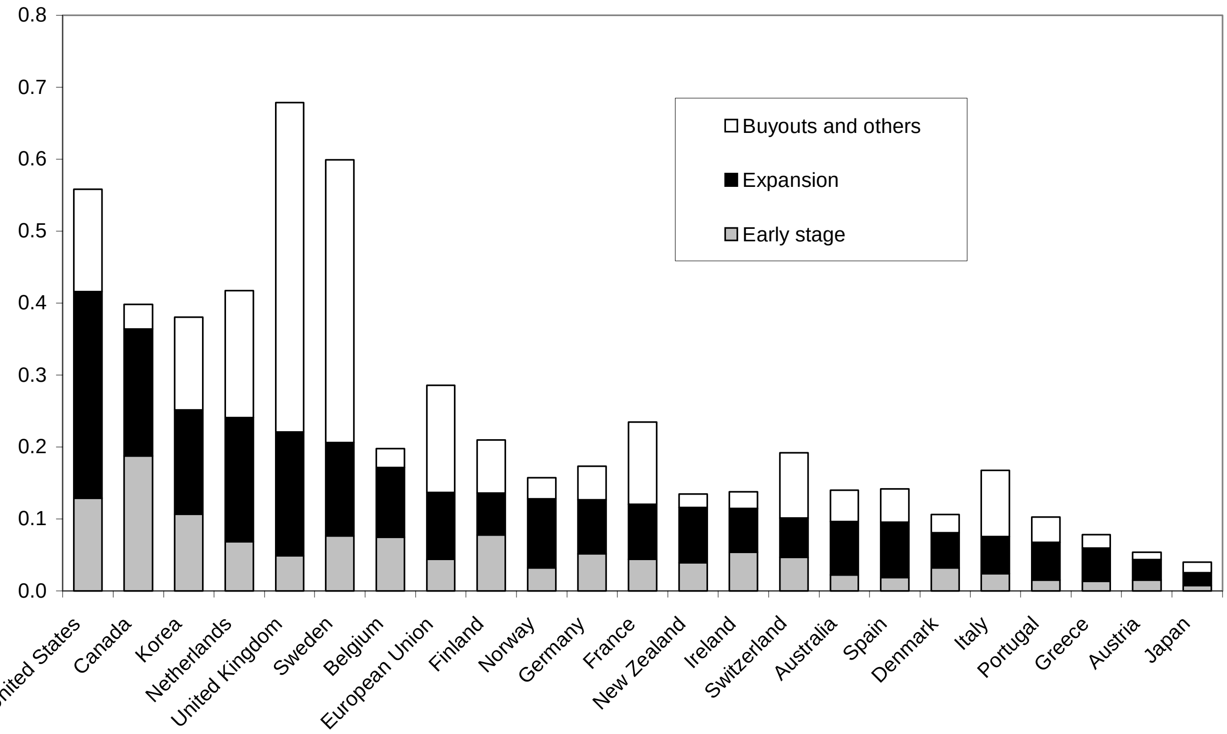
Area	Recent/planned action	Recommendations
Investment regulations	Considering further relaxing investment rules for new type of unit trusts investing in small start-ups.	Remove quantitative restrictions, simplify investment rules and enhance expertise and venture investment culture among institutional managers.
Tax incentives	No fiscal incentives for venture capital investments.	Consider lowering capital gains taxes to stimulate investments by entrepreneurs, business angels and other investors.
Equity programmes	*VækstFonden* in co-operation with private partners gradually increasing equity financing of small start-ups.	Continue *VækstFonden* programmes to pump-prime private venture investment and to broaden equity investment expertise.
Business angel networks	Danish Business Angel Network *(DBAN),* Regional Business Angels Network *(RBAN) and Nordic Venture Network* all working to link business angels with investment opportunities.	Ensure linkages between business angel networks and technology incubators as well as spin-offs from public research.
Second-tier stock markets	*Nordic OTC* created to provide common Nordic platform for unlisted companies.	Encourage creation of a single second-tier stock market at Nordic and/or European level.

TRENDS IN VENTURE CAPITAL MARKETS

Overview

Denmark has one of the smallest venture capital markets relative to the size of its economy among OECD countries and the smallest among the four large Nordic countries (**Figure 1**). Venture capital investments as a share of GDP averaged about 0.1% in 1998-2001 compared to 0.6%-0.7% in the leading OECD countries, including the later stages of investment. However, Denmark was one of the few OECD countries that experienced growth in venture capital investments after 2000 following the stock market correction and market downturn (**Figure 2**).

Figure 1. OECD venture capital investment by stages as a share of GDP, 1998-2001

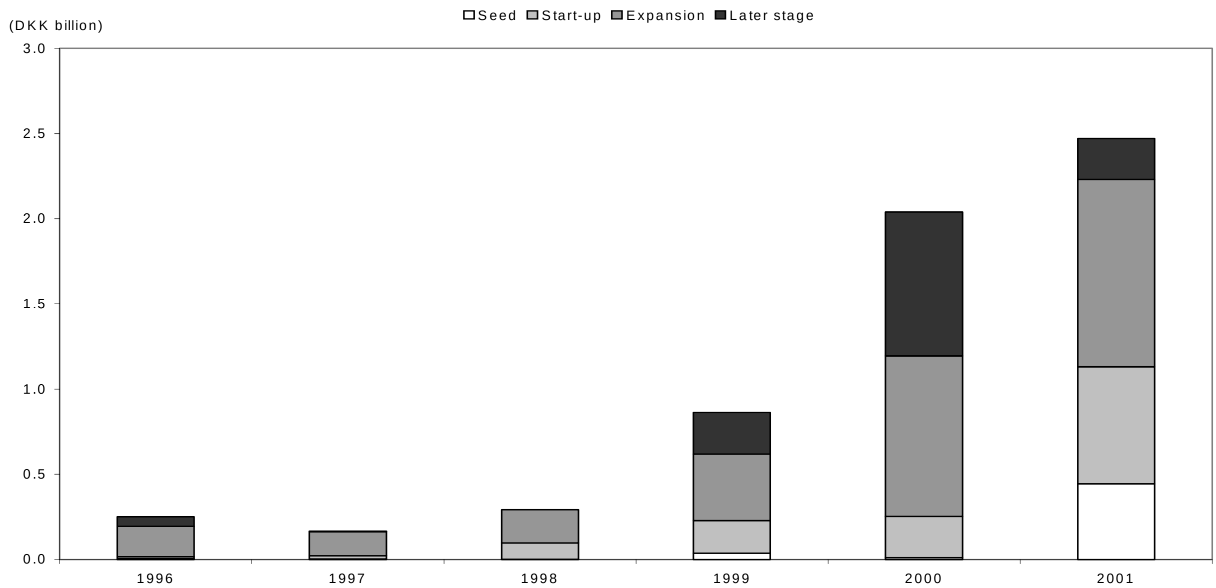


Note: The definition of private equity/venture capital tends to vary by country.
Source: OECD venture capital database, 2002.

The first venture capital companies in Denmark were established in 1983 with total funds of DKK 545 million. After some expansion during the 1980s, the market plunged, and Danish venture companies recorded their worst deficit in 1990. The companies generally had difficulties reaching expected returns and were constrained by the small size of the Danish market. The Danish venture capital market did not regain momentum and remained small compared to other OECD countries. This changed after 1998, when investments grew from 0.07% of GDP to 0.20% of GDP in 2001. The number of venture capital companies doubled in this time period to approximately 70, while the amount of venture capital under management rose almost five-fold to DKK 17 billion in 2001.

The distribution of venture capital under management is skewed towards smaller funds, with less than 10% of venture companies managing capital above DKK 500 million. Partly due to their recent entry into the market and their limited financing capabilities, Danish venture capital companies have not built up an experienced cadre of investment managers. They also continue to have problems attracting funds from institutional investors, who prefer larger vehicles. More than half of recent investment growth is accounted for by the government venture capital fund, *Vækstfonden* (the Danish Investment Fund). From less than 1% of total venture capital investments in 2000, *Vækstfonden* and its partners were responsible for about 6% of investments in 2001 and an estimated 10% in 2002.

Figure 2. Venture capital investment in Denmark, 1996-2001



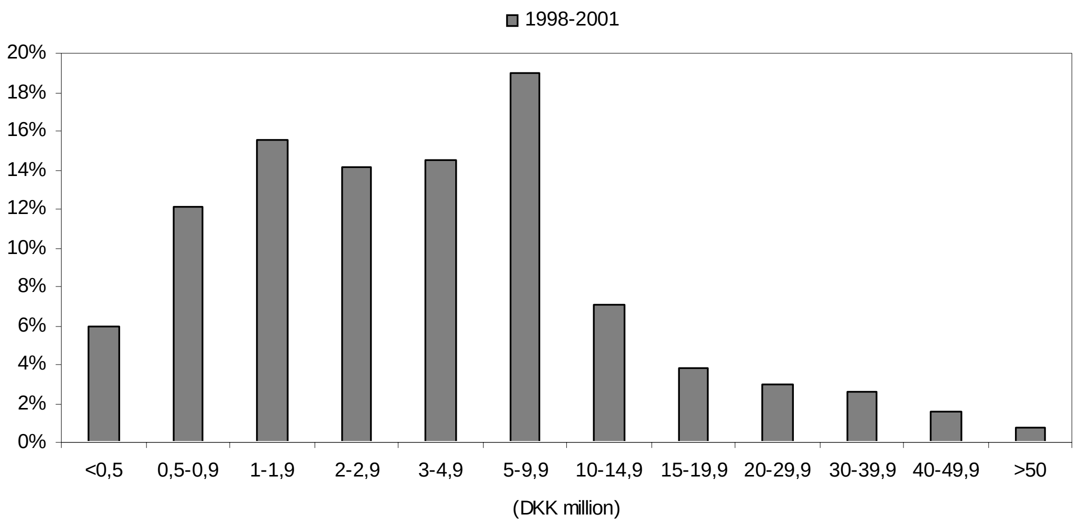
Note: Data coverage improved after 1998.
Source: EVCA, 2002.

Investment by stage and deal size

Partly due to *Vækstfonden* investments, the recent Danish equity surge was characterised by a shift towards earlier-stage firms (**Figure 2**). In 1998-1999, about 80% of all investments were channelled to the expansion or later stages, while in 2001 the share of expansion stage investments fell to 44% of the total. Seed investments reached DKK 440 million in 2001, representing 18% of total venture capital investments, while funds channelled to start-ups grew to DKK 690 million or 28% of investments. In 2001, out of 205 firms that were venture-backed, around 31% received seed and 28% received start-up financing; and the share of initial investments represented over half of the total. This resulted in an almost equal distribution between early stage (seed and start-up) and expansion stage funding, similar to the investment distribution in Canada and a few other OECD countries.

The early-stage orientation of Danish venture capital investments is also reflected in the distribution of venture-backed companies by deal size (**Figure 3**). The average deal size remains smaller in Denmark than in other OECD countries, even after taking into account the early-stage focus. In 1998-2001, 62% of companies received less than DKK 5 million, and a further 19% received between DKK 5-10 million.

Figure 3. Danish venture capital-backed companies by deal size as a share of total deals

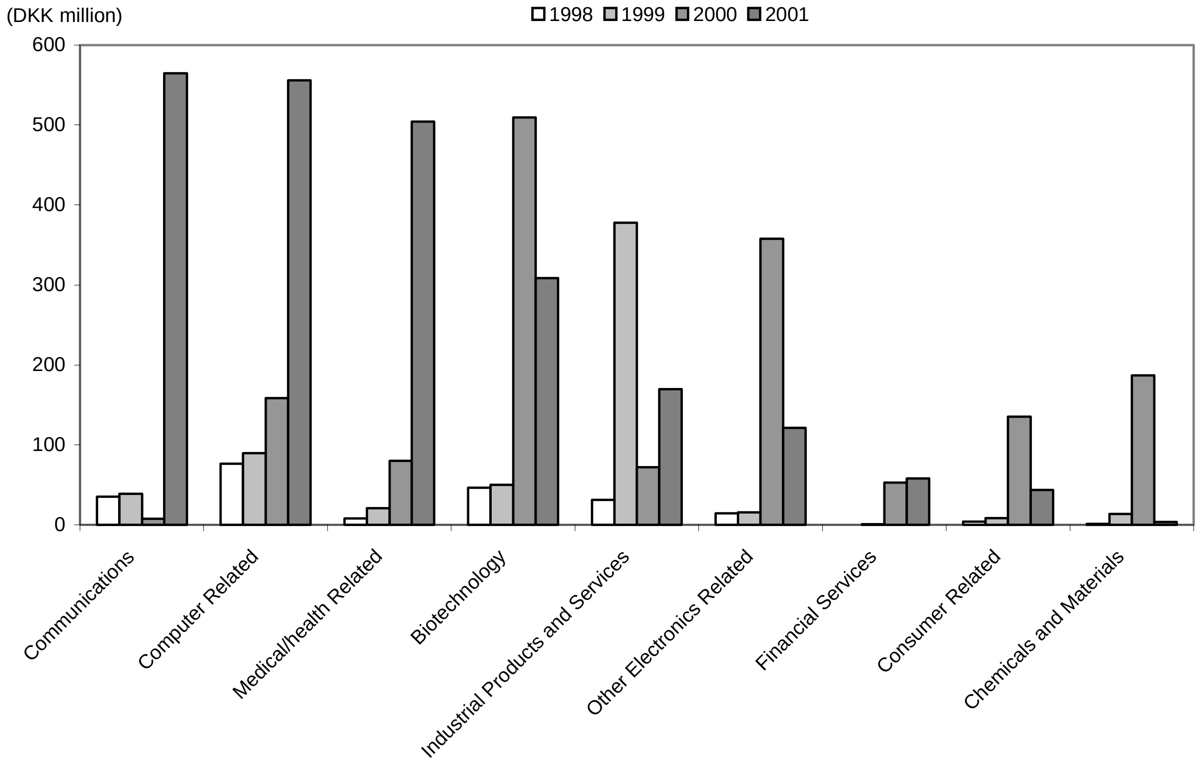


Source: Vækstfonden, 2002.

Investment by sector

In recent years, the Danish venture capital market has focused on investing in relatively new industries, primarily information and communications technologies (ICT) and the medical and health-related sectors (**Figure 4**). These two sectors have accounted for more than two-thirds of total investments, a pattern which has been maintained despite the downturn in technology markets since mid-2000. This is a dramatic change from the earlier focus in Denmark on traditional manufacturing industries. In 2001, ICT-based sectors (computers, communications and electronics) accounted for almost 50% of total venture investments, and health-based sectors (medical, biotechnology) received 33%. Denmark is starting to specialise in advanced biotechnology, where initial inflows to start-ups were supplemented by large follow-on investments. Patent applications by Danish biotechnology companies now outnumber those in other European countries. There has also been recent entry of specialist technology-oriented venture funds which are fuelling these developments.

Figure 4. Danish venture capital investments by sector



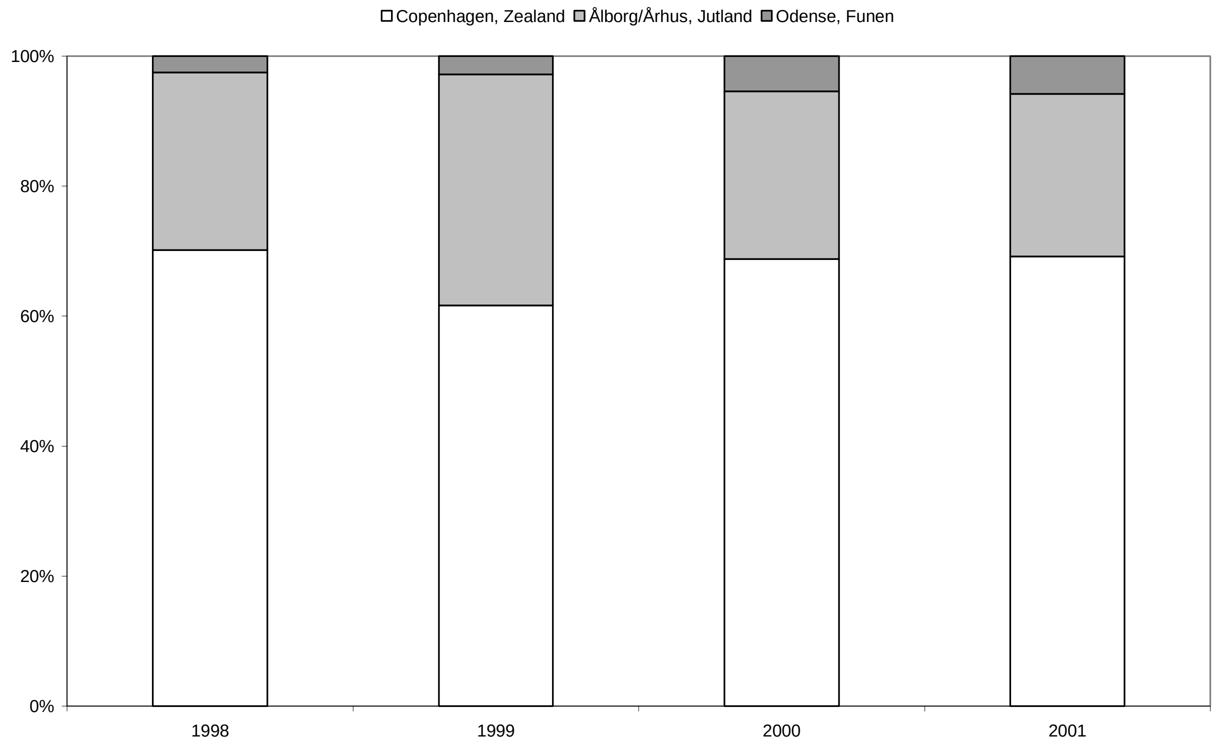
Source: EVCA, 2002.

Investment by region

Venture capital investments are concentrated in Copenhagen and its neighbouring regions, attracting more than two-thirds of all investments, both domestic and foreign (**Figure 5**). Over 90% of venture capital invested in Denmark is channelled to regions that are populated by research institutions and high-technology companies. Between 1998 and 2001, Copenhagen attracted around 68% of venture capital investments, while Alborg University, Arthus and its surroundings received 28%, and the rest - around 4% was invested in Odense.

Given the limited size of the domestic market, Danish venture capital funds also seek international investment opportunities. Between 1998 and 2001, on average of around 20% of Danish venture capital was invested abroad. Almost half of foreign investments were channelled to the United States, while the other main recipients were the United Kingdom, Sweden, Finland and Germany.

Figure 5. Danish venture capital investment by region, 1998-2001



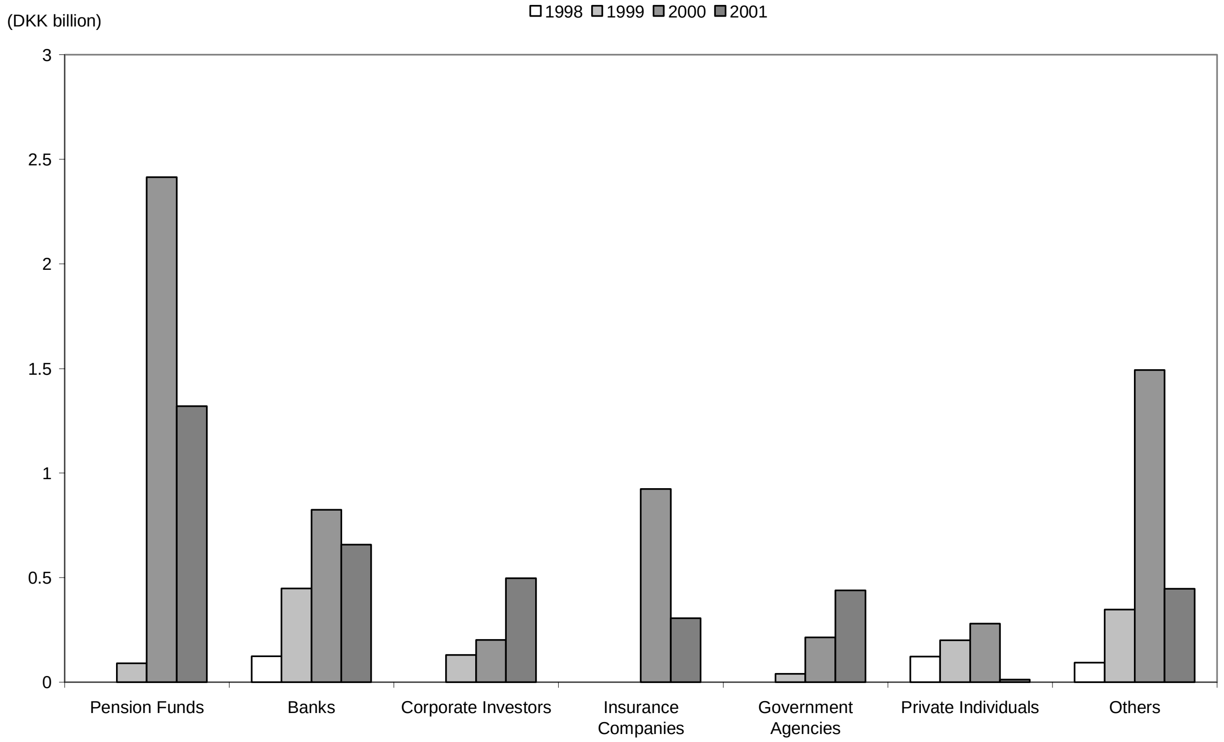
Source: Vækstfonden, 2002.

Funds raised by source

In Denmark, banks and institutional investors are the largest sources of private equity, accounting for more than two-thirds of all funds raised (**Figure 6).** Pension funds have traditionally provided around 40% of equity capital**.** Corporations are becoming more active players, contributing to 14% of total funds in 2001. A number of large corporations in Denmark have established internal venture capital units as well as business incubators. *TDC*, the largest telecommunications provider in Denmark, established *TDC Innovation, NKT* established *NKT Innovation*, and *Novo* has also set up an internal investment unit. The government has more recently joined the market through *Vækstfonden* and its associated funds.

In addition, Denmark receives a large and growing share of risk capital from abroad. In 2001, this amounted to DKK 1.1 billion or one-third of the total. Approximately 22% of foreign funds were raised from other European countries in 2001. The share of non-European funds reached 10%, from less than 1% in 2000. Some Danish venture firms are now entering into co-operation with foreign funds, and several foreign funds such as *3I* (UK)*, Slottsbacken* (Sweden)*, Vertex* (Hong Kong) and *Sofinova* (France) have become active on the Danish market. This might infuse much-needed foreign investment know-how into Danish fund management. Denmark should undertake further efforts to attract foreign venture funds and enter into foreign co-investments which could be useful in bringing in management expertise and larger syndicated deals.

Figure 6. Danish private equity raised by source, 1998-2001



Source: EVCA, 2002.

VENTURE CAPITAL POLICIES AND PROGRAMMES

Overview

Denmark has faced a number of setbacks in creating an efficient venture capital market, which could be due to its small size, insufficient management expertise, a risk-averse investment culture or ineffective government policies. Denmark also ranks below the OECD average on overall entrepreneurship and firm entries. All of these factors have likely contributed to the disappointing investment results. After some growth in the 1980s, the venture capital market stagnated in the 1990s. To jumpstart the market, the government tried a number of approaches, including loosening regulations on institutional investors, providing equity financing and guarantees to small firms, and creating second-tier stock markets. However, most of the initiatives were not successful in increasing either venture investment or the number of start-ups.

In 2000, the government reorganized its programmes at the same time that venture capital investments started growing, particularly in early-stage companies. A contributing factor was the growth in technology-based industry clusters in ICT and biotechnology. Specialist venture funds entered the market, and foreign capital inflows increased. The government centralised its small firm financing programmes in *VækstFonden*, which is also responsible for maintaining business angel networks. Several technology incubators were given a new mandate to leverage public seed grants with private follow-up investments. The challenge now is to build on this momentum to further diversify and increase the amount of early-stage venture financing. This will depend on stimulating more contributions from institutional investors, increasing foreign inflows and co-investments, and strengthening exit opportunities through second-tier stock markets, mergers and acquisitions and other avenues.

Investment regulations

While institutional investors and banks are the main suppliers of Danish venture capital, they invest a very small share of their overall assets. Insurance companies and pension funds in Denmark are regulated on the basis of quantitative restrictions, where they can invest only a specified portion of their portfolios in listed and unlisted company shares. These rules are intended to protect depositors and are different in nature than the use of the "*prudent man rule*" in other OECD countries such as the United Kingdom and the United States. However, Danish investment ceilings have been progressively relaxed. In 1994, insurance companies and pension funds were subject to ceilings of 40% on investment in shares, while the public pension funds -- the *Labour Market Supplementary Pension Fund* (ATP) and the *Employees' Capital Pension Fund* (LD) -- had ceilings of 35%, of which 10% could be invested in unlisted shares. In 1998, the ceilings were increased to 70% for all parties (largely because LD was close to the upper limit), of which 20% could be invested in unlisted shares. Despite these allowances, these institutions invested only about 1.0% of their funds in unlisted shares in 2000 and 2001.

Due to difficulties in accessing other funding sources, banks have been an important source of equity capital in Denmark. Many Danish banks set up special branches or "unit trusts" (*Investeringsforeninger*) for investment purposes (**Box 1**). Between 1980 and 1986, the capital held by unit trusts increased from DKK 2 billion to DKK 25 billion due to tax benefits (later repealed) granted to institutional investors. But as of 2001, only 0.3% of the total funds held by unit trusts was invested in unlisted shares, and one-third of this amount went to foreign companies. Banks are not well placed to make high risk illiquid investments, and only a small portion of their assets are placed in alternative investments, such as venture capital.

Box 1. Alternative investment funds in Denmark

Unit trusts (*Investeringsforeninger*), which were first created in 1928, are owned by banks and sell certificates to members. The funds are used to hold a portfolio of securities managed by the trust. While they may invest 10% of the total in unlisted shares, unit trusts in Denmark invest mainly in listed bonds and shares and serve primarily as intermediaries for institutional investors and private individuals.

SME unit trusts (*Erhvervsudviklingsforeninger*) are specialised unit trusts that can invest all funds in unlisted shares, but not more than 15% in one company. According to regulation, investors may not obtain a controlling interest in the companies in which they invest. SME trusts can only hold 25% of their funds in cash for five banking days before the funds have to be reinvested to prevent SME associations from speculation.

Other unit trusts – In connection with the establishment of the SME trusts, three other special purpose unit trusts were created: the fund of funds (*Investeringsinstitutforeninger*), which can invest no more than 20% of assets in SME trusts, the placement associations (*Placeringsforeninger*) and the money market associations (*Pengemarkeds-foreninger*). However, the latter two may not invest in shares.

Innovation funds (*Innovationsforeninger*) may invest in both listed and unlisted shares, but they may only invest up to 30% of their funds in the same company. While they may have a controlling interest in the company, innovation funds are restricted to investing in companies with a share capital of less than DKK 100 million to ensure that they only invest in small firms. To encourage pension funds to invest in the innovation funds, they receive a 5% tax exemption on investments of at least DKK 100 million in the first five years.

In order to increase the amount of risk capital flowing to small firms, in the late 1990s, the government allowed the establishment of SME unit trusts (*Erhvervsudviklingsforeninger)* operating under more liberal investment rules. However, out of nearly 80 unit trusts in operation in 2002, only one was an SME trust, the *Erhvervsudviklingsforeningen BankInvest Biomedicinsk Venture I* which concentrates on small firms in the biotechnology sector. In 2000, the government enacted legislation for the creation of innovation funds *(Innovationsforeninger)* with still more relaxed rules to encourage investment in innovative start-ups. Since 2001, one innovation fund has been established, *Innovationsforeningen ATP Private Equity*, which is an offshoot of ATP aimed at capturing pension fund investment in unlisted shares.

Successive regulatory reforms have not been successful in raising venture capital investments by Danish financial institutions. The combination of somewhat confusing rules and a risk-averse investment culture may have contributed to holding down venture capital supply. The Danish government is now considering a proposal to merge the SME unit trusts and the innovation funds into a new type of investment vehicle, building on resources received from insurance companies and pension funds. But surveys show that domestic investment managers continue to be risk-averse and inexperienced in venture investing (DVCA, 2002). Denmark should take steps to develop better expertise among institutional investment managers to be sure that they are capable of objectively assessing the balance between risk and reward when considering smaller, entrepreneurial undertakings. The government should also remove quantitative restrictions on venture investments by financial institutions and simplify the investment rules governing various types of funds and trusts.

Tax incentives

The Danish government has strived to maintain neutrality in its tax system and has only introduced limited, and largely ineffective, tax measures to promote venture capital investment. Along with Sweden, Denmark has one of the heaviest overall tax burdens – including both personal and corporate taxes – in the OECD, exceeding 45% of GDP. In addition to a relatively high labour tax wedge on individuals, Denmark maintains a 30% basic corporate tax rate for both large and small firms. The basic capital gains tax rate in

Denmark is 43% for individuals and 32% for corporations, with few incentives for venture investments in terms of front-end credits against income tax or back-end reductions in capital gains tax for qualifying investments (OECD, 2002*a*).

In 2000, the *Pension Returns Taxation Law* introduced a fixed tax rate of 26% on investment returns apart from shares, which were taxed at 5%. In 2001, in the interest of neutrality, a common tax rate of 15% was introduced for all investments. The different tax rates, however, did not have a marked effect on venture investments by these institutions. Investments in unlisted shares fell from 2.5% of total pension fund investments in 1995 to 1.9% in 2001. Investments by insurance companies in unlisted shares remained unchanged from the mid-1990s, representing 0.6% of their total investments in 2001.

There have been attempts to modify business taxation to assist small firms and entrepreneurs. In 1987, as part of the general tax reform, the Business Scheme (*Virksomhetsskatteordning)* enabled interest expenses incurred in a business to be offset against profits and allowed entrepreneurs to be taxed at the lower corporate (rather than individual) tax rate. In 1996, taxation on partnerships (*Dansk partnerskabs model*) was modified so that partners in a company could deduct losses incurred from other income. However, partly due to higher administrative requirements, such partnerships are not widely used. In general, the high rates and complexity of taxes in Denmark are believed to discourage both entrepreneurs and venture investing. The government should consider lowering tax rates on capital gains to increase investment incentives for entrepreneurs, business angels and other investors.

Equity programmes

The Danish government has used a number of schemes to stimulate equity financing for young growth-oriented firms with varying degrees of success (**Box 2**). In the 1980s and 1990s, hybrid public-private funds were established, generous equity guarantees and high-risk loans were provided, and technology incubators were also engaged in seed financing. The Danish Development Finance Corporation (*Dansk Udviklingsfinansiering, DUF*) was one of the early examples of public-private co-operation to provide risk capital. The *Equity Guarantee Programme* covered 50% of the risks of venture capital companies with half of Danish private venture funds subscribing between 1994 and 1998. The Business Development Fund (*Erhvervsudviklingsfonden*) provided project-specific loans, and later equity financing, at favourable rates for early-stage companies. Six technology incubators or innovation centres (*Innovationsmiljøer*) were mandated in 1998 to leverage public funds with private seed financing for small technology-based start-ups.

Box 2. Government venture financing initiatives in Denmark

The **Danish Development Finance Corporation** *(Dansk Udviklingsfinansiering, DUF*) was established in 1988 with funds totalling DKK 500 million from pension funds (44%), banks, building societies, insurance companies and private firms (44%) and the Central Bank (12%). DUF received equity guarantees from the government on its investments in small firms until the end of the 1990s, when it was liquidated and its portfolio taken over by an asset management company.

The **Business Development Fund** (*Erhvervsudviklingsfonden*) was established in 1992 to provide high-risk loans to high-technology projects in start-ups as well as in established companies. The DKK 2 billion initial allocation was invested in bonds, and the returns were used for project funding, where the Fund would share the downside risk but receive only a fixed interest in the case of commercial success. When a company could not repay a loan, the Fund would write off the loan and take over the project rights. These soft loans resulted in more than 60% of total funding being lost on the more than 900 projects funded.

The **Equity Guarantee Programme** was created in 1994 with funds totalling DKK 1 billion to provide venture capital firms with up to 50% cover on their equity investments. After eight years, the guarantee is reduced by 10 percentage points per year for five years. Venture companies are selected by the government and must have a net worth of DKK 50 million and demonstrate that they can develop SMEs through capital, counselling and active ownership. Since 2000, the administration and financing of new equity guarantees has resided with *VækstFonden* but the programme is due to be phased out.

Technology incubators or innovation centres (*Innovationsmiljøer*) were given a new financing role with total capital of DKK 300 million for a three-year period from 1998 to 2000. These centres must assist entrepreneurs in securing private sources of capital to finance development beyond the pre-seed stage. Six incubators have been created: *Novi Innovation A/S, Østjysk Innovation A7S, HIH Development A/S, Innovationsselskab Fyn A/S, Universitets Innovation A/S* and *Dansk Teknologisk Innovation A/S*. A recent positive evaluation of the incubators has led to their funding through 2004, after which they should become self-financing.

In 2000, the Business Development Fund was restructured as *VækstFonden* (the Danish Investment Fund) with the mission of providing seed and start-up financing for small innovative firms. Investments are now made on commercial terms, using equity capital or mezzanine loans (**Box 3**). This provides the Fund with a stake in the commercial success of firms and projects. *VækstFonden* established six new venture companies in 2001/2002: Nordic Biotech, TEMA Kapital, BI New Energy Solutions INCUBA, Northzone Ventures IV and Syddansk Kapital. In 2002, *VækstFonden* contributed equity capital of DKK 206 million to 35 companies in Denmark and committed mezzanine loans of DKK 89 million to 17 companies. The redirection of the Danish venture capital market towards seed funding of small technology-based firms as well as its recent growth spurt is partly due to *VækstFonden*.

As part of the new investment strategy, *VækstFonden* has set up a "fund-of-funds" investing in specialised venture capital companies. Nine such commitments have been made to private venture funds (*innovationsselskaper*) investing in a wide array of technology areas, including biotechnology, telecommunications, IT hardware and software, alternative energy sources and environmental goods and services. *VækstFonden* invested DKK 200 million in *Dansk Innovationsinvestering* (of which it has 67% ownership) and DKK 200 million in *Dansk (*of which it has 50% ownership).In these hybrid funds, private investors obtain one-third of the returns on the investments belonging to *VækstFonden* and have the option to purchase all shares if the company becomes viable. In 2001, *VækstFonden* and its partners made an additional 28 seed investments and 13 start-up investments. *VækstFonden* should continue this focus on pump-priming the private market, but also include foreign investors. It should also give priority to matching investors with entrepreneurs and enhancing venture investment expertise in Denmark, reducing its activities with the growing maturity of private sector venture capitalists.

Box 3. *VækstFonden* (The Danish Investment Fund)

The *VækstFonden* was set up in 2000 with a new venture investment strategy as the successor to the Business Development Fund:

Equity capital: Short-term financing is provided to seed firms for up to 25% of equity with *VækstFonden* having a partial interest in the company.

Equity guarantees. Guarantees are provided covering 50% of the losses of selected venture capital for "development" companies (*udviklingsselskaber*). However, these are being phased out.

Loans: Loans are provided for financing 45% of development costs for technology projects with a minimum budget of DKK 1 million.

Loan guaranties: Loan guaranties are granted covering two-thirds of bank loans up to DKK 5 million with a premium of 3% in the first two years and subsequently 1.5%.

Business angel networks

It is estimated that Denmark has around 1 700 potential business angels willing to invest on average DKK 1 million per year (VækstFonden, 2002*a)*. This would bring total annual investments by business angels to approximately DKK 1.7 billion, representing almost 40% of all venture investments. However, this potential has not been realised, owing largely to the lack of linkages between potential investors and firms seeking finance. Danish business angels tend to invest locally, prefer co-investment with other angels and co-operate to a limited extent with venture capital funds. Some studies indicate that small firms are not aware of financing sources and find the venture market confusing (Christensen, 2000*a*). Other studies stress that high levels of taxation could be creating barriers to entrepreneurship in Denmark (Jensen and Vinergaard, 2002).

In 2000, *VækstFonden* initiated the *Danish Business Angels Network* (DBAN) and the *Regional Business Angels Networks* (RBAN), which are formed around business incubators and research institutions. Currently, there are 200 members in DBAN, 63 of whom are also members of the RBAN. Each business angel should be willing to invest at least DKK 0.5 million a year to become a member of the formal network. DBAN has established an electronic portal to match investors with entrepreneurs. However, the investment activity through these networks has been insignificant, with investments totalling DKK 35 million in 10 companies in 2002.

In addition, the *Danish Venture Capital Association* (DVCA), established in 2000, sponsors networking events among entrepreneurs, firms and potential sources of capital. The *Nordic Venture Network* (NVN), which was initiated in 1999 and formalised in 2001, is intended to create a competitive Nordic environment for high technology venture capital investments. A further step in increasing the effectiveness of business angel networks would be to enhance the linkages between networks at the local, regional, national, Nordic and European levels to prevent information gaps and duplicative efforts. The Danish government should also link the activities of angel networks to technology incubators and spin-offs from public research to enhance deal flow and co-operation with other investors.

Second-tier stock markets

Denmark has made several attempts at creating a successful second-tier stock market. In the mid-1980s, the Stock Exchange III (*Børs III*) was created in connection with the main stock exchange, *Københavns Fondsbørs*. However, the entry requirements for higher-risk companies were stricter than on the main stock exchange, and few firms were listed. In 1995, the government put in place the regulatory framework for a secondary market, which was initiated by *Dansk OTC* in 1998 as a private initiative with limited public support. *Dansk AMP,* which trades on the Internet, is open only to small firms with market capitalisation of up to DKK 500 million. In 2002, there were seven companies trading on *Dansk AMP*, with total market capitalisation of DKK 1.5 billion (**Table 2**). The market has suffered from its small size and the absence of "market makers" who could increase liquidity by maintaining trade in a certain amount of stocks.

In 2000, *Københavns Fondsbørs* established the *KVX Growth Index*, which lists growth companies in the information technology, telecommunications, health and biotechnology sectors. However, the *KVX Growth Index* is mainly a sub-index with entry requirements comparative to the main stock exchange. In 2002, there were 10 companies trading on the *KVX Growth Index* with market capitalisation of approximately DKK 5 billion. Compared to Sweden, listed companies and market capitalisation on secondary exchanges has been negligible.

Danish venture capital funds rarely use initial public offerings (IPOs) as an exit mechanism given the limited size and liquidity of the exchanges. More exits are through trade sales and sale to financial institutions. Following the market slowdown, there have been few IPOs and, in 2001, 76% of divestments were portfolio write-offs compared to 35% in 2000. Since venture activity in Denmark is relatively recent and the majority of investments are still in the development stage, the scant activity on secondary markets and limited exit options will be a binding constraint as portfolio firms mature in coming years.

There have been attempts to created Nordic-wide stock exchanges, including the *NORDEX* Nordic Exchange, which is an alliance between the *Københavns Fondsbørs,* the Iceland Stock Exchange and the *OM Stockholmsbörsen.* In early 2003, the Swedish-based Nordic Growth Market or NGM Equity established the *Nordic OTC,* a market for small and medium-sized growth firms, with the intent of creating a common Nordic platform for unlisted companies. The government should encourage the creation of a single secondary stock market with scale economies for growth companies through joining with Nordic and/or European partners.

Table 2. Second-tier stock markets in OECD countries

Country (stock market)	Year of creation	Number of initial public offers (IPOs)				Number of quoted companies				Market capitalisation (% GDP)			
		1999	2000	2001	2002	1999	2000	2001	2002	1999	2000	2001	2002
Sweden (O-List)	1988	..	..	24	9	150	228	240	235	28.3	24.0	23.3	18.5
United States (NASDAQ)	1971	485	397	63	35(1)	4 829	4 734	4 109	3 765(1)	56.5	36.9	28.9	16.5
Canada (Canadian Venture Exchange)(2)	1999	2 425	403	330	122	2 358	2 598	2 688	2 504	1.7	10.2	12.7	9.7
Korea (KOSDAQ)	1996	160	250	181	176	453	604	721	843	22.0	5.6	9.5	5.0
United Kingdom (AIM)	1995	67	203	109	78	347	524	629	704	1.5	1.6	1.2	1.0
Ireland (ITEQ)	2000	---	..	..	..	---	7	8	8	---	3.6	1.7	0.7
Italy (Nuovo Mercato)	1999	6	32	5	0	6	40	45	45	0.6	2.2	1.2	0.6
Germany (Neuer Markt)(3)	1997	132	132	11	1	201	338	326	240	5.7	6.0	2.4	0.5
France (Nouveau marché)	1996	32	52	9	2	111	158	164	154	1.1	1.7	1.0	0.5
Switzerland (SWX New Market)	1999	6	11	1	0	6	17	15	9	..	3.0	0.9	0.2
Finland (NM List)	1999	..	..	..	..	..	17	16	15	..	0.7	0.3	0.2
Denmark (Dansk AMP)	2000	3	0	1	3	3	3	4	7	0.1	0.1	0.1	0.1
Spain (Nuevo Mercado)	2000	---	..	..	..	---	12	..	14	---	3.4	..	..
Japan (Mothers in Tokyo)	1999	2	27	7	8	2	29	..	..	0.2	0.1	..	..
Japan (Hercules in Osaka)(4)	2000	---	..	43	..	---	..	32	..	..	..	0.3	..
Netherlands (EURO.NM Amsterdam)(5)	1997	1	2	---	---	13	15	---	---	0.3	0.2	---	---
Belgium (EURO.NM Belgium)(5)	1997	6	3	---	---	13	16	---	---	0.2	0.2	---	---
NASDAQ Europe	2001	---	---	..	..	---	---	49	43	---	---	---	---
Austria (Austrian Growth Market)(6)	1999	..	..	---	---	2	2	---	---	0.01	0.01	---	---
Europe (EASDAQ)(5)	1996	..	..	---	---	56	62	---	---	---	---	---	---

(1) End of September.
(2) Data includes both high-growth firms' shares and shares of investment funds.
(3) The Neuer Markt segment will be discontinued after a transition period at the end of 2003.
(4) Previously NASDAQ Japan.
(5) In 2001, EURO.NM (EURO.NM Belgium and EURO.NM Netherlands) and EASDAQ merged and became NASDAQ Europe.
(6) On April 2001, the two stocks in the AGM segment were transferred to the Specialist Segment of Wiener Börse.
Source: Compiled by OECD Secretariat from national sources.

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