

SwedenBIO Position Paper:

# STATUS OF THE SWEDISH INNOVATION AND FINANCING SYSTEM

A benchmark on the Government report:  
Improved Financing for Commercialization of Innovations

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## INTRODUCTION AND BACKGROUND

In June 2004 the former Social Democrat government in Sweden launched the report “Improved Financing for Commercialization of Innovations”<sup>1</sup>. This report was presented by the appointed inquiry commissioner Claes de Neergaard. The purpose of the report was not just to describe the challenges facing the innovation and financing system, but also to propose measures to improve it.

This SwedenBIO report evaluates what has happened since then. Which of the measures were put into effect by the former government and which should the new government focus on?

## THE INNOVATION SYSTEM IN CRISIS - THE GOVERNMENT RESPONSE AND IMPLEMENTATION OF THE DE NEERGAARD AGENDA

In 2002 and 2003 seed and VC financing was in a serious condition. The seven Technology Bridge Funds<sup>2</sup> with about SEK 1000m in assets were three years from closing. Stiftelsen Innovationscentrum had used up all its funds and needed to be replaced. NUTEK was transformed with new terms of reference and a new role, leaving the field of innovation after 15 years as a leading seed-financing actor.

The report “Improved Financing for Commercialization of Innovations” presented a program with seven action items. The objective of the proposals was to improve the financing and commercialization of innovations and to come up with a clearer and less complex architecture for the innovation system. Five of the proposals were aimed at improving financing and two were more general in nature. If it was fully implemented, de Neergaard concluded that innovation support could be significantly improved and provide a more sustainable pool of resources. The report also recognized that the innovation system had suffered not only from an acute lack of capital in the earlier phases but also from fragmentation, limiting its effectiveness.

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<sup>1</sup> Ministry for Industry and Trade (2004), Bättre finansiering för kommersialisering av innovationer

<sup>2</sup> Teknikbrostiftelserna in Swedish

**Innovation and Financing – The Background**

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**In 2004 a program to strengthen and improve the Swedish innovation and financing system were presented**

**Key action items from “Improved Financing for the Commercialization of Innovations” (2004):**

- **Proposal 1: Create a technology bridge group with a long term perspective**
- **Proposal 2: Let Almi continue innovation support but with different financing**
- **Proposal 3: Create “Kick Start Sweden” - a new type of fund for early capital**
- **Proposal 4: Improve the tax situation for business angels**
- **Proposal 5: Find the right balance between holding companies and technology bridges**
- **Proposal 6: Simplify and clarify the regulations of Industrifonden**
- **Proposal 7: Increased business focus in seed-financing**



**What has been accomplished and what not?**

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## OUTCOME OF THE DE NEERGAARD AGENDA

### PROPOSAL 1: CREATE A TECHNOLOGY BRIDGE GROUP WITH A LONG-TERM PERSPECTIVE

The general idea behind proposal 1 was to create an improved and more sustainable financial and organizational basis for innovation support. This was to be achieved by forming a national holding company with seven regional subsidiaries based on the technology bridge foundations<sup>3</sup>. The financing was to be secured by the State accepting that the technology bridge foundations were to repay the State its own equity in 2007/08 when they were due to be dissolved according to their statutes. Vinnova and Industrifonden were to be involved as partners in the financing, Vinnova through its Incubator program and Industrifonden by providing seed financing.

#### OUTCOME:

**Accomplished.** In March 2005 the proposal was put into effect when the new company Innovationsbron was established with both Vinnova and Industrifonden as partners. The former technology bridges were previously criticized for emphasizing even distribution and regional aspects as opposed to supporting the best innovations. With new terms of reference the objective is to focus on growth and profits. This will be achieved by implementing centralized procedures and common organization in combination with a regional reach.

The level of funding totals SEK 2000 million distributed over 10 years, about 200 million SEK annually. Unfortunately, much of the financing does not involve new funds. Instead old funding is merely being redistributed. The Vinnova program sum of SEK 500 million was not increased when it left the innovation agency, and the original funds have not increased. It can be argued that the SEK 200 million from Industrifonden is not new to the system since the semi-public VC company Industrifonden left the seed financing arena to Innovationsbron when it was created. No changes regarding Innovationsbron have been identified in the 2006 autumn budget<sup>4</sup>.

<sup>3</sup> *Teknikbrostiftelserna* in Swedish

<sup>4</sup> Presented by the new government on October 16<sup>th</sup>, 2006

#### PROPOSAL 2: LET ALMI CONTINUE INNOVATION SUPPORT BUT WITH DIFFERENT FINANCING

The recommendation was that Almi should continue to support independent innovators and newly formed companies. To achieve meaningful support, the recommendation was that Almi would receive additional funding of SEK 50m annually. This was to be accomplished by allocations within the governmental budget and regional collaboration.

#### OUTCOME:

**Accomplished.** In the autumn 2006 budget the new government retained the SEK 70m increase to the Almi basic funding of SEK 55m, which was introduced by the previous government<sup>5</sup>. The spring 2006 budget also proposed additional funding amounting to SEK 10m in 2007 and 2008 and SEK 20m for projects to promote entrepreneurship among immigrants to Sweden was also proposed for 2007 and 2008. This funding exceeds the SEK 50m which the de Neergaard report recommended, and the proposal is considered to have been put into effect. The financial amounts nevertheless seems very modest in comparison with the needs and innovative potential among Sweden's innovation-driven industries.

#### PROPOSAL 3: CREATE "KICK START SWEDEN" - A NEW TYPE OF FUND FOR EARLY CAPITAL

The "Kick Start Sweden" fund was intended to be designed as a matching fund between private and public capital with a capital base of SEK 600m. The objective was to bridge the gap between pre-commercial and commercial financing and focus on investments in Life Science, ICT and services.

#### OUTCOME:

**Not accomplished.** The creation of Kick-Start Sweden failed as it was not possible to attract sufficient capital from private actors. Industrifonden had committed SEK 200m, but it did not prove possible to raise the remaining SEK 400m from investors. Today venture capital investors tend rather to invest at later stages, with larger amounts, with a more attractive risk-reward ratio. Business angels with the financial resources and knowledge to enter this investment stage are not common in Sweden.

#### PROPOSAL 4: IMPROVE THE TAX SITUATION FOR BUSINESS ANGELS

To lower the barriers to capital in the innovation chain it has been proposed that it should be possible to defer the tax from venture capital investment according to the "Skogskonto" model. Similar solutions are already in place to stimulate the private forestry industry. Hence, it would be logical also to stimulate capital that invests in innovation. Sweden should also offer internationally competitive conditions to attract foreign venture capital by offering an environment for cost-effective funds as a real alternative to other tax domiciles.

#### OUTCOME:

**Pending.** No initiatives by the former government have been identified. The new government declared in the policy declaration<sup>6</sup> in mid-October 2006 that it will investigate the possibility of deducting venture capital investments and deferring capital gains tax.

<sup>5</sup> Interview Gert Eriksson, CFO Almi November 2006

<sup>6</sup> Presented by the new government on October 6<sup>th</sup>, 2006

#### PROPOSAL 5: FIND THE RIGHT BALANCE BETWEEN HOLDING COMPANIES AND TECHNOLOGY BRIDGES

The report concludes that additional funding should be allocated to the university holding companies to support their “third task”, interaction with the surrounding community. However, no specific sums to be allocated are mentioned. It is emphasized that national co-ordination of holding companies is essential in order to be effective since many universities are interested in establishing these entities. The university holding companies should be active in the early phases and not all universities should make investments in spin-out companies through their holding companies.

#### OUTCOME:

**Pending.** A positive indication is that the Government Bill “Research for a better life” (2004) states that improved co-ordination of the holding companies is desirable. In the 2006 spring budget bill the colleges and universities in Blekinge, Kalmar and Växjö will receive funding to create one holding company for the three institutions. The general picture is, however, that the landscape for university holding companies is fragmented. Going forward it is important to promote specialization and excellence and that the best groupings are given a true opportunity to build competence as opposed to even regional distribution. In line with this, Chalmers and KTH are collaborating on innovation support and the Karolinska Institute has attracted SEK 800m in funding for early life science projects which are also open to other universities. In addition to the funds Karolinska Development I and II, a third fund is currently being raised.

#### PROPOSAL 6: SIMPLIFY AND CLARIFY THE REGULATIONS OF INDUSTRIFONDEN

The objective of the proposal was to clarify the regulations concerning Industrifonden’s exposure to financing involving a high investment risk. The regulation was to be reviewed by the board of Industrifonden in dialogue with the Ministry for Industry and Trade. The intention was that the reviewed regulation would come into full effect in autumn 2004.

#### OUTCOME:

**Not accomplished.** No reviewed regulation from Industrifonden has been identified.

#### PROPOSAL 7: INCREASED BUSINESS FOCUS IN SEED-FINANCING

This proposal was more general in nature and called for governmental funding to be based on sound financing principles and collaboration with private actors. The objective was to secure quality and the best use of limited public resources.

#### OUTCOME:

It is difficult to evaluate the outcome of a general recommendation in comparison with concrete action points. The challenge for decision makers is to balance generosity in the innovation system that should be sufficiently favorable to foster new ideas but still ensure a proper allocation of resources.

Innovation and Financing – The Outcome

**Two key proposals accomplished out of seven. Indications that the tax situation for business angels is improving.**

No	Proposal	Status	Comment
1.	Create a technology bridge concern	●	Accomplished. Innovationsbron created in 2005. New organization in full-effect January 2007.
2.	Let Almi continue innovation support	●	Accomplished. Financing exceeds the 50 M amount recommended in the de Neergaard-report.
3.	Create "Kick Start Sweden"	○	Not Accomplished. Not possible to attract sufficient private capital.
4.	Improve the tax situation for business angels	◐	Pending. No initiative by former government. New government is investigating capital deduction.
5.	Balance holding companies and technology bridges	◐	Some improvements in collaboration and financing. Still fragmented landscape among university holding companies.
6.	Simplify regulations of Industrifonden	○	No new regulations identified.
7.	Increased business focus in seed-financing	○	General advice, no clear proposal. Generosity should balance efficient resource allocation.

swedenBIO ● Accomplished ◐ Pending ○ Not accomplished

## CONCLUSION AND SUMMARY

In reviewing the initiatives taken after the launch of the de Neergard report, it is apparent that the situation has improved since 2003. Today, the financing and architecture of innovation and commercialization support is more sustainable and less complex than previously. However, challenges exist and have to be met by the government in order to raise the innovation system to the next level.

The creation of the high-tech focused Innovationsbron and the altered financing of Almi, working with independent innovators and established companies have been key components in resolving the urgent situation. Nevertheless, out of seven proposals only two can be considered to have been fully accomplished. One proposal is still pending as it is being studied more closely by the new government, and there are positive indications in one other area, partly as the result of initiatives from actors in the field of innovation other than the government. Two more proposals, being less specific, are more challenging to evaluate.

All in all, there have been improvements but financing, the fuel of innovation support, remains a key challenge. Here the government must take on a clearer role to foster an integrated and even more competitive innovation system in Sweden.

## RECOMMENDATION AND THE WAY FORWARD

The ambitions of Sweden when it comes to innovation as an engine of growth are high. Financing and the ability to support young and expanding companies is a key component in such a strategy. With the implementation of a selected number of relatively uncomplicated and cost-effective measures, the innovation climate can be clearly improved. With this in place, Sweden has the potential to stand out as one of the most exciting countries in the world when it comes to commercialization of research and innovation.

Going forward, *a combination of governmental “push” and “pull” measures is necessary*. Push measures are direct in character, and make more public financing available by grants and various funding schemes. There seems to be an understanding among stakeholders that *public early financing must be improved to bridge the financial gap, which neither the public funding nor venture capital does cover today*. The verification program<sup>7</sup> managed by Innovationsbron is an example of this. However, the funding level of 25 million SEK over the period 2006-2010 is too modest.

Another program that provides direct grants to industrial projects is the Vinnova initiative Research and Grow<sup>8</sup>. However, this program is sometimes criticized for being limited by available funding compared to the demand among the companies that apply to it. As a consequence, the selection committee of the program is forced to pick winners among the projects that the companies present<sup>9</sup>. To capture the full innovation potential, the *Research & Grow program should be expanded to better meet the demand*. It should also be combined with public initiatives that match and accelerate R&D investments made by industry.

Pull measures are more indirect in character. Here governments achieve their objectives by providing a favorable environment such as tax incentives for investors and companies. Tax incentives lower the barriers for financing of the innovation system. These types of instruments are not yet available in Sweden, although 70% of OECD countries offer R&D tax incentives, compared with 50% in 1996<sup>10</sup>. On the positive side, there are indications that the tax situation for business angels and venture capitalists is improving. However, the outcome of this process is still unclear as it is still being investigated.

*The Swedish government is recommended to introduce and implement a Swedish tax incentive system to encourage business R&D investments*. In an increasingly globalized economy a clear majority of the OECD countries offer this type of instrument to attract investments in strategic areas. A R&D tax incentive would strengthen attractiveness for advanced research and development in Sweden and provide a level playground to key competitors. Currently one dollar of research cost 100 cents in Sweden and below 70 cent in Canada and France<sup>11</sup>. In January 2007 the Swedish company Cellartis decided to locate the world's first factory for large scale production of stem cells to Scotland. This sent a negative signal regarding Sweden's competitiveness in attracting and retaining key technologies. The Cellartis case show that world class science must be combined with a world class investment environment to be truly competitive. In addition the Swedish corporate tax is not as low as it used to be relative other countries. Recently Denmark has lowered the corporate tax to 22 percent and Sweden is currently above the EU-average<sup>12</sup> in corporate taxation. In contrast to improving the science base, the taxation environment can be strengthened very fast.

*Another pull measure is to make donations to basic R&D tax deductible*. Such an initiative has the potential to become a significant complement to the greater governmental funding for basic research envisaged by the new government. Donations to basic research are a common and very important funding source for advanced medical research internationally. Examples are the Bill & Melinda Gates foundation and the Michael J. Fox foundation, which provide significant amounts to advance medical research in areas like malaria and Parkinson's disease.

<sup>7</sup> Näringsdepartementet (2006) Regeringsbeslut: Uppdrag om ett program för stöd till utvecklingsprojekt i akademiska forskningsmiljöer - ett led i genomförandet av strategiprogrammet för läkemedels-, bioteknik- och medicinteknikbranscherna.

<sup>8</sup> Forska & Väx

<sup>9</sup> In 2006 Research and Grow had a budget of SEK 100m compared to 1167 applications with a total value of about SEK 1700m . In the 2006 autumn budget the new government halted the program and an additional SEK 100m funding. Later the program was continued.

<sup>10</sup> Tax treatment of business investments in intellectual assets, an international comparison, STI Working Paper 2006/4, Paris (OECD 2006)

<sup>11</sup> Promoting Innovation by Tax Incentives – A review of Strategies and their Importance to Biotech Growth, SwedenBIO sponsored by European Commission (2006)

<sup>12</sup> KPMG Global Tax Rate Survey (2006)

## GOVERNMENTAL MEASURES TO STIMULATE THE FINANCING AND COMMERCIALIZATION OF INNOVATIONS:

### “PUSH” MEASURES

- Increase the public early and pre-seed funding for innovation companies
- Expand programs like Research and Grow to better meet the demand from companies

### “PULL” MEASURES

- Introduce a Swedish R&D tax incentive that make it easier for small and medium sized R&D intensive companies to hire personnel and invest in product development
- Introduce the tax incentive for business angels and venture capitalists that is being investigated
- Make donations to R&D tax-deductible

Going forward a combination of governmental “push” and “pull” measures is necessary. Push measures are direct in character and make more public financing available by grants and various funding schemes. Pull measures are more indirect in character. Here the government achieve their objectives by providing a favorable environment for investment in innovation.

## THE PROCESS

The Business and Finance Working Group of SwedenBIO has been involved in the preparation of this position paper. The objective is to develop the financial environment for industrial life science in Sweden.

Members are senior executives at CEO and SVP-level from leading life science companies and investors.

The material has been compiled by Mats Berggren, Project Leader at SwedenBIO and coordinator of the finance working group. Data is based on public quantitative and qualitative data, as well as interviews.

### INTERVIEWS:

Claes de Neergaard, CEO Industrifonden  
 Peter Holmstedt, CEO Innovationsbron  
 David Jern, CEO Actar  
 Gert Eriksson, CFO Almi  
 Maria Nilsson, Manager Business Angels, Swedish Venture Capital Association

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**ABOUT SWEDENBIO:**

SwedenBIO is the life science industry organization in Sweden and represent over 130 member companies. The objective is to facilitate the development of a world class environment for the life science industry active in Sweden. *[www.swedenbio.com](http://www.swedenbio.com)*

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