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Working life research in Sweden 2008

– the current position

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on assignment from FAS and VINNOVA

Foreword

The aim of this report is to provide an overview of research on Swedish working life in 2008. It is our hope that it will stimulate and be useful in discussions concerning the direction in which working life research is moving towards.

The document summarises two earlier reports commissioned by the Swedish Council for Working Life and Social Research (FAS) and the Swedish Agency for Innovation Systems (VINNOVA). The first, titled *Mapping of Swedish life research*, provides a picture of research into working life in 2005. It was carried out at the National Institute for Working Life by Henrik Levin and Anders Wikman during 2005 and 2006. The second report, *Where did they go? Follow-up of researchers and research at the closure of the National Institute for Working Life*, describes the situation both prior to and after closure. It was authored in 2007 by Lennart Sturesson and Per Tengblad at ATK Arbetsliv.

During the past year FAS and VINNOVA have taken different measures to safeguard future conditions for their “own” ongoing projects affected by the closure of the National Institute for Working Life. However, these are only short-term transitional measures. At the same time there are new long-term initiatives from FAS and VINNOVA on establishing competence centres and centres of excellence affecting the domain of working life. In addition, VINNOVA in recent years has initiated a number of programmes concerning leadership and workplace development in different industries and sectors. Other changes are taking place parallel within the area; a number of higher education institutes, for example, have taken initiatives to build up new research environments using staff from the institute that has been closed down. Activities of the research agency, the National Institute for Psychosocial Medicine (IPM) have also been moved to the Stress Research Institute at Stockholm University.

It is too early to describe the extent to which this reorientation will have long-lasting effects on research into working life. The most evident changes are the substantial financial reductions by the state in earmarked financing such as that resulting from the closure of the National Institute for Working Life. The salary costs of the 140 researchers leaving working life research due to the closure of ALI are estimated at around SEK 100 million. If we also include the costs in 2008 of the 145 researchers remaining in the area, who have largely insecure and short-term positions, the total reduction in resources will amount to about SEK 200 million from 2009. In this respect, it will be interesting to see to what extent prominence will be given to working life issues in the research policy bill in autumn 2008.

Special thanks are due to Lennart Sturesson, ATK Arbetsliv, and Anders Wikman, former researchers at ALI, for their work in producing this report. Final editing has been carried out by Carin Håkansta, project coordinator, at FAS. Finally it should be noted that the description of Swedish working life research presented here and the views expressed herein do not necessarily correspond with those of FAS and VINNOVA.¹

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¹ This situation report does not cover recent changes due to the new Bill of Research 2008/09:50 that was aunched by the Swedish Government in the end of October, 2008.

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Introduction

On 1 July 2007 the National Institute for Working Life (ALI) was closed down about six months after a decision by the Riksdag. The government's rationale was that "working life research is best carried out at universities and university colleges". The aim was not to stop this research, but to close down ALI. However, in practice the decision led to some changes in research.

The following summarises the position today, based on two reports which mapped research into working life, the first written prior to, and the second after the decision on closure. The two reports were commissioned by the Swedish Council for Working Life and Social Research (FAS), and the Swedish Agency for Innovation Systems (VINNOVA), a state agency with the task of promoting sustainable growth through the creation of effective innovation systems and by the financing of need-driven research in i.a. the area of working life.

The first titled *Mapping of Swedish working life research* describes research in 2005 and was published by the National Institute for Working Life and written by Henrik Levin and Anders Wikman 2006, and hereafter is referred to as L&W 06. The second report, *Where did they go? Follow-up of researchers and research at the closure of the National Institute for Working Life* (in Swedish only), describes the situation both prior to and after its closure in 2007. It was carried out by ATK Arbetsliv² and is written by Lennart Stuesson and Per Tengblad 2007 and hereafter referred to as S&T 07. Both reports are available as PDF documents from the web sites of FAS and VINNOVA; the latter can also be ordered as a print publication (<http://www.fas.se/>) or (<http://www.vinnova.se/>).

The tables referred to are in Appendix 1.

1. Background history³

Working life research in Sweden has a long tradition and has largely been developed on the basis of the joint interests of the labour market partners, where the Saltsjöbad agreement of 1938 on collective bargaining and co-operation represents a milestone. When research into working life started in earnest after the Second World War, the Swedish Employers' Confederation established the Swedish Council for Personnel Administration (PA-rådet), which became the leading body up to the 1970s. Even though PA-rådet was the employers' organisation, it covered the joint interests of employees as well. In addition a joint organisation was formed for development questions and research (The Development Council for the Government Sector which had a special working group on research issues, URAF).⁴

The demands of LO on the social democratic government, as well as the government's own strong interest in working life questions, resulted in the middle of the 1970s in a number of labour market laws: The Employment Protection Act, The Act on Codetermination at Work and the Work Environment Act. This legislation was not well received by industry, which

² ATK Arbetstagarkonsultation AB is an independent knowledge company providing advanced consultancy and development services in connection with changes in companies and administrative bodies. One of ATK's two core areas is [ATK Arbetsliv](#), which carries out reporting and assessment missions, conducts its own R&D projects concerning current working life issues, as well as providing support to local partners in development work.

³ This section is mainly based on the work of Glimell (1989) and Abrahamsson & Heldmark (2004).

⁴ See also Lennart Lennerlöf (2008) *Mitt arbetsliv – en rekonstruerad forskningshistoria* (My working life – Reconstruction of research history). Stockholm: Premiss

gradually withdrew from much of the joint co-operation. Co-operation concerning working environment and development issues, however, restarted again during the 1980s when a new development agreement was made between SAF, LO and PTK, which led to a number of joint programmes under the management of the Work Environment Fund.

Sector research

State involvement in working environment issues was channelled through a number of sector research institutes with different orientations. The first, which was formed in 1937, was an occupational medical department at the Swedish National Institute of Public Health, located at the Karolinska Institute. Out of this and other institutions, in 1966 the Institute of Occupational Medicine was formed, which gradually over time became linked to the National Swedish Board of Occupational Safety and Health. Occupational medical research received a prominent place internationally, as did the gradually evolving field of occupational psychology with special emphasis on research into stress.

In connection with labour market legislation and the law on co-determination in working life in the 1970s, the Centre for Worklife Research (ALC) was created in 1977 with the task of i.a. increasing knowledge over a broader field in working life, and studying the democratisation of working life from an employee perspective. ALC was financed by the labour market partners through a percentage levy on salaries in the collective agreement. In connection with the establishment of ALC, the PA-rådet was closed down. SAF instead formed the Swedish Council for Management and Organizational Behaviour (FA-rådet) with a more explicit focus on company management issues.

In 1987 another sector research body was formed: the National Institute of Occupational Health. This was a spin-off from the National Swedish Board of Occupational Safety and Health with an orientation particularly to occupational medical research.

Academic research

In the higher education sector, the growth of working life research proceeded slowly. Also here, research began in occupational medicine, focusing on the individual; institutions were set up at medical faculties from 1953 and onwards. Other research linked up with occupational vocational medical clinics at the large regional hospitals around the country. In the 1970s the first institute for work sciences was established at Luleå University of Technology, which was subsequently followed by institutions at a number of other technical universities.

Within the broader area of work sciences with occupational psychology and labour market questions, the increase in number of positions and basic research proceeded slowly. Not until the Swedish Work Environment Fund received SEK 60 million for establishing new positions in 1987 was there any development worth mentioning.

Financing

In 1972 the first state body was established with a special focus on financing research and development in the area of working life: the Swedish Work Environment Fund (Arbetarskyddsfonden, from 1986 Arbetsmiljöfonden). ASF became the primary funder of development work in particular, and also research in the area. The fund was financed partially through payroll charges imposed on regular salary payments. From the end of the 1980s an increasing proportion of the funds were allocated to the financing of positions and research at academic institutions. The board was composed of representatives from the labour market partners, as well as representatives from the National Swedish Board of Occupational Safety and Health and later the Ministry of Employment.

In 1995 research financing was reorganised and the Council for Work Life Research (RALF) was formed. RALF replaced the Swedish Work Environment Fund and took on a role more similar to a research council, financed by state budget. In practice this meant that the labour market partners no longer had any direct responsibility for financing research into working life. RALF financed research in three main areas: working environment, work organisation and the labour market.

In 2001 a government investigation into the whole area of research financing in Sweden led to a restructuring of all the state research councils. The scientific councils became fewer and larger at the same time as RALF's activities were divided up between two new agencies: the Swedish Council for Working Life and Social Research (FAS) and the Swedish Agency for Innovation Systems (VINNOVA).

Working life research funded by FAS ranges across a broad field and covers research on the labour market, work organisation and the working environment. When FAS was formed, financial resources for working life research previously administered by RALF were reallocated and divided between FAS and VINNOVA. However, the two funding agencies allocate research funds in different ways. At FAS research funding is applied for once a year through open tenders, while VINNOVA organises calls in thematic areas with requirements for co-financing from companies or other interested parties. Another difference between how they support research is that VINNOVA focuses on companies and the growth perspective, whilst FAS mainly focuses on the working conditions of the individual, and health and development in organisations. Some research may have difficulties finding appropriate financiers. One example concerns research into the working environment from a technical perspective, which could fall between two stools. Yet another difference is that FAS has a broader range of support forms, such as post doc grants and network grants, which are not always provided in VINNOVA's areas.

Apart from FAS and Vinnova, the largest financier of Swedish working life research today is the insurance company AFA Försäkring, which is managed and owned by the labour market partners. A more detailed picture of the activities of AFA, FAS and VINNOVA can be found in Appendix 2.

The Swedish Institute for Working Life 1995–2006

In the middle of the 1990s, the Government gave Director-General Anders L. Johansson the task of examining the future structure of research into working life. This investigation which led to the establishment of the Council for Work Life Research, RALF 1995, also created the foundations for the National Institute for Working Life (ALI) in the same year. Major parts of working life research outside the Swedish university system i.e. the National Institute of Occupational Health, the Institute for Working Life Research (earlier the Centre for Worklife Research ALC) parts of the Swedish Work Environment Fund, as well as an important part of its financing, were transferred to the new National Institute for Working Life.⁵

The newly formed National Institute for Working Life (ALI) was given the task of running research, education and the dissemination of knowledge over issues concerning working environment, work organisation and the labour market, and over time dealing with an increasing proportion of the latter. ALI was also given responsibility for the majority of

⁵ A few years later, another research institute, the Institute for Labour Market Policy Evaluation (IFAU), was established and later developed into a strong, although relatively small player, in evaluation and research into the labour market, its functioning, evaluation and indicators.

international contacts and coordination of international research co-operation, which had increased as a result of Sweden's entry into the EU in 1995. European cooperation included SALTSA, a joint programme between ALI, LO, TCO and SACO, which carried out problem oriented research on current Swedish and European working life issues. Not least through ALI, Swedish research into working life has received international recognition.

ALI took over substantial resources from the Swedish Work Environment Fund but was required to reduce its personnel in Stockholm. Instead regional branches were established as well as research schools for work organisation and labour market research. At the same time as certain parts of the institute's activities were transferred to universities, regional development continued. This involved good co-operation with regional university colleges and other regional players. However, the organisation became somewhat cumbersome and difficult to administer.

ALI's research units were allocated government funding totalling SEK 237 million in the 2006 budget out of ALI's gross turnover of SEK 464 million. These amounts included costs for personnel, premises and other operating costs. SEK 43 million was set aside for education, and SEK 73 million (incl. library) for information and dissemination of knowledge.

The regional initiative continued up to the time when the decision on closure was taken, and was confirmed in 2005 by the Riksdag as compensation for the disbanding of army forces through the relocation of state authorities from Stockholm. ALI strengthened its activities in Östersund and established new research in Visby. By means of different co-operation agreements, ALI contributed SEK 40-60 million to other research environments.

The National Institute for Working Life played a central role in political debate as a result of its tasks of monitoring development in the area, disseminating knowledge about the working environment and working life, and providing a basis for policy decisions. This could be interpreted as a political mission differing in nature from that of the pure research institutes, universities and university colleges, which the non-socialist parties opposed and which led to the decision on closure when they later came into office.

On the other hand ALI subsequently received less support from the labour market parties, particularly the Swedish Employers Confederation SAF (later the Confederation of Swedish Enterprise), which withdrew from the joint co-operation. SAF considered that ALI did not provide research which would be useful to companies. The trade union organisations, particularly LO and TCO, were critical of the closure of ALI. However, defending the unemployment benefits, criticizing the proposals and decisions to reduce the level of compensation, and the increasing loss of members, turned out to be much more strategic questions for the unions than the defence of ALI. In recent times, European labour legislation and the defence of collective bargaining have become more central issues for the trade unions.

Some initiatives have, however, been taken to create new arenas for co-operation, especially in terms of research into the working environment.

2. Research into working life in Sweden 2005

The mapping of research into Swedish working life 2005 (L&W 06) collected data from research leaders at institutes of higher education, research institutes, authorities etc. who were involved with research into working life (for background and implementation, see Appendix 3). This resulted in two different estimates of the number of annual person years in working life research in Sweden in 2005. The first, in response to the question of what research is carried out in the research groups, provides a figure of 1 495 annual person years, whilst a later question on levels of positions and gender provides a figure of 1 953. The difference appears to be related to the fact that respondents in the first question were not always included in personnel providing research assistance.⁶

Orientation

The report divides working life research into 19 areas, which in their turn are related to three main areas, Working environment and health, Work organisation and Labour market. The majority of researchers are in the area of Work organisation (42%) and the Working environment, health (37%) whilst the Labour market has 12%, see table 1 in Appendix 1.

The mapping reveals major differences in the academic background of researchers from different main areas in working life research (table 3 in Appendix 1). In the area of Working environment and health, about half of the researchers have a background in medicine or the natural sciences. Slightly less than 28% have a background in behavioural sciences and other social sciences.

In both Work organisation and Labour market, about half of the researchers have a subject background in behavioural sciences/other social sciences. However, the two areas differ in a number of respects. The proportion of economists is somewhat higher in Labour market and significantly more labour market researchers have a background in the humanities/law. The proportion of researchers with a technical background is significantly higher in Work organisation than in the Labour market area, slightly more than 10% compared with slightly less than 1%.

Age composition

L&W 06 did not collect data on the age of researchers, but from the proportion of professors and postgraduate students in the material the conclusion can be drawn that Working environment and health has older researchers, while the relationship in Work organisation is the opposite.

In the *Evaluation of Swedish research into the working environment 2007*, carried out by FAS on an assignment from the government, a comparison is made of the age structure of research leaders in the area of working environment. This reveals a strong dominance in the age categories of 50 and above (data on age exist for 60 research leaders). Only within the area of Chemical and biological health risks are research leaders under the age of 40. For future growth in research on the working environment this is a disturbing trend, particularly if account is taken of the fact that 26% of research leaders are aged 55–59, and that 23% are over the age of 60. This means half of all research leaders will have retired within the next 10 years.

⁶ The mapping took place through a two-step web questionnaire. Overall the method functioned, but there is some uncertainty over the extent to which the total population was covered (i.a. related to the definition of who was/regarded as researchers in working life), as well as through non-response in the questionnaire. It appears as if non-response is unequally divided between the different areas, so that Work organisation and Labour market are underrepresented.

Gender

Overall gender distribution is very even, 976 women and 977 men, but within the area Labour market, the average proportion of women is only about 40%. As in most other research areas, there is a very heavy dominance of males among professors, whilst the overrepresentation of males among postgraduate students is significantly less. Amongst postgraduate students, there is a clear overrepresentation of women.

Research environments

In 2005, the older universities (more than 30 years) had the majority of research leaders, and it is estimated they also had most researchers in working life. They dominated especially within the area Labour market, while state research institutes and authorities, including amongst others, the National Institute for Working Life, had a relatively large proportion of research leaders in the area of Working environment and health (table 1 below).

Table 1. The five largest R&D environments in the main areas of research into working life 2005. L&W 06: Table 9.

Working environment, health	Work organisation	Labour market
The National Institute for Working Life	Göteborg University	University of Stockholm
Karolinska Institute	The National Institute for Working Life	Lund University
Uppsala University	Stockholm School of Economics, Sthlm	Göteborg University
Lund University	Umeå University	Umeå University
Linköping University	Uppsala University	Uppsala University

In 2005, the National Institute for Working Life had about 85 out of a total of 247 annual full-time positions for PhD graduates. The Karolinska Institute was the next largest with 42 annual positions for PhD graduates, and in third place was Lund University with 33 positions. The universities of Linköping and Göteborg had 15 annual positions, and the University College of Gävle, in the County of Örebro, the Swedish University of Agricultural Sciences, Umeå and Uppsala University all had 6 to 7 annual full-time positions.

In county councils and municipalities, research leaders in Working environment and health were similarly more frequent than other researchers. Research leaders in Working environment and health, and also in the Labour market were more often working in state research institutes and authorities, slightly less than 20%, compared with slightly less than 10% in the area of Work organisation. The latter area was, however, significantly more represented in the category “other universities/university colleges” (see table 1 above).

Regional distribution

Based on data about respondents' own institution, the mapping also compiled distribution within the area of working life by region, i.e. the regional location of the research leader's organisation. In those cases where the organisation has a number of regional offices, those carrying out the mapping have tried to include the region where the research leader operates. The regional distribution covers six county areas, and also one category for the country as a whole. The six county areas are; Stockholm, Västra Götaland, Skåne, Östergötland, Västerbotten and Uppsala. Common to these counties, is that they all have older universities.

The mapping shows that Stockholm is the single largest region for research into working life. Slightly more than one out of every four research leaders (27%) work in the Stockholm area. Thereafter followed by Västra Götaland (16%), Västerbotten (13%) and Skåne (12%). Approximately 8% of research leaders are in Uppsala and slightly less than 7% in Östergötland. The proportion of research leaders from other parts of Sweden is slightly more than 17%.

Stockholm has the largest proportion of research leaders in all three main areas, but dominates most in the area Working environment and health, where one out of every three research leaders work. Skåne and Västerbotten also have a very high proportion of research leaders in Working environment and health. Research into Work organisation is strongly represented in regions outside the six county regions, and also in Västra Götaland.

Compared with figures from Statistics Sweden on R&D in the higher education sector, it is possible to see that Västerbotten accounts for a significantly larger proportion of research in the area of working life compared with their proportion of R&D as a total, 13 and 7% respectively. Uppsala's share of research in working life on the other hand is much lower than in R&D totally, 8% compared to 18%. It can also be seen that research into working life has a somewhat larger geographical distribution of R&D in the working life area than in R&D as a whole, with shares of 17 and 12% respectively.

Financing

According to survey data from research leaders, the major part of financing – slightly less than 40% – originates from public research councils and research foundations. Thereafter in terms of size of the basic funding from universities/university colleges, 25%, and other public funding (table 6 in Appendix 1).

Obstacles to favourable development of research

In the responses of research leaders to an open question on what the obstacles are to favourable development of research within the area, slightly more than 45% state financial obstacles, for example shortage of research grants or university funds, difficulties in obtaining funds, severe competition over funds or that the levels of government funding is too low.

The next largest obstacle appears to be the strategies of research funders. In total about 21% of research leaders consider that other areas are given priority, other types of research are financed, or that other types of research environments receive funding.

Moreover, 13% state personnel obstacles in the form of difficulties in recruiting researchers, retaining researchers, or the age structure of researchers.

Some respondents, 6%, state that they experience that the timeframe for research is short and becoming increasingly shorter e.g. as a consequence of (increasing) demands on administration and teaching. A smaller number, 4%, state as an obstacle a lack of interest in the research area from politicians and other players. 5% see no obstacles and, in addition, there are a range of different responses that could not be correlated with any of the above categories, or that could provide a foundation for establishing new categories.

In the area of labour market research, the strategies of financiers for allocating funds are regarded as an obstacle to a lesser degree than in the other main research areas. Research leaders in the area of the labour market are also those who more than other areas stated that they do not see any development obstacles at all. To a somewhat higher degree than other main areas, the reduction in the timeframe for research is regarded as an obstacle in the labour market area.

Future needs for research and knowledge

The research groups received a question in the survey about new research areas and needs for knowledge where they consider it essential that prominence be given. Based on the content of the responses, the persons responsible for the mapping categorised these into 29 different groups (L&W 06, table 17). Underlying this categorisation, there is a higher level of four groups, which correspond to the conventional groups – working environment, work organisation, the labour market, and a residual category, others. A third of the responses are in the working environment area, a third in the area work organisation, slightly less than a fifth in labour market, and somewhat more in the category “others”.

The mapping summarises the responses and it is apparent that the more traditional working environment questions are relatively dominant in the overall results. The consequences of changes in the surrounding world in recent years also appear to have had a tangible impact on what research groups consider to be important areas for research. The relationship between work and leisure is also mentioned as crucial by many. Questions concerning how research outcomes could contribute to better working life conditions are often mentioned, as are questions concerning individual differences in exposure and sensitivity. It is important to observe that researchers often make assessments based on their special areas of interest, which means that future research ideas are closely related to ongoing research. They tend to become a development of existing questions. Research needs mentioned also appear from this perspective to be fairly predictable. Out of necessity they are also fairly conservative is the conclusion from the mapping.

3. Closure of ALI

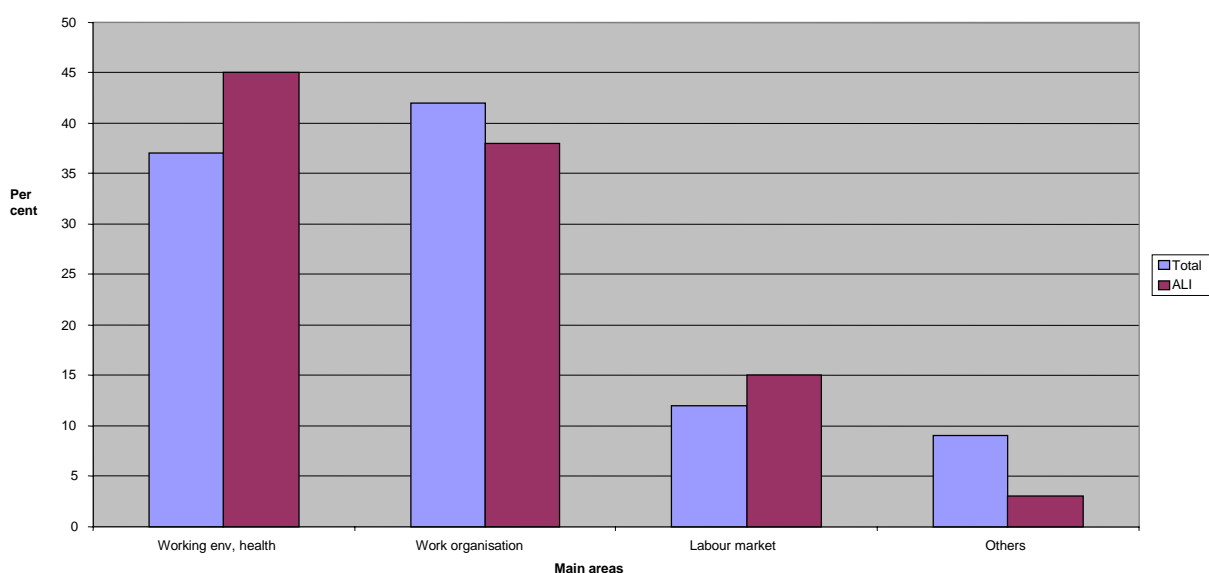
On 16 October 2006, the new centre-right government proposed in its budget bill the closure of the National Institute for Working Life on 30 June 2007 as a stage in “powerful measures to reduce state bureaucracy” (Bill. 2006/07:1, Working life page 48). The rationale given states that “research in the area of working life continues to be important, but to ensure quality, research with this focus should in the future be assessed by research funders in competition with traditional means” (page 24). This decision was not entirely unsurprising as all the political parties involved had proposed in motions to the preceding annual budget bill the closure of ALI, with a halving of the funding during the first budget year (as in the Bill 2006), but with various formulations concerning further investigation and complete closure within a couple of years.

The budget proposal was not negotiable and none of the centre-right members of the Riksdag had any scope for going against the party line, or for proposing modifications. Despite domestic and international opinion against the proposal, the Swedish Riksdag and the government made the decision on closure on 21 December 2006.

ALI at time of closure

Number of employees. At the time of closure, ALI had 424 employees, of which 285 were researchers⁷. Out of these researchers, 127 were active in Working environment and health, 107 in Work organisation, 42 in Labour market, and 9 in “others”. The distribution of researchers between the three main areas, was as illustrated in Figure 1 below, approximately the same in ALI as in the country as a whole. ALI's share of research in Sweden was about 23% for Working environment and health, 17% for Work organisation, and 22% for Labour market.

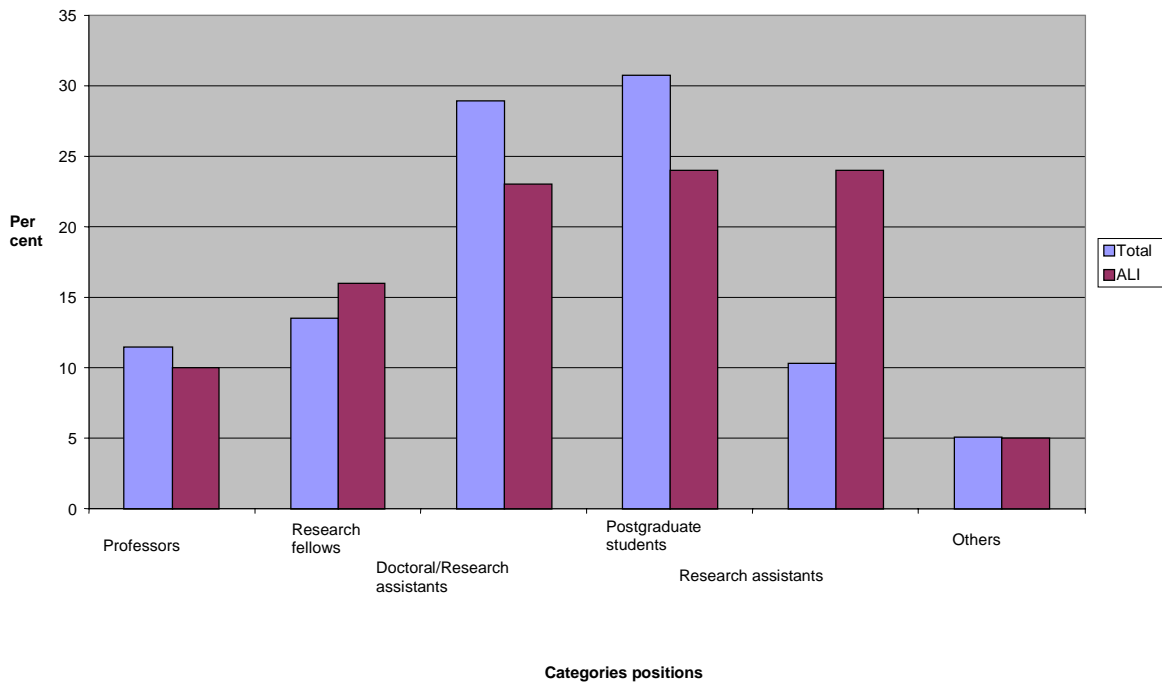
Figure 1. Distribution of researchers in working life by research area in Sweden 2005 and at ALI 2006 (L&W 06 and S&T 07)



⁷ The 140 employees who were not researchers, worked in the library, with education and information, and also in the administration of the Institute.

Position categories (Figure 2 below). In relation to the whole area of research, ALI had relatively few professors, relatively many research fellows, and a smaller proportion of postgraduate students (this group also decreased between 2005 and 2006 after completion of their theses). The category which deviated most at ALI in relation to the rest of the country were research assistants, who in L&W 06 (incl. Others) amounted to 16% in the country but 29% in ALI (S&T 07 notes 33% for research assistants based on ALI's list of personnel).⁸

Figure 2. The distribution of researchers in working life by level of position in Sweden 2005 and at ALI in 2006 (L&W 06 and S&T 07)

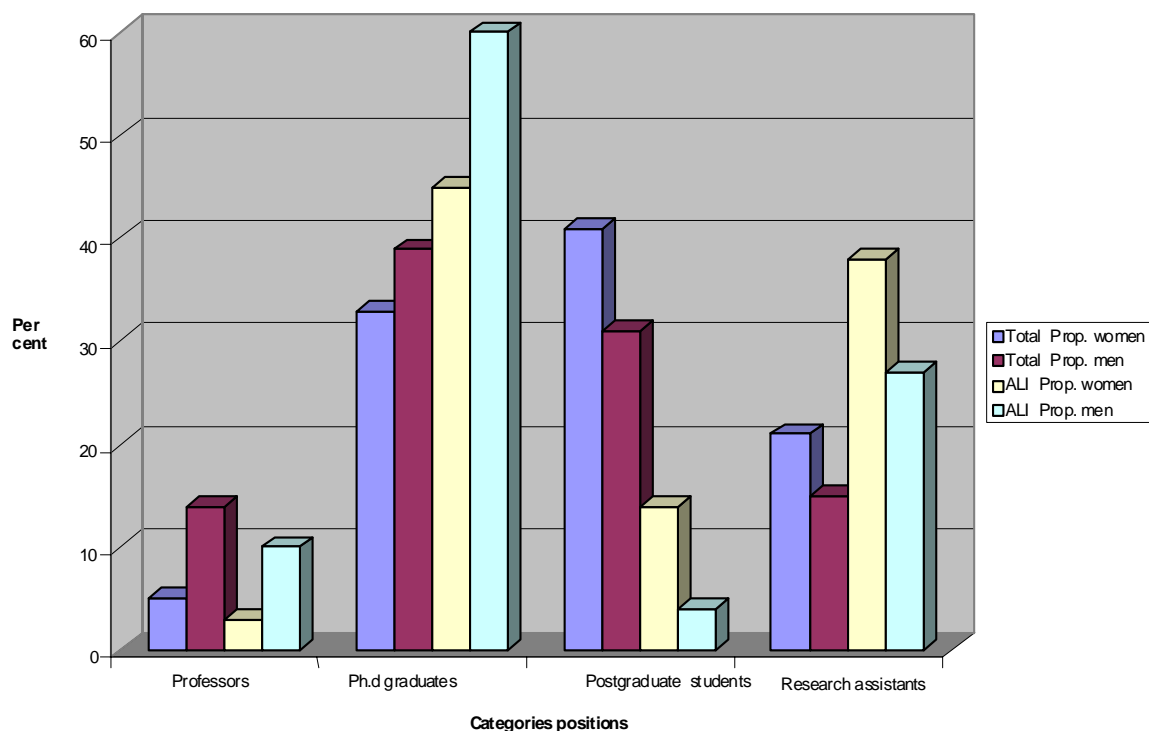


Age and gender distribution. Regarding age distribution, ALI's annual report of 2007 states that out of a total of 424 employees, around 60 were aged between 60 and 65, and around 50 between 55 and 60, i.e. about one quarter of ALI's staff at time of closure were over the age of 55.

Gender distribution in ALI basically corresponded to the distribution throughout the country (see Figure 3 below), with strong male dominance amongst professors, and a clear overrepresentation of women among PhD graduates (at ALI this was extremely large).

⁸ There may be a number of different explanations for why this proportion is greater at ALI. A part of the explanation may be that ALI required technical equipment and personnel with advanced education but not doctorates (e.g. research engineers at ALI Norr). ALI had also given temporary positions to researchers who had not completed their thesis. The most important explanation, however, was probably that administrators at the Institute to a larger extent than research projects in higher education institutes were included in the research teams.

Figure 3. Distribution of researchers in working life between gender and position categories throughout the country 2005 and at ALI 2006 (L&W 06 and S&T 07)



Closure process

Already by 16 October 2006, the management of ALI focused all efforts on winding up research and other productive activities to enable administrative closure on 30 June 2007. As a consequence the majority of staff was given notice on 1 February 2007 with the exception of unit heads and others who had tasks specific to the closure process. During this period nearly all researchers were relieved of work (after having fulfilled their personal commitments at the institute) and could focus on making arrangements for their future, as researchers or in another career track, and with support from the Job Security Foundation (Trygghetsstiftelsen).

During the phasing out period, the Director-General of ALI was authorised by the government to use SEK 60 million (later raised to 70) to wind up the library and the “criteria activity”, and above all to provide grants to universities and university colleges enabling them to take over research into working life in their institutions. The final result was that SEK 59.1 was provided as grants to 12 different higher education institutes, enabling 85 positions to be created for researchers. Some of these received permanent positions, but the majority received temporary positions which they could take up after their severance salaries had ceased. Approximately 70 researchers were transferred by the use of these grants. The institutions in question undertook to report on the results of the transfers in future annual reports, and thereafter it would be determined by individual institutions whether they would take responsibility for measures to enable the continuation of research into working life.

Of the grants, SEK 5.2 million went to institutions to take over PhD graduates who were employed at ALI but had their research programme located at an institution of higher education. By this means 15 out of 28 PhD graduates were transferred.

Other institutional changes

Other institutional changes with an impact on research into working life have also been implemented since 2006.

On 1 October 2007, the state research institute, the Swedish National Institute for Psychosocial Medicine (IPM), was reorganised and became a part of Stockholm University at the social sciences faculty, under the new name of the Stress Research Institute (Stressforskningsinstitutet). IPM was a research agency under the auspices of the Ministry of Health and Social Affairs.

The Centre for Public Health at Stockholm County Council, where 10 researchers from ALI are currently working, furthermore intend to transfer to the Karolinska Institute, Department for Public Health Sciences with five researchers from ALI. How the transfer will take place and what its implications will be for research into working life is still unclear.

The budget bill also contained reduced funding to the Swedish Work Environment Authority (Arbetsmiljöverket), which involves a reduction from 866 to 715 persons with reduced supervision of the working environment (Swedish Work Environment Authority's annual report 2007).

Parallel with the closure of ALI, a number of Swedish research funders in recent years have made major investments in building up different types of competence centres and centres of excellence with long-term financing. In the working life area, HELIX VINN Excellence Center at Linköping University, was established by means of a large grant from VINNOVA to create an arena for research and innovation where researchers from different disciplines can coordinate their activities with companies and organisations in order to develop new knowledge and methods on the importance of mobility for learning, health and innovation. Two professors and some other researchers at HELIX earlier worked at the National Institute for Working Life.

In a similar way, FAS has also established three “FAS centres” that are linked to research into working life. Support to FAS centres is intended as a complement to university base resources and should enable long-term, strategic investments in research to promote scientific renewal.

At Lund university, METALUND – Centre for medicine and technology for working life and society has been established. The intention is to coordinate medical and technical research in order to identify and reduce the risks of major public health diseases. At METALUND researchers who normally work at the Department of Occupational and Environmental Health, Faculty of Medicine the Department of Ergonomics and Aerosol Technology at the Lund Institute of Technology.

At the Karolinska institute a FAS centre was established for research into occupational hearing injuries.

At REMESO, a new FAS centre at Linköping University, a research group will study migration and integration questions in relation to the labour market and the transformation of the welfare state. This and other environments for research into working life are presented below under the section New and strong work science environments.

4. Where did all the researchers from ALI go?

When the decision on the closure was announced in October 2006, there were 424 persons employed at ALI. Of these 191 were researchers (Ph.D graduates or Ph.D students) and 94 were research assistants, totalling 285. Distribution by position categories and gender is shown in Figure 3 above and Table 4 in Appendix 1.

A research perspective: what are they doing autumn 2007?

In September 2007, 160 of the original 285 researchers remained in research, of these 145 in research into working life. In other words nearly half of the researchers had left the working life area (Table 2 below).

Table 2. Researchers and research assistants by current activity 2006 and 2007.

Category	ALI 2006	Situation September 2007					
		Research		Other work		Retired	Unemployed
		Working life	Others	Working life	Others		
Professors	16	13		1		2	
Researchers (graduates)	147	98	12	9	13	11	4
Postgraduate student	28	19		2	2		5
Total researchers	191	130	12	12	15	13	9
Research assistants	94	15	3	9	38	14	15
Total researchers/ research ass.	285	145	15	21	53	27	24

Source: S&T 07 table 4 corrected for printing errors.

Professors appear to have managed best and continued with research or other activities related to working life. Two had retired and an additional two intended to take early retirement after expiration of their period of notice, which does not necessarily mean they finished doing research.

Of the other graduate researchers, about 70% were still working as researchers, and the majority in research related to working life. These figures provide a view of the situation in autumn 2007, but for two reasons may be unrepresentative of the future. Firstly, none of the data is wholly reliable in terms of the type of research being carried out; the proportion with research related to working life may thus be overestimated. Secondly, many have short-term appointments; some do not even have positions at the institution they were working at, but had obtained a place where they could research during the notice period. Their future in working life research is related to the availability of research funding. Of the other graduate researchers, 22 had work other than research. In addition, a smaller number were unemployed.

Of the postgraduates, 80% of men and 65% of women continued in (working life related) research. Five women were unemployed. This means a large proportion of the women who presented their thesis after the closure decision ended up unemployed. Opportunities for them to return to research in working life appear to be uncertain.

15 doctoral students transferred to the university institution where they were registered, and can thus continue their postgraduate training, and one of them has moved to other work. Of the

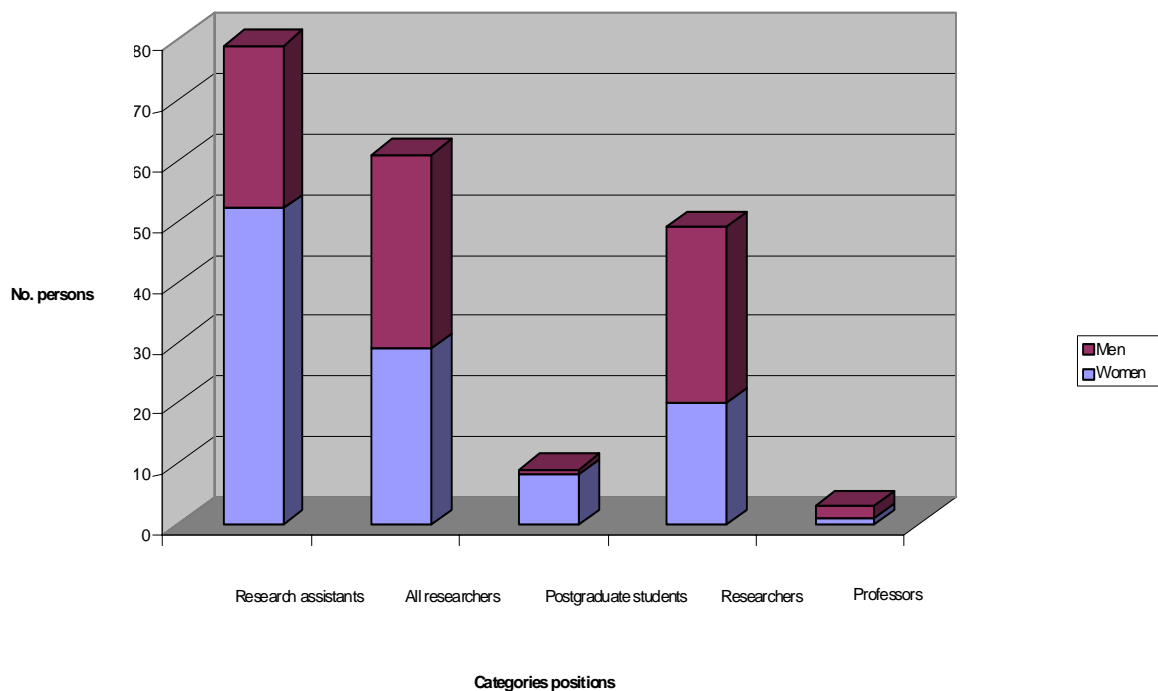
28 postgraduate students in October 2006, 13 had presented their theses by autumn 2007. Of these, two had started different work; three did not have a new position arranged, even though some had good opportunities; whilst eight were able to continue in research. A further two postgraduate students were considered to have limited prospects in completing their postgraduate programme. Two doctoral candidates, who were just starting their postgraduate programme, dropped out; one became an LO lawyer and left the area. We can draw the conclusion that whilst the differences between women and men are relatively small for those who had completed their studies, the situation appears to be significantly worse for the majority of postgraduate students who were women.

As expected there was a significantly lower proportion of research assistants, i.e. those who had not presented their thesis, but who continued in research, slightly less than 20%. Here we can also see that there is a large gender difference, 29% of men but only 13% of women. Approximately half of both women and men had obtained employment in other areas, whilst one in every four women was unemployed compared to 3% of the men.

Out of all researchers and research assistants, 10% had retired or would retire after the period of notice, but if we exclude postgraduate students the figure is between 10–15%.

A more detailed analysis of the 140 researchers who left the area of working life after the closure of ALI is summarised in Figures 4 and 5 below, and also in Appendix 1: table 7 by level of position and table 8 by organisational unit.

Figure 4. Left research in working life 2007 by position category and gender(S&T 07)



Three professors, 49 postgraduate researchers and 9 postgraduate students had left research into working life, as had a further 79 research assistants. Expressed in percentage terms, this means that one out of every five professors had left, and two out of five had retired. For other researchers who have presented their thesis and postgraduate students, the fall-out is high, amounting to approximately one third of the researchers.

Researchers from the units Working health and Labour market and integration, have to a larger extent remained within the field than others. The largest losses are from the analysis unit and the units in Umeå (Unit for work and the physical environment) and Malmö (Unit for organisation and health in services).

An economic perspective – financing of research

The follow-up attempted to correlate the loss of researchers with the reduction in research funds. This assumes that the cost of a researcher is salary + related salary costs rounded up to 50%, and added to this an administrative grant of 30%. ALI's standard addition has been used, which means that the figures may be underestimated since universities and university colleges normally add a 35% administration surcharge. The calculation assumes standard salaries for professors, researchers and postgraduate students based on the ALI salary list for May 2006. The estimate of the loss of funds to research into working life is thus very rough.

The loss of the 140 researchers from research into working life due to the closure becomes, based on the calculation method described above, slightly less than SEK 100 million in the first year after closure. The funds distributed by ALI to different higher education institutions (SEK 60 million) are mainly short-term funds which together with the severance salaries make up parts of the remaining level. How these funds have been used over time varies between institutions and the severance periods for individual researchers. In addition, it can be assumed that some of the researchers who have been able to use these funds have also increased their teaching loads.

The long term effects will probably occur during 2008 when the SEK 60 million of “lubricants” are used up and some of the temporary positions for researchers no longer exist. Whether these are then transformed into more permanent positions and/or focus on research or teaching is not at all clear. The 145 former ALI researchers who are still active within the field in their new workplaces have a cost of SEK 113 million, which means that SEK 60 million is sufficient, providing we assume that the notice period at the end of the year 2007/2008 is extended by a further six months of research. In addition to this, there is a one-time injection from FAS (SEK 10 million) and VINNOVA (SEK 3 million) for salaries to cover ongoing projects for former ALI researchers. In the case of FAS, the SEK 10 million consisted of SEK 4 million from ALI, while the rest was obtained from the part of the budget intended for new initiatives. As regards VINNOVA, funds were taken from the budget for future initiatives in the working life area.⁹ The financing of research into Swedish working life from autumn 2008 is dependent on the extent to which higher education institutes extend appointments and external research funds continue to be available.

Research funding disappearing from working life research if no additional funds are allocated thus amount to a total of SEK 213 million from 2009, when we add together the costs of the 140 working life researchers who left the area (SEK 100 million) and the costs of the 145 who remain (SEK 113 million) during 2008. Essentially this corresponds to the total that ALI allocated to its research units in the budget for 2006, SEK 237 million.

⁹ FAS and VINNOVA also contributed by supporting the continuing publication of three periodicals, including “Arbetsliv” (Working Life) and “Arbetsmarknad” (Labour Market). In addition FAS has taken over the distribution of some of ALI's publications; as well as responsibility for Swedish representation in the EU network NEW OSH ERA (concerning risks of new working environments).

Recipient perspective – which institutions were the recipients?

A large proportion of the researchers, 132 persons, have ended up at university institutions, as is also the case for the 20 research assistants (table 3 below). This does not mean that they maintain the same volume of research as at ALI, since some of them according to data from the unit heads have positions with substantial amounts of teaching. A smaller number have ended up at other research institutes, or at other working life related employers. The Swedish Work Environment Authority has taken over the researchers who produce material for the authority's criteria for threshold values for the physical working environment. In addition, some have obtained positions at the Institute for Growth Policy Studies (ITPS) which i.a. carries out research and studies on labour market questions.

Table 3. Recipient employers 2007. S&T 07 table 7

Employer	Professor	Researchers	Postgraduate students	Assistants	Total
Research institution university/university college	12	101	19	20	152
Other research institutes	0	10	0	0	10
Other working life related employers	1	3	1	3	8
Other known employers	0	6	3	12	20
Own company		4		2	6
Total known employers	13	124	23	37	197

In L&W 06, the volume of research into working life was compared amongst universities and university colleges by region. The comparison showed that the old universities accounted for a large part of the research (see above p.9). After the closure of ALI, some regional changes are apparent. Those regions which from the follow-up received a large proportion of researchers compared with the earlier proportion of funds for research into working life are Västra Götaland, Uppsala. Other regions, such as Östergötland, also have a somewhat higher proportion. Skåne and Västerbotten received a smaller proportion, whilst Stockholm has approximately the same. Amongst other regions are the Mid Sweden University and Mälardalen University which distinguish themselves by having a large proportion of former ALI researchers (see table 9, Appendix 1).

Karolinska Institute, Uppsala University, Göteborg University, Linköping University, Stockholm University and Umeå University are those which have received most researchers. Of the major universities, Lund is the only one which has received just a few; on the other hand, Malmö University has received quite a few – altogether 11.

L&W 06 put a question on researchers' subject background and S&T 07 recorded to which institutions researchers went to. The figures are not directly comparable, but they can provide some indication of flows. One difference in the material is that L&W 06 asks about subject origins, whilst S&T 07 shows where researchers have ended up subject wise, after not only some years of research in the working life area (where many have no doubt moved to a different scientific area), as well as their movement after the closure (which may have led to further transitions). Another difference is that the mapping covers all working life researchers throughout the country, and this gives rise to discrepancies in the ALI material (see table 10 in Appendix 1).

We can conclude that the institutions which have received most researchers from ALI are in the area of medicine and health, and also the social sciences. This largely reflects the composition by main areas that existed at the institute.

An overall assessment shows that amongst remaining researchers, those with a medical orientation account for the same proportion in the mapping as prior to the closure. Economic and technical institutions have received a significantly lower proportion of researchers than would have been expected from the background of researchers in working life. This may be due to the fact that economists at ALI have ended up outside research, or moved to cross-disciplinary institutions (which come under the heading “Other subjects”) and also at smaller university colleges where the subject of economics is a part of the social sciences institution.

What happened to ALI’s research environments?

There were a number of different research environments at ALI, distributed between different research units, at different places which partially mirror the distribution by units, but where Östersund, Visby and Norrköping had researchers from different units. Some of these environments have largely been moved over to new institutions, whilst others have been dispersed in different directions (see table 11 in Appendix 1).

The Stockholm based part of the unit *Labour market and integration* (AI) has a new centre for research about the labour market in Uppsala at the Research programme labour market relations (AREL), where some of AI's researchers were already physically located. Uppsala University put forward a proposal in November 2006 to the government on building up a “research institute for advanced research into working life”. The suggested budget needed would be successively raised to SEK 20 million from year 2010.

The AI group which was located in *Norrköping*, focusing on *migration and ethnicity*, has basically been brought into the central FAS Institute for Research on Migration, Ethnicity and Society (RESEMO) at the Institution for social and welfare studies (ISV) at Linköping University in Norrköping (see below).

Internationally recognized research into *labour law* in Stockholm has been dispersed to different legal institutions, and whether there will be a new core depends largely on the opportunities researchers have to build networks.

The many research fields at the unit *Occupational Health* in Stockholm have been transferred to different places. But there are some groups still kept together, not only the two at Karolinska institute (public health and neurosciences), but also at Mälardalen University with a focus on organisation and the psychological working environment. Health oriented research in Östersund has been partially transferred to Mid Sweden University.

Research on *work organisation and development processes* (ARUT) was already prior to the closure highly dispersed geographically with the Centre in Stockholm, and groups of researchers in Östersund, Visby and Norrköping. Whilst researchers in Stockholm have been relocated in different directions, those in rural areas have largely ended up at regional higher education institutes, but it is doubtful whether they provide the foundation for future research into working life, if we exclude the additions which the VINNOVA supported research programme HELIX in Linköping has received. In ALI Väst, however, there was an ongoing build-up of research into work organisation, parts of which now exist in GU with opportunities for development in the future.

Medical and chemical research at *ALI Norr* in Umeå can to some extent be kept together at Umeå University, as is the case also for research into radiation carried out there. ALI Norr,

however, is the research environment most adversely affected, as only one third of the researchers remain in the area of working life.

From *ALI Väst* in Göteborg, most ergonomically oriented research has been transferred to the Sahlgrenska Academy.

One branch of research at *ALI Syd* in Malmö has been brought to Malmö University with the intention of keeping together research focusing on work sciences. Others have been dispersed to many different institutions and other work, and only one third of the researchers remain in research focusing on working life.

New and stronger work science environments

The report states in the section above that some worklife science environments have been moved and reorganised after the closure of ALI. In addition, the following centres were established with financing from FAS and VINNOVA. Linköping University (REMESO), Karolinska institute (hearing injuries in working life), and Lund University (METALUND). HELIX in Linköping was started before the closure.

The environments that in addition to these have the greatest possibilities to expand, are the recipients of the grant totalling SEK 60 million from the earlier surplus which ALI was authorised to distribute in order to facilitate the transfer of researchers. In their applications, higher education institutes undertook to use the grants they received to provide places for a specific number of researchers. Based on this distribution, it is possible to see that some institutions may have had the opportunity to develop research in working life.

The majority of researchers, 16, were guaranteed transfer to *Uppsala University*. In their application to ALI, they stated their intention of continuing and strengthening the Centre for Labour market relations, AREL, which was formed together with ALI. Different research orientations from four faculties are to work together. Priority would be given to the following research areas – labour law, industrial relations, Europe related working life research and labour market related research, as well as consequences on health. There was also a desire to complete the European research programme SALTSA, which had been managed by ALI. On this basis the university received SEK 11.3 million and received 16 researchers in addition to another three.

Mid Sweden University in Östersund would according to its application receive 10 researchers. This has so far resulted in 8 transfers for a grant from ALI of SEK 7.2 million and deals with two areas. In the first area, three researchers from the ALI unit “Health promotion in working life” transfer to the university’s “Challenges of the welfare society” at the Institute for health sciences. In the second area, five researchers from the ALI unit “Local and regional development processes” transfer to the programme “Cultural heritage, democracy and entrepreneurship”.

Karolinska Institute had plans to employ researchers for two positions and 7 temporary positions (two years) for a grant of SEK 6.5 million. Two professors went to Clinical neurosciences together with one researcher, others to Public health sciences. In addition to these, an additional research assistant came to Clinical neurosciences, three to Public health sciences, and a further seven researchers. Five of them ended up at Work and environmental medicine which is organisationally located at the Karolinska Institute hospital in Stockholm county council, but according to the plans will be transferred to the Karolinska Institute.

Umeå University undertook for a total of SEK 7.4 million to provide employment corresponding to 6.8 annual person years distributed by 2.3 person years at the medical faculty, 3.5 at the technical and one at the social science faculty. The outcome in September 2007 was

five persons at Public health and clinical medicine, four at Chemistry, two at Radiation and three at different social science institutions. The total number of 14 persons is substantially more than covered by the ALI grant.

Göteborg University submitted two applications and *Chalmers* one. Work and environmental medicine (AMM) at Sahlgrenska Academy (the university's medical faculty) provided 8 researchers with employment for SEK 4.7 million; Work sciences provided three research positions for SEK 1.5 million; and the Institution for products and production development at Chalmers provided 3 for SEK 2.1 million. At AMM the research areas Ergonomics and work capacity, and Risk management and safety at work, were strengthened by a total of seven researchers, Work sciences by four researchers. In addition, Gothenburg Research Institute and the institutions for Social work, Business administration and Psychology have each received one researcher. Particularly at AMM this involves a substantial increase. Work sciences was strengthened with a new professor, which corresponds to the earlier professor at ALI Väst, another professor (part-time), and a retired researcher. Chalmers was expanded through three researchers in each of the areas Man in production and Virtual production economics.

The application from Mälardalen University covered at least seven positions at three institutions, for which the university received SEK 4.0 million in grants. The university stated in its application the ambition of developing work sciences and establishing a centre in the research area Health–work–welfare with ALI researchers as one ingredient. Eight researchers, of which one was on parental leave of absence, received positions there, but salary funds are only intended to finance a part of the four positions – the rest would have to come from external funds and future applications. The majority of researchers are at the Department of Social Sciences.

Gotland University intended to continue to run the project “Driving forces for new businesses”, which it had started together with ALI and the KK Foundation. Positions were given to four researchers totalling SEK 2.3 million at the institutions for Social geography and ethnology (3) and History (1).

Malmö University was granted SEK 7.0 million to provide positions for 7–9 researchers. The intention was to focus on two themes: Vulnerability and social exclusion mechanisms in working life, based on migration, ethnicity, gender and diversity; and Health and ill health in working life. These should be kept together with a steering function with representatives from external regional bodies in Skåne. The outcome in September 2007 was that Malmö University received six researchers in four institutions.

Linköping University received five researchers for a total of SEK 3.0 million. There were two professors, two research assistants and a postgraduate student. The theme Ethnicity, located at the Department for Societal analysis and welfare studies (ISV) in Norrköping has after the closure developed into a centre for research on migration, economics and society (REMESO). The centre, which receives financial support from FAS, has about 20 researchers and five doctoral students, of which about 10 were earlier linked to ALI. A group of four researchers earlier located at ARUT in Norrköping is now at the Institute for economic and industrial development (IEI). There is a link to working life through a Professor employed at the HELIX Centre for mobility in working life.

In addition, the *Royal Institute of Technology (KTH)* received grants amounting to SEK 2.3 million for the transfer of three researchers to three different institutions.

How these environments will develop in the future is uncertain, and it will be difficult to monitor since the situation in 2008 to a large extent still deals with plans and expectations. ALI wrote, however, in its grant decision that higher education grant recipients should report how

the grant has been used in their annual report for 2007, or as decided by the government. It would be desirable if such reporting were also to continue in the future.

In addition to the environments identified in this way, it can be mentioned that the head of ALI Syd received a research position at the Institute for Social sciences at Växjö University, with the task of building up research in work sciences.

Geographic mobility

There is a major difference between ALI's earlier locations if we look at how many remain in working life research and how many remain in the same place. Of the researchers in Norrköping, all have continued in research and the majority stayed at Linköping University. A relatively large proportion continued in Umeå and Göteborg, whilst Malmö, Östersund and Stockholm have lost more than two thirds of their researchers. The exception is research assistants at Umeå where the fall out has been large (see table 11 in Appendix 1).

There have also been transfers between places and regions. The largest number of researchers (19) moved from Stockholm, of which 14 have moved to Uppsala, 6 to Mälardalen University in Västerås and three to Luleå. Eight researchers have moved from Östersund, of which three went to Uppsala. Seven have moved from Malmö, of which two went to Lund. Six have moved from Göteborg, and two of these went to Karlstad. From Visby 4 researchers have moved, of which 2 went to Växjö.

5. Summary

Swedish research into working life stands at a major crossroads. Research today has its roots dating back more than 50 years. More substantial initiatives were implemented during the 70s through the political reforms in working life and the establishment of the Swedish Work Environment Fund and the Centre for Worklife Research. At the same time as this quantitative expansion was taking place, major qualitative changes were occurring. The earlier focus on working environment and safety at work has been expanded to include psychosocial issues at the workplace, work organisation, leadership and development, and also the operation of the labour market, labour law and discrimination. Parallel with this, changes related to research funding have taken place from the Fund for Occupation Safety and Health to the Swedish Work Environment Fund, the Swedish Council for Working Life Research and, finally, to FAS and VINNOVA. In addition, AFA Försäkring plays an important role in research related to working environment issues.

The 2001 research policy reform emphasised leading edge competence of high international standards. Over a few years the National Institute for Working Life functioned as a relay station for disseminating knowledge and as a bridge between research, development and application. In connection with the closure of ALI a year ago, questions concerning the dissemination of knowledge and dialogue were faced with major changes. In addition the volume of the state's investment in working life research is affected. One of the areas most badly affected through the closure was research into the working environment. During the same period FAS completed an international evaluation of research into the working environment. The evaluation group proposed the establishment of a commission to strategically tackle working environment questions in the future.

Recent years have been characterised by renewal work at universities and university colleges as regards working life research. The Swedish Research Council and FAS have provided support for new research centres of importance in the development of working life. They cover issues such as the labour market, discrimination and integration, research into the working environment and research on functional disabilities. Other centres carry out research of high relevance and quality concerning the interconnections between working life, welfare and public health. In addition, VINNOVA has financed new “centres of excellence”, covering areas such as working life, mobility and learning.

From the mapping of research into Swedish working life carried out in 2006, the conclusion can be drawn that ALI accounted for a large proportion of research in Sweden. The National Institute for Working Life was the research organisation which had most researchers in the working life area as a whole, and specifically within the main area Working environment and health. In Work organisation, the National Institute for Working Life had most research directors whilst the proportion was lower in the area of the Labour market.

Out of ALI's total of 285 researchers, 140 from different areas had left research into working life by autumn 2007 due to the closure of the National Institute for Working Life. In financial terms this represents a figure of slightly less than SEK 100 million. A further SEK 113 million will disappear after 2008 if no new funds are made available.

The new landscape for research into working life at universities and university colleges now emerging is fragmented and spread out. Of the regional distribution which ALI started through its regional initiatives, in 2007 two thirds remained at many different places. While Malmö is a major loser, Göteborg and Norrköping have succeeded better in retaining their research resources. Another area of uncertainty is that the widespread distribution of resources for

research into working life in the future will need to compete with other research in each university and university college. Research on the working environment and health can be considered to be the area running the greatest risk if competition for funding and profiling becomes harder.

Another type of fragmentation which can be more troublesome for working life research is that which leads to reallocation to different disciplines. The collected research into working life issues that was carried out in different parts of the Institute have now essentially been relocated to different universities and within these to different institutions. Possibly the most serious outcome is the difficulty of maintaining a multi-disciplinary approach in overall groups, not least since the problems of working life often require cross-disciplinary approaches. Whether more specific centres or institutes can be formed remains to be seen. Evidently, no such centres have been established in connection with the transfer (e.g. with the support of the SEK 60 million), even though a number of undertakings are provided in the grant agreements. Following these up is an important task.

The follow-up in 2007 is largely quantitative and does not take into account the effects on the quality of working life research such as e.g. higher scientific standards, multidisciplinary, international exchange, usefulness of players in working life etc. The fragmentation – not just to different universities and university colleges but also within these to different institutions – naturally creates difficulties in developing coherent and creative research environments with a focus on working life. In order to counteract this fragmentation in the future, investments in different “centres of excellence” in the area of working life research could be one means of building somewhat more clearly focused knowledge towers in the new landscape.

Nor does the follow-up consider the institute's tasks of disseminating knowledge. In the future, follow-up of working life research would have good reason to include this perspective, which can largely be related to the third main task of the universities, namely coordination with surrounding society. Similarly, evaluation should be carried out into the international status of research and contact intermediation in the new structure.

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Appendix 1. Tables

Table 1. Distribution of researchers in working life 2005 and 2006 by main area.

	2005					2006	
	L&W 06 person years	Proportion	ALI person years	Proportion	ALI proportion nationally	ALI estimate for Oct 2006 Number	ALI estimate for Oct 2006 %
Working environment, health	556	37%	122.2	73%	22%	127	45%
Work organisation	626	42%	27.1	16%	4%	107	38%
Labour market	181	12%	9.7	6%	5%	42	15%
Other	132	9%	8.5	5%	6%	9	3%
Total	1 495	100%	167.5	100%	11%	285	100%

Source: Follow-up 07, table 2 modified. Based on Mapping 2006, table 3 and basic material. The two columns to the right have been supplemented by basic material from the follow up.

Table 2. Distribution of researchers by level of position 2005 and 2006.

Position as per L&W 06	2005			2006	
	Distribution % Nationally as per L&W 06	Annual work ALI as per L&W 06	Distribution % ALI as per L&W 06	Number ALI as per staff list	Distribution % ALI as per staff list
Professor	11.5	17.6	10	16	6
Research Fellow	13.5	28.7	16	54	19
Doctor/research assistant	28.9	41.8	23	93	33
Postgraduate student	30.7	44.0	24	28	10
Research assistant	10.3	43.2	24	94	33
Others	5.1	8.5	5		0
	100	183.8	100	285	100

Source: L&W 06 and S&T 07

Table 3. Distribution by discipline background in research groups, average proportion, 2005.

Medicine	13.6
Economics	17.2
Behavioural sciences/other soc. sci.	42.3
Humanities	5.8
Law	2.3
Technology	10.3
Natural sciences	6.4
Other subjects	2.1
	100

Source: L&W 06, Table 6.

Table 4. Distribution of researchers by gender and position category.

Category	2005		2006	
	L&W 06		Employees at ALI Oct 2006	
	Proportion women	Proportion men	Proportion women	Proportion men
Professors	5%	14%	3%	10%
Postgraduates	33%	39%	45%	60%
Postgraduate students	41%	31%	14%	4%
Research assistant	21%	15%	38%	27%
Total	100%	99%	100%	101%

Source: L&W 06, figure 5 and S&T 07, Appendix 1.

Table 5. Distribution by type of organisation, proportion of research directors 2005.

Older universities	43.8
Special universities/university colleges	17.0
Other universities and university colleges	14.6
State research institutes and authorities	15.2
Other research institutes	3.9
County councils, municipalities	4.2
Others	1.5
	100

Source: L&W 06, Table 7.

Table 6. Research groups' financing by type of financing, average proportion, 2005.

Research councils/research foundations (public)	39.6
Basic funding from university/university college	24.8
EU funds	3.9
Other public financing	22.2
Companies	2.8
Private non-commercial organisations	4.5
Other private financing	2.1
	100

Source: L&W 06, Table 12.

Table 7. Left research into working life 2007.

	Left research into working life 2007			Proportion % of number 2006	Of which retired		
	Women	Men	Wom + Men		Women	Men	Wom + Men
Professors	1	2	3	19	1	1	2
Researchers	20	29	49	33	5	69	11
Postgraduate students	8	1	9	32			0
All researchers	29	32	61	32	6	7	13
Research assistants	52	27	79	84	7	7	14
Total	81	59	140	49	13	14	27

Source: S&T 07, Table 5.

Table 8. Left research into working life 2007, by research unit at ALI.

ALI's research units	Number ALI employees October 2006	After closure of ALI 2007					
		Research Working life	Research Others	Other work	Retired	Unemployed /data unavailable	Proportion working life research
Labour market and integration	42	25	1	8	7	1	60%
Labour law	10	5	0	5	0	0	50%
ARUT	56	29	4	16	4	3	52%
Occupational health	70	45	2	7	8	8	64%
West	31	17	4	8	0	2	55%
South	24	8	3	7	2	4	33%
North	37	12	0	17	4	4	32%
Others (analysis etc)	15	4	1	6	2	2	27%
	285	145	15	74	27	24	51%

Source: S&T 07 basic material.

Table 9. Receiving universities and university colleges and number researchers per educational institution 2007, and proportion by region, 2005.

University - university college	2007					2005 (L&W 06)	
	Prof	Research-ers	Post-graduate student	Ass	Total	Region's proportion of R&D person years	Region's proportion of person years in working life area
Danderyd Hospital		1			1		
Karolinska Institute and university hospital	3	10	2	7	22		

KTH		3		1	4		
The Stockholm Institute of Education.		1			1		
Stockholm University	1	5	6	2	14		
Södertörn University College		1			1		
Total Stockholm, proportion	33.3%	20.8%	42.1%	50.0%	28.3%	27%	27%
Uppsala University	3	11	2	3	19		
Total Uppsala, proportion	25.0%	10.9%	10.5%	15.0%	12.5%	18%	8%
Chalmers		3			3		
Göteborg University	2	9	2	2	15		
Total Västra Götaland, proportion	43.8%	22.9%	21.6%	25.8%	24.4%	15%	16%
Lund University		3	1	1	5		
University College of Kristianstad		1			1		
Malmö University		5	0	1	6		
Total Skåne, proportion	0.0%	8.9%	5.3%	10.0%	7.9%	15%	12%
Umeå University	1	8	4	1	14		
Total Västerbotten, proportion	8.3%	7.9%	21.1%	5.0%	9.2%	7%	13%
Linköping University	2	8	2	2	14		
Total Östergötland, proportion	16.7%	7.9%	10.5%	10.0%	9.2%	6%	7%
University College of Dalarna		1			1		
Jönköping University		2			2		
Gotland University		4			4		
Karlstad University		2			2		
Copenhagen University		1			1		
Luleå University of Technology		1			1		
Mid Sweden University		8			8		
Mälardalen University		8			8		
Växjö University		3			3		
Örebro University		2			2		
Total other regions, proportion	0.0%	31.7%	0.0%	0.0%	21.1%	12%	17%

Source: L&W 06, Table 11 and S&T 07, Table 8.

Table 10. Distribution by discipline background prior to closure (2005) and type of institution after closure by ALI (2007)

	2005 (L&W 06)	2007 (S&T 07)	
	%	number	%
Medicine	13.6	42	27.6
Economics	17.2	10	6.6
Behavioural sciences/other soc. sci.	42.3	63	41.4
Humanities	5.8	6	3.9
Law	2.3	4	2.6
Technology	10.3	6	3.9
Natural sciences	6.4	6	3.9
Other subjects	2.1	15	9.9
	100	152	100.0

Source: L&W 06, Table 6 and S&T 07, Table 9.

Table 11. ALI researchers by place of work before closure (2006) and after closure (2007), and number and proportion of researchers remaining in working life research.

Location of ALI researchers Oct 2006		ALI researchers remaining in working life research 2007		ALI researchers remaining in working life research at same location 2007	
		Proportion per location	in %	Proportion of original	in %
Göteborg	21	15	71.4	11	52.4
Malmö	14	7	50.0	3	21.4
Norrköping	15	14	93.3	11	73.3
Stockholm	86	57	66.3	29	33.7
Umeå	19	13	68.4	12	63.2
Visby	10	6	60.0	3	30.0
Östersund	26	18	69.2	8	30.8
	191	130	68.1	77	40.3

Source: S&T 07, Table 11.

Appendix 2. Research funding

This appendix provides a brief overview of government funding to working life research in modern times, and also a description of the three major financiers today: FAS, VINNOVA and AFA Försäkring. In addition to these three, there are also other sources of financing e.g. municipalities and county councils, companies, insurance companies other than AFA Försäkring and also foundations and funds.

FAS

The Swedish Council for Working Life and Social Research, FAS, has as its main task the support of research in the areas of working life, public health and social sciences.

Sometimes resources are allocated to specifically defined problem areas where the lack of knowledge is considered to be critical. Longer term initiatives to build up competence also occur.

Decisions on priorities and distribution of research resources are made by a board composed of researchers with varying backgrounds, selected by the research community, and general representatives appointed by the government.

Swedish Council for Working Life and Social Research

- supports and initiates basic research and needs driven research of high scientific quality in the areas of the labour market, work organisation, work and health, public health, welfare, care and social relations.
- evaluates research within their own areas of responsibility
- has coordination responsibility for research on the elderly, disabilities, international migration and ethnic relations, and also social science aspects of alcohol research
- identifies areas for new initiatives and draws up research programmes in conjunction with other research funders
- promotes multi- and cross-disciplinary research
- strives to ensure that research outcomes are disseminated, examined and discussed in different settings
- works for increased national and international co-operation and exchange within the research community
- works to improve the preconditions for younger recently qualified researchers to pursue research careers
- promotes the gender perspective in research
- works for gender equality in research
- promotes scientific publication, dissemination of knowledge and dialogue

FAS activities focus on six main areas, of which three are directly related to research into working life:

Work and health covers research on health risks at work as well as during unpaid work brought about by biological, chemical and physical factors, how these factors affect people and contribute to the occurrence of i.a. allergies, asthma and cancer, heart diseases, repetitive stress injuries, sensitivity to electricity, as well as injuries from vibration and noise. The area also

covers research on psychological and somatic difficulties related to psychosocial factors in the working environment. This also covers the development of methods for measuring exposure and assessing risks.

Work organisation deals with problems in society that have their origins in the way work is organised. Research on the importance of how work is designed and organised, work strain, reorganisation, manning levels etc, conditions and development of the vocationally active are the core issues of this area. Other central issues include competence, learning and vocational roles, and also how changes in technology, working conditions and production organisation affect the individuals involved. Management, leadership and influence, as well as gender relations, power relations and social hierarchies at the workplace are themes which are studied, as well as diversity, discrimination and exclusion.

Labour market covers research into how the labour market functions, salary structures and structural change. Some research is related to e.g. labour regulation, the relationship between the social parties and labour market agreements. This area also covers research into unemployment, work capacity and labour market policy measures, for example entry and exit routes from the labour market. Segregation in working life, professionalization, how occupations and professions are defined, developed and changed, and how new qualification requirements occur are other themes. Increasing internationalisation makes mobility of the labour force and the common European labour market into important research areas.

In the European domain, FAS is an active member of two EU financed networks for research funders, ERA-NETs, which are related to research into working life.

- Work-In-Net, about research into working life and innovation
- NEW OSH ERA, about research into new risks in working environments.

FAS is a government authority under the auspices of the Ministry of Health and Social Affairs which has 24 employees and an annual budget of about SEK 400 million at its disposal.

VINNOVA

The Agency for Innovation systems, VINNOVA, is a state agency promoting sustainable growth by financing need-driven research and developing effective innovation systems.

VINNOVA operates within seven competence areas: Development of Working Life, Biotechnology and Life Science, Information and Communications Technology, Environment and energy technology, Manufacturing and Materials, Services and IT use, and also Transport.

VINNOVA's initiatives in development of working life aim at strengthening the Swedish business sector and the contribution of the public sector to sustainable growth. This is achieved by leveraging people as both players and creative resources. The focus is on work forms and management systems that increase the capacity of Swedish organisations for innovation, creation of value added and long-term effectiveness.

By focusing on *innovation systems at the workplace*, emphasis is placed on the fundamental recognition that all innovations are created by people in organisational settings. Creating preconditions for innovation and opportunities to carry out good work is the key to long-term success. The factors creating innovative environments are usually the same as those that create good working conditions.

Initiatives taken in innovation systems at the workplace are implemented in three different but overlapping areas.

1) *Management and development of the workplace*

Knowledge development for effective management and organisation. This aims to promote long-term productive and competitive workplaces where activities of high quality are carried out.

Ongoing initiatives:

- Development of work organisations: The competent workplace; Leadership: prerequisites, forms and results; The Innovative Workplace.
- Development of health and medical care: VINNVÅRD.
- Management and workplace development in services: Service work making a difference.
- Personnel development that creates value: Successful healthy companies (3F).

2) *Innovation processes and entrepreneurship*

Knowledge development on the preconditions and mechanisms for innovation and change processes in different settings. Promoting increased capacity for innovation and change in Swedish companies and public organisations.

Ongoing initiatives:

- Innovation management: Innovative companies: management of product innovation; Initiative for raising innovation.
- Entrepreneurship: Research on female entrepreneurship.
- Gender and gender equality: Needs-driven gender research.
- Research into small and medium-sized companies: Researching and growing.

3) *Capacity for change in structural transformation*

Knowledge development so that society, industries and companies can better manage the reorientation processes implied by globalisation and structural change of industry.

Ongoing initiatives:

- Dynamics of labour market, mobility and flexicurity: DYNAMO: Dynamic labour markets and organisations.
- Mobility in learning, health and innovation: Helix VINN Excellence Center.

In addition to these areas, VINNOVA monitors changes and developments in working life. The aim is to promote an active discussion of ideas concerning the direction of future initiatives in the area of working life through analyses of the current position, trends and scenarios concerning e.g. industry and transformation of working life, labour market policies, research players and institutions.

VINNOVA is a government agency under the auspices of the Ministry of Industry with about 200 staff and an annual budget of SEK 2 billion at its disposal (2008).

AFA Försäkring

AFA Försäkring is an insurance company owned by the labour market partners. AFA also focuses on preventative work aimed at creating a better working environment. The vision of AFA Försäkring is that each workplace should have such a high level of safety that no one

needs to be sick or incur injury from work. Nevertheless when injuries and illnesses occur, those affected should have the best possible rehabilitation and correct compensation.

Collective insurance agreements form the basis of AFA's preventative work. All cases involving injury and sickness are registered in a large database to document the causes of ill-health at workplaces throughout the country.

For nearly 30 years AFA has supported different research projects and preventative measures to improve health, the working environment and quality of life. In 2006 AFA, one of the largest providers of funding in these areas, invested about SEK 100 million in research, development and dissemination of knowledge.

Using data on injuries as the starting point, AFA Försäkring support projects primarily in the following areas:

- *The working environment*
 - Working environment methodology
 - Physical working environment
 - Ergonomy and stress
 - Health risks from chemicals
 - Psychosocial working environment
 - Emergencies
 - Work organisation
- *Health and lifestyle*
 - Diseases of bones and joints
 - Mental sicknesses
 - Cardiovascular diseases
- *Knowledge dissemination and intervention*
 - Education and information
 - Intervention projects
 - Industry projects
- Four times a year, the board of AFA Försäkring decides which to fund. This takes place after discussion and recommendation in preparatory bodies where the labour market partners are represented – one for the private sector, and a second for the municipal and county council sector. In connection with the processing of applications, the preparatory bodies where appropriate consult experts for assessing i.a. scientific quality.

AFA also initiates major programme funding of research into working life. During 2007 and 2008, AFA announced three R&D programmes:

- Safety, environment and productivity in the Swedish building sector, totalling SEK 6 million.
- Noise in working life: A 3-year R&D programme, totalling SEK 30 million.
- Working environment of women in industry; A 3-year R&D programme, totalling SEK 15 million.

Appendix 3. Background for the first mapping

In previous letters of instruction from the government, FAS and VINNOVA were asked to cooperate in R&D issues related to working life research. To concretise this task, FAS and VINNOVA chose, in addition to the ongoing exchange of information and other coordination, to carry out a mapping and needs analysis of R&D in the area of working life. This exercise covered research related to the working environment, work organisation, the labour market, leadership and also questions concerning linkages between working life and innovation, growth and life balance. In this context R&D in working life covers both research in academic environments, developments/ change projects such as advanced studies in other environment e.g. at agencies or independent institutes.¹⁰

At the end of 2005, FAS and VINNOVA commissioned the Swedish Institute for Working Life to carry out a mapping and needs analysis of research into working life in Sweden.

ALI's task also covered mapping of research into working life as well as the development of a method which could be used for recurring descriptions of R&D in working life and other knowledge domains. In order to satisfy this need, a two stage web questionnaire was developed targeting representatives of research groups carrying out research and development in working life. This took place in consultation with other financiers involved, such as AFA and the Swedish ESF Council, and a joint reference group was set up.

FAS and VINNOVA's terms of reference to the Swedish Institute for Working Life's analysis unit covered:

- identifying and describing volumes and profiles of ongoing R&D in working life over the last year at Swedish universities, university colleges and other research environments including ALI itself
- analysing future needs for research and development in the area of working life
- developing and testing different methods for mapping (e.g. bibliometry, web questionnaires, analysis of the knowledge base of libraries in working life and other methods)
- implement a representative and strategic web questionnaire with high response frequency
- finalisation of material for separate bibliometric analysis
- reporting the scope of R&D on working life with reference to factors such as place, discipline, level of position and gender
- report proportion of research within the framework of R&D in working life
- draw up an inventory and identify future R&D needs and also
- submit a final report with proposals on a method for describing and analysing development of research into Swedish working life by 2006-03-01

¹⁰ In addition to this, FAS was given the task of evaluating Swedish research into the working environment, and this was carried out separately under the supervision of Professor Christer Hogstedt with the support of an international reference group. These task were different and should not be confused.

The aim was to compile information which would provide an overview of the area of working life by mapping the volume of research, its contents, geographic and subject distribution, and which would also highlight future needs for research.

In addition, a bibliometric study was initiated, the aim of which was to describe and analyse what had been published in working life from 2001 and onwards. Responsible for this part was Peter Lindgren, head librarian at the National Institute for Working Life. Publication lists submitted would also be part of the material for carrying out an analysis of current research into working life in Sweden, as well as supplementing the contents of the database, Arblin.

As a result of the closure of the National Institute for Working Life halfway through 2007, the conditions for the mapping were fundamentally changed. In particular, the bibliometric analysis could not be completed.