



**IUI, The Research Institute of Industrial Economics**  
**Stockholm**

# **IUI YEARBOOK 1997/98**

## **Foreword**

The major economic events during the preceding year illustrate how the world economy continues on the avenue towards increased integration and internationalization. First, the European countries have manifested their intention to pursue the strategy towards a European Monetary Union, thereby laying the foundation for increased transparency of their economies and enhancing the prerequisites for sustained future growth. Second, the dramatic and turbulent developments in Southeast Asia vividly demonstrate how vulnerable small open economies are to changes in international confidence regarding their economic policies. Furthermore, as shown by the divergent paths taken by the Southeast Asian countries, the crises also emphasize how important it is for small open economies to adopt an institutional setting that provides the appropriate microeconomic incentives. Those countries in which ownership was clearly defined and in which exit and entry of firms was allowed to take place were least affected by the crises.

This highlights the importance of research addressing microeconomic issues. In this respect, IUI fulfills an important role by focusing on microeconomic, applied research. The research achievements at IUI have extended our knowledge on these issues and have also contributed to a more informed public debate.

Stockholm 1998

Håkan Mogren  
Chairman of the Board

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## **Presentation of IUI**

IUI (Industriens Utredningsinstitut) is an independent non-profit research institution founded in 1939 by the Federation of Swedish Industries (Sveriges Industriförbund) and the Swedish Employers' Confederation (Svenska Arbetsgivareföreningen). Located in central Stockholm, IUI conducts both empirical and theoretical research on economic and social issues of importance for long-term industrial development in Sweden. The emphasis is, however, on applied economics.

IUI has always had a high academic profile. A considerable number of dissertations in economics originate here, and a significant part of the IUI's work has been published in international scientific journals and books. Many Swedish professors of economics have also spent part of their research careers at IUI. It is certainly the aim of IUI to continue to meet the challenges posed by the quality requirements of the international academic community. In order to achieve this aim, research is concentrated on a limited number of areas.

Currently the two main research programs pursued at IUI are: (1) Knowledge Accumulation, Human Capital and Economic Growth and (2) Industrial Organization and International Specialization. At present, a third research area of importance is the Economics of the Welfare State.

## **Organization**

The majority of the IUI research staff hold a doctorate in economics. Staff size has been fairly stable over the years, comprising the equivalent of 15–20 full-time researchers.

IUI's board of directors is made up of leading industrialists. The board appoints the director of IUI and approves the budget and research projects. The organization of research projects follows academic principles and the researchers publish their results in academic journals. Affiliated researchers have full academic freedom in their choice of methodology and, of course, in the conclusions they draw. The board neither approves nor is it responsible for any results published.

IUI conducts open academic seminars and maintains many formal and informal relations with leading universities and other research institutions around the world. International contacts are extensive and foreign scholars regularly visit the institute. Generous contributions from the Marianne and Marcus Wallenberg Foundation make many of these activities possible. During 1996 IUI also initiated a seminar series on "Human Capital and Economic Growth" at which leading international scholars are invited to give their views on current research and policy

issues in this field. This highly appreciated seminar series would not have been possible without financial support from Astra AB and Telefonaktiebolaget LM Ericsson AB.

Doctoral students are also offered the opportunity to work on their dissertations at IUI. Over the years, 54 dissertations have been completed at IUI.

## **Financial Sources**

The principals of the Institute, namely the Federation of Swedish Industries (Sveriges Industriförbund) and the Swedish Employers' Confederation (Svenska Arbetsgivareföreningen), provide most of the budget. Further financial support comes primarily from various research funds. The generous financial support of the following bodies is gratefully acknowledged from: The Axel and Margaret Ax:son Johnson Foundation, the Swedish Council for Work Life Research, the Swedish Council for Research in the Humanities and Social Sciences, the Economic Council of Sweden, the European Union Directorate XII – Targeted Socio-Economic Research, the European Union TACIS ACE Programme, the National Board of Civil Emergency Preparedness, the Bank of Sweden Tercentenary Foundation, the Joint Committee of the Nordic Social Science Research Councils, the Royal Swedish Academy of Sciences, the National Board for Industrial and Technical Development, Jan Wallander's and Tom Hedelius' Foundation for Research in the Social Sciences, and the Marianne and Marcus Wallenberg Foundation.

## **Board of Directors**

The board of directors is appointed by the principals and comprises leading industrialists, as well as the directors of the two principals.

Håkan Mogren, Chairman of the Board

Gösta Bystedt

Lars-Åke Helgesson

Gunnar L. Johansson (until March 1998)

Martin Leimdörfer

Per Olofsson

Carl Wilhelm Ros (from March 1998)

Göran Tunhammar

Ulf Jakobsson, Director of the Institute

**Staff***Director*

Ulf Jakobsson

*Deputy Director*

Pontus Braunerhjelm

*Research Staff*

Marcus Asplund

Pontus Braunerhjelm

John Ekberg

Karolina Ekholm

Erika Ekström

Stefan Fölster

Mattias Ganslandt

Ola Ghatnekar

Magnus Henrekson

Eugenia Kazamaki Ottersten

Assar Lindbeck

Petter Lundvik

Erik Mellander

Karl-Markus Modén

Lars Oxelheim

Pavel Pelikan

Lars Persson

Per Skedinger

Roger Svensson

Per Thulin

Jörgen Weibull

*Administrative Staff*

Elisabeth Gustafsson

Maria Hedström

Jörgen Nilson

## Visiting Researchers

Kari Alho, ETLA, Helsinki

Ray Barrell, National Institute of Economic and Social Research, London

Robert J. Barro, Harvard University, Cambridge (Mass.)

Karen Bjerre Frederiksen, Copenhagen Business School

Kjetil Bjorvatn, Norwegian School of Economics and Business Administration,  
Bergen Sandviken

Bo Carlsson, Case Western Reserve University, Cleveland

Andrea Fosfuri, Universitat Pompeu Fabra, Barcelona

Jan I. Haaland, Norwegian School of Economics and Business Administration,  
Bergen-Sandviken

Pertti Haaparanta, Helsinki School of Economics

Anders Hoffman, Ministry of Business and Industry, Copenhagen

Torunn Kvinge, Forskningsstiftelsen FAFO, Oslo, and Sosialøkonomisk Institutt,  
Oslo University

Lin Li, Copenhagen Business School

Kjell Erik Lommerud, University of Bergen

Ottar Mæstad, Foundation for Research in Economics and Business Administration  
and Norwegian School of Economics and Business Administration, Bergen-  
Sandviken

James Markusen, University of Colorado at Boulder

Philippe Martin, The Graduate Institute of International Studies, Geneva

Arne Melchior, Norwegian Institute of International Affairs

Karen Helene Midelfart Knarvik, Norwegian School of Economics and Business  
Administration, Bergen-Sandviken

Paul Milgrom, Stanford University, California

Victor D. Norman, Norwegian School of Economics and Business Administration,  
Bergen-Sandviken

Linda Orvedal, Norwegian School of Economics and Business Administration,  
Bergen-Sandviken

Gianmarco Ottaviano, University of Bologna

Nigel Pain, National Institute of Economic and Social Research, London

Trond Petersen, University of California, Berkeley and University of Oslo

Pascal Raimondos-Möller, Copenhagen Business School

María Sáez Martí, Universitat Pompeu Fabra, Barcelona

Francesca Sanna-Randaccio, Dipartimento di Informatica e Sistemistica, Rome

Dennis J. Snower, Birkbeck College, University of London



Lars Sjørgard, Norwegian School of Economics and Business Administration,  
Bergen-Sandviken

Georgi Trofimov, The Institute for Financial Studies, Moscow

Anthony Venables, London School of Economics

## **Address**

IUI

Box 5501

SE-114 85 Stockholm, Sweden

Tel: +46 8 783 84 01, Fax: +46 8 661 79 69

E-mail: [info@iui.se](mailto:info@iui.se); Internet: <http://www.iui.se/iui>

## News at the IUI

After successfully completing the 1998 SNS Economic Policy Report, Ulf Jakobsson has accepted to head the 1999 report. Once again the SNS Policy Group will be dominated by IUI researchers. Pontus Braunerhjelm and Stefan Fölster both from IUI, will join Ulf Jakobsson as members of the SNS Policy Group. The remaining members are Professor Lars Bergman, Stockholm School of Economics, and Professor Hans Genberg, the Graduate Institute of International Studies, Geneva. As usual, the report will be presented in late January 1999.

During the academic year 1997/98, the IUI staff has undergone several changes. Lars Persson, who earned his Ph.D. at the Institute for International Economics, Stockholm, joined IUI in spring 1998. He will continue his research on international mergers and strategic interactions. Furthermore, Per Thulin has replaced Pavlos Petroulas as IUI's statistical assistant. Ola Ghatnekar has been recruited on a project basis to assist Erik Mellander. Finally, Paul Segerstrom, Michigan State University, will visit IUI during the coming year.

Several IUI researchers have left to pursue their careers elsewhere. Eva Meyerson has after eight years left IUI to continue her research at Stockholm University and Stanford University, California. Gunnar Fors, who concluded his Ph.D. in 1996, has accepted a position at the Ministry of Finance. Dan Johansson, presently working at his Ph.D., has continued his doctoral studies at the Royal Institute of Technology (Kungliga Tekniska Högskolan). Also Petter Lundvik will – after three years at IUI – leave to take up a position with his former employer, the National Institute of Economic Research (Konjunkturinstitutet). As mentioned above, Pavlos Petroulas left IUI as he was accepted into the doctoral program at Stockholm University. Doctoral student Mickael Salabasis, who has been working close with Eva Meyerson, will also leave in summer 1998. Another of Eva Meyerson's assistants, Eva Lindblad, resigned in August 1997 to take up a position at Ica. Finally, one of the administrative staff, Giovanna Arizcurinaga, quit IUI to join Proffice.

IUI would like to express its gratitude to all former colleagues and friends for their efforts at IUI and wishes them good luck with their new positions.

## Other Activities

*Marcus Asplund's* research during the year has focused on empirical studies of competition in concentrated markets. One part of this project deals with competition in the Swedish newspaper industry and is carried out jointly with Niklas Arvidsson and Rickard Eriksson, both at the Stockholm School of Economics. Together with Richard Friberg from the Stockholm School of Economics, he has also analyzed the effects on competition of supermarket entry in regional markets. The joint work with Frode Steen, Norwegian School of Economics and Business Administration, and Rickard Sandin, currently at the Swedish Competition Authority, on the short-run dynamics of firm and product market shares continues. He has had papers accepted for publication in the *Journal of Industrial Economics* and the *International Journal of Industrial Organization*.

*Pontus Braunerhjelm* is responsible for IUI's research on MNCs and international trade. During the preceding year, he has published an article in the *Revue d'Économie Industrielle*. He has also contributed chapters to *Innovation, Industry Evolution and Employment* (edited by D. Audresch and R. Thurik), and *Innovation, Investment and the Diffusion of Technology in Europe* (edited by R. Barrel and N. Pain), both forthcoming from Cambridge University Press, and *Entrepreneurship, Small and Medium-sized Enterprises, and the Macroeconomy* (edited by Z. Acs, C. Karlsson and B. Carlsson, Chicago University Press). Working jointly with Karolina Ekholm, he has also edited *The Geography of Multinational Firms* (Kluwer Academic Publishers). His Swedish publications include the 1998 SNS Policy Report, "Företagaren i välfärdssamhället", an article accepted for publication in *Ekonomiska Samfundets Tidskrift* and a chapter (with Gunnar Fors) on industry policy for the annual publication of the Swedish network on EU-related research, *Europaperspektiv 1998* (edited by U. Bernitz, S. Gustavsson and L. Oxelheim). Some of his research was presented at the European Economic Association (EEA) meeting in Toulouse and at a Tinbergen conference. Pontus Braunerhjelm is also an SNS-associated researcher and a member of a CEPR steering committee for an EU-funded post-doctoral exchange program.

*John Ekberg*, a Ph.D. student in economics, joined the IUI in July 1997 as a research assistant in the project "The Swedish Price Level in an International Perspective".

*Karolina Ekholm* has been involved in the Institute's research on foreign direct investment and international specialization. Together with Pontus Braunerhjelm, she has edited the recently published book *The Geography of Multinational Firms*. During the year she has given seminars and taught at the University of Nottingham

and the National Institute of Economic and Social Research in London. Furthermore, she has presented papers at several conferences, including the EEA's and Econometric Society's (ESEM) conferences in Toulouse.

*Erika Ekström*, a Ph.D. student in economics, continued her work as a research assistant in the EU project "Education and Training: New Job Skill Needs and the Low-Skilled." In June she successfully defended her licentiate thesis "Income Distribution and Labour Market Discrimination: A Case Study of Namibia."

*Stefan Fölster* has published a number of articles and books during the past year. Articles on reforms to social insurance based on personal savings accounts were published in *Kyklos*, *European Economy* and *Ekonomiska Samfundets Tidskrift*, and a further article is forthcoming in *The Economic Record*. An article on the success that welfare states have had in equalizing incomes is forthcoming in *Ekonomisk Debatt*. Together with Magnus Henrekson, he has written two papers on the growth effects of government expenditure and taxation. The first of these is forthcoming in the *European Journal of Political Economy*. Stefan Fölster has also written a book on the economic situation of Swedish municipalities, published by ESO in the ministry of finance. He was also a member of the SNS Economic Policy Group and co-authored a report on the state of the Swedish economy entitled *Entrepreneurship in the Welfare State*.

*Mattias Ganslandt* continued his work on market linkages and multi-market competition. In August, he co-organized the 17<sup>th</sup> Arne Ryde Symposium on "Focus Points: Coordination, Complexity and Communication in Strategic Contexts" in Lund. In the fall, he was a visiting scholar at the University of Colorado at Boulder where he gave a faculty seminar and participated in a series of seminars on international trade, as well as a GAMS workshop. He also wrote a chapter for *The Geography of Multinational Firms*, edited by Pontus Braunerhjelm and Karolina Ekholm. In the spring he co-organized an international workshop on "Multinational Production, International Mergers and Welfare Effects in a Small Open Economy" in Stockholm. He presented papers at the following conferences: the 17<sup>th</sup> Arne Ryde Symposium in Lund, the EEA meeting in Toulouse and the workshop on "Multinational Production and International Mergers" in Stockholm.

*Ola Ghatnekar*, a Ph.D. student in economics, joined IUI in February 1998 as a research assistant in the "Firm Training Effects on Performance and Labor Demand" research project.

*Magnus Henrekson* continued to work on issues of economic growth, industrial structure and employment creation. He completed the papers "Institutional Effects on the Evolution of the Size Distribution of Firms" (with Dan Johansson) which is forthcoming in *Small Business Economics*; "Explaining National Differences in the

Size and Industry Distribution of Employment” (with Steven J. Davis), likewise forthcoming in *Small Business Economics*; and “Public Sector and Economic Growth: A Critique of the Critics” (with Stefan Fölster) which is forthcoming in the *European Journal of Political Economy*. Together with several colleagues at the IUI, he was also a member of the SNS Policy Group which presented its report in early 1998. As a spin-off from this engagement, he has also written three papers in Swedish dealing with the effect of labor taxation on the growth of the private service sector, a critique of the recent alleviation of double taxation on corporate dividends, and the rules of the game for entrepreneurship in Sweden. Throughout the year, he has continued to work on the book manuscript “Small Business, Entrepreneurship and Economic Performance: Sweden and the United States in Comparison” (with Steven J. Davis). The manuscript is due to be delivered to the publisher (MIT Press) in early fall of 1998.

*Ulf Jakobsson* is the director of IUI. He is presently also vice-president of the Royal Swedish Academy of Engineering Sciences. Last year he was chairman of the Economic Policy Group of SNS that published their report *Entrepreneurship in the Welfare State* early this year. A theme of this report is the relationship between regulation and consumer welfare in Sweden. He is presently also heading a research project on the explanation of the high domestic price level in Sweden.

*Eugenia Kazamaki Ottersten* continued her work with Erik Mellander on the TSER project “Educational Training: New Job Skill Needs and the Low Skilled” and presented the work to a CEDEFOP-conference in June 1998. Kazamaki Ottersten and Mellander further organized a conference for the project at IUI in March 1998. She was also nominated to the Industrial Economic Council (Industrins Ekonomiska Råd) and, together with the members of this council, she prepared a number of documents. This work has been summarized in two articles, published in *Ekonomisk Debatt*. Kazamaki Ottersten’s engagement in an ERASMUS project resulted in a chapter in *Institutions and Regional Labor Markets in Europe*, edited by Van der Laan and Ruesga (Ashgate Publishing).

*Assar Lindbeck* has during the year completed his work on economic policy and economic growth. The work “The Swedish Experiment” has been published in an article in the *Journal of Economic Literature* (September 1997). A book with the same title has also been published by SNS Förlag in an English as well as a Swedish edition. He has also published a number of papers in various publications about the way the European welfare states function. His theoretical papers include his work on the interaction between economic incentives and social norms (partly written jointly with Jörgen W. Weibull and Sten Nyberg), incentive problems in different types of pension systems (together with John Hassler) and an analysis of

the so-called new Keynesian role theory. At present, Lindbeck is working in the areas of macro theory, pension systems, and the welfare state.

*Petter Lundvik* has worked with three topics: the macro consequences of imperfect financial markets, the inefficiency caused by taxes, and intergenerational accounting. In the first research project he investigated how inadequate law enforcement prevents entrepreneurs from getting external financing and how this affects the general performance of the economy. His findings will be presented at the EEA's 1998 meeting in Berlin. In the second project, he and Urban Hansson Brusewitz estimated deadweight losses due to taxes in Sweden, using data from the 1989–92 tax reform. The third project is a joint EU project coordinated by Bernd Raffelhueschen.

*Erik Mellander* presented the paper "Omitted Variable Bias and Measurement Error in Returns to Schooling Estimates" (at a workshop on returns to education in Amsterdam, organized by the University of Amsterdam and the Tinbergen Institute, in October 1997. In 1998 he and Gudmundur Gunnarsson, Mälardalens University College, started working on a new project entitled "Human Capital, Information Technology, and Productivity". Since February 1998, Mellander has been affiliated part-time with the Office of Labor Market Policy Evaluation (IFAU) in Uppsala. In April, he participated in an IFAU workshop on labor demand where he presented ongoing research concerning the demand for labor with different levels of education in the Swedish manufacturing sector.

*Eva Meyerson's* current research focuses on corporate governance; wage, risk, productivity and gender; and the influence of pay and promotion on individual and organizational responses. The corporate governance project has so far resulted in three theses for master degrees by 1) Eva Lindblad, 2) David Asplund and Jakub Missunna, and 3) Magnus Andersson and Malin Berglund. Furthermore, Eva Meyerson has prepared a report on the influence of CEOs' and board directors' interlocking networks on the compensation level of CEOs. Within the project on wage, risk, productivity and gender, two papers have been published in *Statens Offentliga Utredningar* on issues related to the gender wage gap debate. A third report, "Piece rates: productivity gains and individual risk" (co-author Trond Petersen) is in the process of being published. Her third project, on the influence of pay and promotion on individual and organizational responses, is in an initial phase. It will be undertaken in co-operation with Edward Lazear, Mårten Palme and Trond Petersen. Eva Meyerson has presented seminar papers at the executive compensation workshop in Berlin and at Department of Sociology at Stanford University. She also teaches corporate governance at the Business School at Stockholm University.

*Karl-Markus Modén* has worked on several research projects this year. “Revisions in investment plans and stock price volatility” is a study of how accurately changes in the price of stocks reflect news about changes in economic fundamentals. Part of the data for this study is derived from firms’ replies to an annual survey of investment plans by the Federation of Swedish Industries. The study was published in the National Institute of Economic Research’s Working Paper series (No. 57). He is currently working on “Competition and Ownership Concentration”, a study of the relationship between the degree of ownership concentration and interlocking directory representation in well-defined product markets, and the likelihood of entry of new firms. His third field of interest is analysis of the impact of inward foreign direct investment. A part of this work (“Foreign acquisitions of Swedish companies: effects on R&D and productivity”), was published in chapter 8 in *The Geography of Multinational Firms*, edited by Pontus Braunerhjelm and Karolina Ekholm. This study showed that a new foreign owner was able to introduce improvements in productivity more often than domestic owners. Finally, his ongoing study of the “Competitive effects of international trade and foreign direct investment in Swedish manufacturing industries” complements the last two studies mentioned above by looking at the effects on industry structure and performance (profit margins) of increasing import competition and foreign ownership over time (1980–94).

*Lars Oxelheim* has maintained his affiliation with IUI while holding a full-time professorship (chair) in International Business at Lund University. His current research is concerned mainly with the implications of macroeconomic disturbances for firm performance and issues related to economic and financial integration. He has co-authored a number of books this year, among them *Managing in the Turbulent World Economy: Corporate Performance and Risk Exposure*, John Wiley & Sons, London (co-authored with Clas Wihlborg) and *Corporate Strategies to Internationalize the Cost of Capital*, Copenhagen Business School, Copenhagen (with five Nordic and American researchers). He has had an article (co-authored with Karl-Markus Modén) published by the *Management International Review*. Lars Oxelheim is chairman of the Swedish network for researchers focusing on economic aspects of the EU. In that role he has also edited (with Ulf Bernitz and Sverker Gustafsson) that network’s annual publication, *Europaperspektiv 1998*, Nerenius & Santerus, Uppsala. Lars Oxelheim is also on the editorial board of the *Journal of International Business Studies* and the *Management International Review*.

*Pavel Pelikan* has continued his study of institutional change and the flexibility of industrial organizations for the purposes of policy analysis. He was invited to give seminars on institutional and evolutionary economics at the University of Paris

1 - Sorbonne and the University of Economics in Prague, where he also contributed to discussions of the Czech privatization process. In spring 1998 he completed a study of the origins of successful economic organizations, which concentrates on the information required for the forming of such organizations from given sets of agents, and shows how such information can be produced by a combination of self-organizing and Darwinian trial and error. The first version of this paper was discussed at a seminar of the Max-Planck-Institute in Jena in October 1997, and the final version was presented at the 7<sup>th</sup> conference of the International J. A. Schumpeter Society in Vienna, June 1998. He was member of the Schumpeter Prize jury for this conference and, until the end of 1997, of the Editorial Board of the *Journal of Evolutionary Economics*.

*Lars Persson* joined the institute in April 1998. He will work on issues in industrial organization, emphasizing competition policy and cooperation between firms. During the year, Lars Persson successfully defended his doctoral dissertation "Asset Ownership in Imperfectly Competitive Markets". He participated in conferences organized by EEA and ESEM (Econometric Society European Meeting). He also gave talks at the Institute for International Economic Studies, the Stockholm School of Economics, the Universitat Pompeu Fabra, Purdue University, IRIS, and the University of Maryland, ECARE at Université Libre de Bruxelles, and Instituto de Analisis Economico (CSIC).

*Per Skedinger* published "Capital Gains Taxation and Residential Mobility in Sweden" in the *Journal of Public Economics* (with Per Lundborg), *Arbetsförmedlingarna – mål och drivkrafter*, for the Ministry of Finance (with Sten Nyberg), and "Comment on Lisa Lynch" in the *Swedish Economic Policy Review*. He wrote "Corporate Job Ladders in Europe: Wage Premia for University vs. High School Level Positions" (with Erik Mellander). Per Skedinger also continued to serve as secretary of the Economic Council of Sweden at the Ministry of Finance.

*Roger Svensson* has been involved in a project about consulting engineers' foreign operations, as part of which he is producing a book and a couple of research papers. This project has also led to the creation of a unique database on service exports. A study of Swedish consulting engineers was also undertaken for SIDA. Furthermore, two chapters about the entry mode and agglomeration for multinational firms in the manufacturing sector were submitted to *The Geography of Multinational Firms*, published by Kluwer.

*Per Thulin* joined IUI in October 1997. His main responsibilities are the collection and statistical analysis of data. He has also been involved in two projects, one on the determinants of the patterns of FDI flows between countries



(with Robert Lipsey and Pontus Braunerhjelm), and one on the causes of the low export of Swedish high technology products (with Pontus Braunerhjelm). He has also assisted Stefan Fölster and Magnus Henrekson in their study of how the size of government affects GDP growth.

*Jörgen Weibull* carried out research in political economy and evolutionary game theory. Together with Assar Lindbeck and Sten Nyberg, he revised the manuscript “Social Norms and Economic Incentives in the Welfare State”, forthcoming in the *Quarterly Journal of Economics*. This work was also presented in an invited session at the annual meeting of the American Economic Association, Chicago. He revised the manuscript “Internal Efficiency and External Conditions”, forthcoming in a Festschrift for Janos Kornai (MIT Press). He gave an invited lecture, “What Have We Learned from Evolutionary Game Theory so Far?” at the Econometric Society European Meeting in Toulouse. Jörgen Weibull also organized an invited session at the EEA Congress, also in Toulouse, to appear in the *European Economic Review, Papers and Proceedings*, including his presentation “Evolution, Rationality and Equilibrium in Games”. In addition, he gave seminars at University College London, the University of Southampton, and the Hebrew University. He taught evolutionary game theory at IDEI (Toulouse University) and ENSAE (Paris). His book *Evolutionary Game Theory* (MIT Press, 1995) was published in a paperback edition and translated into Japanese. During the year, he worked as associate editor of *Econometrica*.

## **Conferences, Workshops and Courses**

The Astra-Ericsson seminar series on “Human Capital and Economic Growth” was initiated in spring 1996. This year, a public seminar was held by Professor Robert J. Barro from Harvard University in spring 1998. The title of the seminar was “Determinants of Economic Growth”. His findings were commented on by Gunnar Wetterberg, Director for Economic Affairs and Labor Relations at the Swedish Association of Local Authorities, and Anne Wibble, Chief Economist at the Federation of Swedish Industries. Robert J. Barro also gave a more academic seminar where he presented a paper with the title “Notes on Growth Accounting”.

In March 1998, IUI hosted a Nordic workshop in International Economics, jointly organized with the Norwegian School of Economics and Business Administration, Bergen. The purpose of the conference was to constitute a network of Nordic researchers sharing a common interest in microeconomic aspects of international economics. The conference attracted almost 40 researchers from Nordic countries, in addition to keynote speakers Professor Anthony Venables, Professor Gianmarco Ottaviano and Professor Victor D. Norman. Altogether, the network consists of about 100 Nordic scholars in this field of economics. The organizing committee consisted of Pontus Braunerhjelm, Karen Helene Midelfart Knarvik, Pertti Haaparanta and Pascalis Raimondos-Möller. It is planned that there will be at least one annual meeting, the next of which will be held in Bergen.

In June 1998, IUI organized a workshop on “Multinational Production, International Mergers and Welfare Effects in a Small Open Economy”. The workshop was held in Stockholm and attended by Swedish and international researchers.

## **Current Research Programs**

### **Program 1 Knowledge Accumulation, Human Capital and Economic Growth**

- 1.1 Empirical Analyses of the Relations between Education, Training, Productivity and Wages
- 1.2 Economic and Industrial Structure in Europe: International Specialization and Adjustment
- 1.3 Entrepreneurship and Growth

### **Program 2 Industrial Organization and International Specialization**

- 2.1 Foreign Direct Investment (FDI), Industrial Organization and Trade Patterns
- 2.2 Competition Policy: Understanding and Evaluating Cooperation between Firms
- 2.3 Effects of Inward Foreign Direct Investment on Competition and Productivity in the Swedish Manufacturing Sector
- 2.4 Service Exports in the Infrastructure and Construction Sectors
- 2.5 Institutions and Industrial Dynamics: A Comparative Analysis of New Zealand, USA and Sweden
- 2.6 Industrial Policy, Small Business and Economic Performance: A Comparison of Sweden and the United States
- 2.7 The Swedish Price Level in an International Perspective

### **Program 3 Economics of the Welfare State**

- 3.1 Welfare State Dynamics
- 3.2 The Welfare State, Capital Formation and Growth
- 3.3 Institutions and Economic Performance

# **1 Knowledge Accumulation, Human Capital and Economic Growth**

Contemporary economic research has identified knowledge accumulation as the prime engine of growth. Growth is endogenized through investment in knowledge which, in contrast to other factors of production, is not subject to decreasing rates of return. Differences in the rate of knowledge investments have been put forward as the main explanation of differences in growth performance on the macro as well as on the micro level. IUI's research in this area has been oriented towards microeconomic issues, particularly the role of education and the functioning of the labor market. To secure sustainable growth, it is necessary that the return on investments in education compensate for its costs. Similarly, without the right incentive structure within the economy, labor may not be optimally allocated from a social point of view. International differences in incentive structures may also induce labor to move between countries. Thus, a proper microeconomic setting is necessary for growth to materialize on the macro level.

## **1.1 Empirical Analyses of the Relations between Education, Training, Productivity and Wages**

One purpose of this project is to compare the returns to education and wage levels across countries. Another issue, which also involves international comparison, concerns the relation between education and labor demand. The interaction between human capital and information technology is also analyzed, using data from the Swedish manufacturing sector. As skills can be upgraded through training outside the regular educational system, the effects of firm-financed training on firms' productivity and costs are also analyzed.

*Responsible for the project:* Eugenia Kazamaki Ottersten, Erik Mellander and Per Skedinger

*Participating researchers:* Erika Ekström and Ola Ghatnekar

## **1.2 Economic and Industrial Structure in Europe: International Specialization and Adjustment**

This project also involves researchers from the Trade Union Institute for Economic Research (FIEF) as well as Lund University. The research undertaken at IUI focuses on technological progress, growth, structural adjustment, and the demand for human capital.

*Responsible for the project:* Magnus Henrekson

## **1.3 Entrepreneurship and Growth**

The share of entrepreneurs, or the self-employed, varies widely between countries, and also between regions within Sweden. The reasons for this variation are analyzed empirically and theoretically. Not only are policy parameters like taxes affect entrepreneurship analyzed, but also the extent of the role the entrepreneurs' share plays in shaping policies that are favorable to entrepreneurship. In a second step, the relation between increased entrepreneurship and growth is examined.

*Responsible for the project:* Stefan Fölster

## **2 Industrial Organization and International Specialization**

Throughout IUI's history, this research program has been of central importance. Since the 1960s the Institute has undertaken comprehensive studies of Swedish multinational corporations (MNCs) and their influence on the Swedish economy. The emphasis has been on the location of production across countries and its implications for the pattern of specialization and trade in the Swedish manufacturing sector. Research in this area emanates from a detailed questionnaire sent out approximately every four years to all Swedish MNCs. This database was updated during 1995.

### **2.1 Foreign Direct Investment (FDI), Industrial Organization and Trade Patterns**

IUI's unique database on MNCs will be pooled with country data to analyze the factors that attract FDI and the implications of FDI for small, open economies' specialization in manufacturing and trade. Can changes over time be related to shifts in FDI flows, and what are the driving forces behind FDI? Are corporate headquarters likely to become more footloose? What impact does a high degree of internationalization have on wages and the demand for labor? How is the process of transferring technology within MNCs organized, and can the impact of such transfer on productivity be measured? Recent theoretical contributions in trade, location and growth will be combined with the theory of the firm in the analyses.

*Responsible for the project:* Pontus Braunerhjelm

*Participating researchers:* Karolina Ekholm, Mattias Ganslandt, Roger Svensson and Per Thulin

## **2.2 Competition Policy: Understanding and Evaluating Cooperation between Firms**

In a well-functioning market economy, firms both compete and cooperate. Cooperation can take many different forms, from mergers to joint ventures to looser forms of cooperation. Cooperation concerns a wide variety of areas, such as adoption of common standards, joint R&D and shared use of common resources. Such forms of cooperation may be part of the competitive process that brings benefits to the consumers: they may reduce the cost of product development, and hence speed the development of new and better products, or they may enhance inter-operability. But collaboration among competitors can also be detrimental to competition. The prime examples are price fixing and sales volume targeting. Other less obvious examples include agreements between large producers and local distributors that facilitate the introduction of products into new markets. The problem is that such agreements can also be used to exclude other entrants that would intensify competition and put downward pressure on prices. In order to separate socially beneficial from harmful cooperation and in order to design appropriate policy measures, we need to understand both the driving forces behind firms' collaboration and the consequences for social welfare.

*Responsible for the project: Lars Persson*

## **2.3 Effects of Inward Foreign Direct Investment on Competition and Productivity in the Swedish Manufacturing Sector**

While the home-country effects of foreign direct investment by Swedish MNCs have been the object of numerous studies at IUI, less attention has been directed towards the effects of foreign investment in Sweden. This project aims to remedy this by emphasizing the impact of foreign investments in Sweden on competition and productivity.

*Responsible for the project: Karl-Markus Modén*

## **2.4 Service Exports in the Infrastructure and Construction Sectors**

Most studies on FDI and related trade issues have focused on MNCs in the manufacturing sector. Remarkably few studies have examined the service sector. In this project, we concentrate on technical consultancy firms (TCFs) which export services based on human capital and know-how in connection with investment in, and restructuring of, infrastructure plants and systems. TCF models often involve telecommunications systems, power and water supply plants, roads and railways. TCF exports differ from those of manufacturing firms in that 90 percent of them are directed towards developing countries and Eastern Europe. TCFs also seldom establish foreign affiliates. Although TCFs are relatively small, they play an important role in technology transfer and provide links to other Swedish export firms. A unique database of Swedish TCFs' tender documents abroad is used to analyze the following issues: 1) Comparison between strategies and outcome when competing for foreign assignments; 2) Sweden's comparative advantages in the infrastructure sectors; and 3) The extent and direction of technology transfer.

*Responsible for the project:* Roger Svensson

## **2.5 Institutions and Industrial Dynamics: A Comparative Analysis of New Zealand, USA and Sweden**

The role of institutions in promoting growth and encouraging industrial dynamics has emerged as an important area of economic research. This project aims at analyzing industrial dynamics in three countries characterized by substantial differences in their institutional settings, namely New Zealand, Sweden and USA (here represented by Ohio). The evolution and average size of establishments and the development of employment, the role and prevalence of clusters, and the forces behind the diffusion of and demand for new technology are compared.

*Responsible for the project:* Pontus Braunerhjelm and Prof. Bo Carlsson



## **2.6 Industrial Policy, Small Business and Economic Performance: A Comparison of Sweden and the United States**

The purpose of this project is to assess whether differences in key institutions and rules of the game can explain variations in growth, employment creation, and industrial and size distribution of employment across countries. Hypotheses are tested by a detailed analysis of institutions and rules of the game in Sweden and the US, and, in a second step, by an assessment of whether the detected institutional differences are consistent with observed differences in economic outcomes such as growth, employment creation, and industrial distribution of employment.

*Responsible for the project:* Prof. Steven J. Davis and Magnus Henrekson

## **2.7 The Swedish Price Level in an International Perspective**

The relative position of the Swedish economy has deteriorated significantly during the last 25 years. When it comes to GDP per capita, measured in terms of comparative price levels, Sweden is now number 16 among the OECD countries. This low position can largely be explained by the high domestic price level in Sweden. The focus of this project is an empirical investigation of this situation.

The pattern of high domestic prices fits well into the traditional Swedish model of a competitive and a sheltered sector, where the exchange rate is determined mainly by cost effectiveness in the competitive sector, while regulations and a lack of competitiveness in the sheltered sector yield a domestic price level that is higher than in many other countries. One of the main questions in the project is how far this pattern goes in explaining the pattern of Swedish prices.

*Responsible for the project:* Prof. Ulf Jakobsson and Prof. Bo Carlsson

*Participating researcher:* John Ekberg

### **3 Economics of the Welfare State**

Analysis of the welfare state has mainly been preoccupied with problems of a static nature. The overall purpose of this research program at the Institute is to study the welfare state from an evolutionary point of view. How does the design of welfare systems influence the incentive structure and thereby the behavior of economic agents? In addition, issues such as capital accumulation in the welfare state and the role of institutions in economic performance will be considered.

#### **3.1 Welfare State Dynamics**

This project aims at investigating the dynamic effects of welfare state policy on individual behavior in the long run. Particular attention is directed towards the interaction between social norms and incentives and their economic implications. The theories that are developed will be related to empirical data for Sweden and the other Nordic countries. Another part of the project aims at analyzing the links between income distribution, employment, and growth in the welfare state. So far, the work has resulted in a number of articles. The next aim is to bring the results together in a book on the dynamics of the welfare state.

*Responsible for the project:* Prof. Assar Lindbeck

#### **3.2 The Welfare State, Capital Formation and Growth**

The focus of this project is the influence of the welfare system on investments in human and real capital and entrepreneurship. The overall hypothesis is that a generous welfare system has a negative impact on savings, which leads to decreasing investments, and hence also affects growth rates and income distribution. The project encompasses both theoretical and empirical aspects of this problem.

*Responsible for the project:* Stefan Fölster

*Participating researcher:* Georgi Trofimov

### **3.3 Institutions and Economic Performance**

The implications of different institutional frameworks for economic performance have been a high-priority issue on the international research agenda for several years. This project tries to answer the question of how economic efficiency and the allocation of knowledge are determined by the institutional setting. Both positive and normative aspects are covered.

*Responsible for the project: Pavel Pelikan*

## Publications

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*IUI Yearbook 1997/98. 1998. 51 pp*

*Arbetsförmedlingarna – Mål och drivkrafter.* Sten Nyberg and Per Skedinger. Ministry of Finance, ESO, Ds 1998:16. Stockholm: Fritzes. 1998. 140 pp.

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52. *R&D and Technology Transfer by Multinational Enterprises*. Gunnar Fors. 1996. 98 pp.
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451. *Price Dynamics and Production Lags.* Assar Lindbeck and Dennis J. Snower
450. *Neutrally Stable Outcomes in Cheap Talk Games.* Abhijit Banerjee and Jörgen W. Weibull
449. *Incentives in the Welfare State Lessons for would-be welfare states.* Assar Lindbeck

## Seminars

1998

### Monday 15 June

Philippe Martin, Graduate Institute of International Studies, Geneva, and CERAS, Paris: *Global Income Divergence, Trade, and Industrialisation: The Geography of Growth Take-Offs*

### Monday 8 June

Richard Friberg, Stockholm School of Economics: *In Which Currency Should Exporters Set Their Prices?*

### Tuesday 2 June

Michael Horvath, Stanford University: *Venture Capital Value Added: The Effect of Board Participation on Company Performance*  
Co-author: Gavin Turner

### Monday 25 May

J. Michael Orszag, Birkbeck College, University of London: *A Model of Welfare Accounts*  
Co-author: Dennis Snower

### Tuesday 19 May

Jerker Lundbäck, Lund University: *Terms of Trade, Real Exchange Rates and Productivity Growth under Monopolistic Competition: Evidence and Theory*

### Monday 18 May

Ronald Findlay, Columbia University and Stockholm School of Economics: *National Security and International Trade: A Simple General Equilibrium Model*

### Monday 11 May

Robert J. Barro, Harvard University: *Notes on Growth Accounting*

**Monday 4 May**

Johan Stennek, The Institute for International Economic Studies: *The Timing of Mergers I: Preemption, Holdup and Waves*

Co-author: Sven-Olof Fridolfsson

**Monday 27 April**

Thomas P. Tangerås, The Institute for International Economic Studies: *On the Role of Public Opinion Polls in Political Competition*

**Monday 20 April**

Fabrizio Zilibotti, The Institute for International Economic Studies: *Setting Standards: Information Accumulation in Development*

Co-author: Daron Acemoglu

**Monday 6 April**

Lars Persson, IUI: *Predation and Mergers: Is Merger Law Counter-Productive?*

**Monday 30 March**

Fredrik Andersson, Lund University: *Limited-Rivalry Consumer Goods and Income Distribution : An Exploration*

**Monday 23 March**

Gianmarco Ottaviano, University of Bologna: *Agglomeration and Trade: A New Perspective*

Co-author: Jacques-François Thisse

**Monday 16 March**

Mattias Ganslandt, IUI: *Arbitrage in International Trade*

**Monday 9 March**

Pontus Braunerhjelm and Karolina Ekholm, IUI: *Foreign Direct Investment and Home Country Demand for Skilled and Unskilled Labor*

**Monday 2 March**

Gunnar Forsling, Uppsala University: *The Expected Marginal Corporate Tax Rate and the Firm's Debt Ratio*



**Monday 16 February**

Assar Lindbeck, The Institute for International Economic Studies and IUI: *New Keynesianism and Aggregate Economic Activity*

**Wednesday 11 February**

Joakim Persson, The Institute for International Economic Studies: *Demographics, Human Capital and Growth: An Analysis of the US States 1920–90*

**Monday 19 January**

Karl-Markus Modén, IUI: *Foreign Acquisitions of Swedish Companies: Effects on R&D and Productivity*

**Monday 12 January**

Mats A. Bergman, Stockholm School of Economics: *Auctioned and Re-auctioned Children in 19<sup>th</sup> Century Sweden*  
Co-author: Sofia Lundberg

**1997****Monday 15 December**

Jörgen Weibull, Stockholm School of Economics and IUI: *National Wealth Accumulation as a Game between Citizens*

**Monday 8 December**

John Hassler, The Institute for International Economic Studies, and Assar Lindbeck, The Institute for International Economic Studies and IUI: *Intergenerational Risk Sharing, Stability, and Optimality of Alternative Pension Systems*

**Monday 1 December**

Marcus Asplund, Stockholm School of Economics and IUI: *Price Adjustment by a Gasoline Retail Chain*  
Co-authors: Rickard Eriksson and Rickard Friberg

**Tuesday 25 November**

Karen Helene Midelfart Knarvik, Norwegian School of Economics and Business Administration: *Self-Reinforcing Agglomerations? An Empirical Industry Study*

Co-author: Frode Steen

**Monday 17 November**

Eva Meyerson, IUI, and Trond Petersen, University of California, Berkeley and University of Oslo: *More Glory and Less Injustice: The Glass-Ceiling in Sweden, 1970–1990*

**Monday 10 November**

Gunnar Fors, IUI: *Foreign Direct Investment and Employment: Home Country Experience in the United States and Sweden*

Co-authors: Magnus Blomström and Robert E. Lipsey

**Monday 3 November**

Erik Mellander and Per Skedinger, IUI: *Corporate Job Ladders in Europe: Wage Premia for University vs. High School Level Positions*

**Wednesday 29 October**

Paul Milgrom, Stanford University: *Putting Auction Theory to Work: The Simultaneous Ascending Auction*

**Monday 27 October**

Stefan Fölster, IUI: *Do Entrepreneurs Create Jobs?*

**Monday 20 October**

Erik Mellander, IUI: *On Omitted Variable Bias and Measurement Error in Returns to Schooling Estimates*

**Monday 6 October**

Stefan Fölster and Magnus Henrekson, IUI: *Growth and the Public Sector: A Critique of the Critics*

**Monday 29 September**

Ray Barrell and Nigel Pain, National Institute of Economic and Social Research: *Foreign Direct Investment, Technological Change and Economic Growth within Europe*

**Monday 22 September**

Erika Ekström, IUI: *Labour Market Discrimination in Namibia*

**Monday 15 September**

Pavel Pelikan, IUI: *Allocation of Economic Competence in Teams: A Comparative Institutional Analysis*

**Monday 8 September**

Georgi Trofimov, The Institute for Financial Studies, Moscow: *Trade and Uneven Development*