CREATES
Annual Report 2009

The Danish National Research Foundation's
Center for Research in Econometric Analysis
of Time Series CREATES

CREATES
Center for Research in Econometric Analysis of Time Series

DANMARKS GRUNDFORSKNINGSFOND
DANISH NATIONAL RESEARCH FOUNDATION

AARHUS UNIVERSITY

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1. HIGHLIGHTS 2009

Center for Research in Econometric Analysis of Time Series, CREATES, is a research unit at Aarhus University, hosted by the School of Economics and Management. Research is conducted within the general fields of time series and financial econometrics. The center is funded as a Center of Excellence by Danmarks Grundforskningsfond (Danish National Research Foundation) via a DKK 40.2 mill. (Euro 5.4 mill.) grant plus own and further external financing. The funding period covers a 5-year period starting 1 April 2007. CREATES' core group of members are affiliated with Aarhus University and University of Copenhagen. A number of international fellows of Danish origin, mainly from North America, are associated with CREATES.

As of 31 December 2009, CREATES counts 18 domestic research fellows and 10 international fellows. The junior CREATES faculty counts 9 post doctorates (of whom 8 are recruited internationally) and 16 PhD students. In 2009 4 new junior positions have been filled: 2 post docs, 1 assistant professor, and 1 full professor. Also with respect to PhD recruitments CREATES has attracted promising candidates. 6 new PhD students have been affiliated with CREATES during 2009 (one of whom will start in 2010). 2 of the new PhD students are international students.

In 2009 approximately 50 papers (an increase of 10% compared to 2008) were published in peer reviewed journals, more than 60% of them in absolute top econometrics and finance journals including *Journal of Econometrics, Econometric Theory, Journal of Business and Economic Statistics, Journal of Financial Econometrics, Journal of the American Statistical Association,* and *Management Science*. In addition, 18 papers were published as contributions to refereed books. Almost 70 papers are presently accepted for publication and forthcoming in peer reviewed journals. 60 working papers have been published in the CREATES Research Paper series in 2009. Also, in 2009 authors affiliated with CREATES had 2 books published or forthcoming at leading publishing houses, Princeton University Press and Oxford University Press.

Over the life time of CREATES the scientific production has shown a steady increase in terms of both quantity and quality and the milestones put forth in the 2007 Research Plan have been more than fulfilled.

In the February 2010 ranking published by *RePEc* that counts more than 1200 research institutions worldwide within the field of *econometrics*, CREATES now appears as number 7 which is an advancement of 2 steps compared to the February 2009 ranking. Within the more narrow field of *time series econometrics*, CREATES appears as number 3 out of more than 950 institutions.

The research conducted at CREATES covers a broad range of sub-fields. One of the most active research areas is within the econometric analysis of high frequency time series data, especially volatility modeling of financial data. The production in this field is flourishing, and CREATES can document one of the strongest research groups worldwide. This area is further expanding via recent recruitments. Other fields with a very dominant position in CREATES include theoretical time series econometrics: the analysis of non-stationary time series, long memory models, optimal inference, and non-linear time series modeling. Also the fields of forecasting and asset return predictability are very active research areas in CREATES.

CREATES has active seminar series and regularly organizes international symposia and conferences. During 2009 more than 80 seminars and workshop presentations were given at CREATES, the majority being with international researchers. In addition, CREATES organized 6 international symposia and conferences. As the major conference event, CREATES hosted the 20th $(EC)^2$ meeting 18-19 December 2009 with the theme *Real Time Econometrics*. The conference had more than 100 participants from 18 countries and included amongst the speakers a long list of world leading scientists in econometrics. Together with the Stevanovich Center for Mathematical Finance at University of Chicago, CREATES also organized the conference *Financial Econometrics and Statistics: Current Themes and New Directions*. The conference was held in Skagen 4-6 June and had more than 20 paper presentations by scientists from North America and Europe. Finally, CREATES organized the conference *Periodicity and Nonstationarity in Economic Time Series* at Hotel Koldingfjord 21-23 August. The conference had a very distinguished group of international researchers participating who have had a major impact on the development of the profession for more than 3 decades. A special volume of *Journal of Time Series Econometrics* is currently being edited and will include several contributions from the conference.

In 2009 CREATES continued the "Distinguished Speaker Lectures" series with contributions from Professor Joel Horowitz, Northwestern University, Professor Takeshi Amemiya, Stanford University, Professor David F. Hendry, University of Oxford, and Professor Søren Johansen, University of Copenhagen and CREATES. The lectures are video recorded and are available through the CREATES podcast archive.

CREATES has a strong collaboration with international partners and institutions. In 2009 CREATES became an institutional member of SoFiE, The Society for Financial Econometrics. SoFiE has 7 institutional members worldwide and we are happy that CREATES can support the creation of a new and important scientific society within our profession. In 2010 SoFiE and CREATES organize a joint conference to be held in Aarhus with the theme *Measuring and Predicting Risk with Financial High Frequency Data.*

In the reporting year, CREATES continued being successful in attracting further external funding. Additionally DKK 4.5 mill. was raised in 2009 from various sources such that cumulated external funding (beyond the DG grant) approximately amounts to DKK 22.5 mill. since the start of the center. In collaboration with Danish Center for Accounting and Finance, D-CAF, CREATES also participates in major grants from the National Program for Research Infrastructure.

2. CENTER MEMBERS AND ORGANIZATION

The core group of domestic center members includes time series and financial econometricians from Aarhus University (School of Economics and Management and the Aarhus School of Business) and University of Copenhagen (Department of Economics and Department of Mathematical Statistics).

Over the years, Aarhus University and University of Copenhagen have produced econometrics candidates who today are among the most cited researchers in the profession and with remarkable academic careers. Also, within the past few years promising PhD candidates in econometrics have got their degrees and are now affiliated with some of the best universities internationally. These researchers are affiliated with CREATES as international research fellows and typically spend 1-3 months per year at CREATES, which serves as their Danish research base.

It is important for CREATES that significant effort is put into high-level graduate (PhD) training and into supporting young promising researchers via post doctoral scholarships. In particular, recruitments of post doctorates have been (and will be) made internationally, and increased efforts will be made to attract international students to PhD scholarships.

As of 31 December 2009, CREATES counts a stock of 18 domestic research fellows, 10 international research fellows, and 9 post doctoral scholars. 13 PhD students are at the host institution, School of Economics and Management, Aarhus University, and 2 and 1 PhD students are at Aarhus School of Business and University of Copenhagen, respectively. In addition, a number of junior people are associated with CREATES as junior fellows (typically former PhD students), including 6 master students enrolled at the IMSQE-program (International Master of Science in Quantitative Economics), which is an elite master program established in 2008 supported by the Ministry of Science, Technology and Innovation.

Below is a complete list of CREATES members and associates during 2009. See "CREATES Annual Report 2009 – Financial Statement" for a full review of committed research time and financing. Table 1 reports a review of "man-years" (årsværk) according to different affiliation categories and funding sources. In 2009 a total of 47 man-years were used, an increase by 3 man-years compared to the preceding year. Of these, approximately 25% were associated with PhD students, and 18% were post docs. Ignoring "other sources", i.e. co-funding from non-host institutions, the distribution of funding between DG-CREATES, the host institution, and further external (competitive) funding were 30%, 45%, and 25%, respectively. Compared to previous years, the amount of co-funding by the host-institution has increased significantly. Also, the amount of further external funding has increased compared to previous years.

CREATES Staff (2009)	**Funding (2009)**[1]
Director	
Prof. Niels Haldrup	AU, FSE, CREATES
Research Fellows, Aarhus	
Prof. Ole Barndorff-Nielsen	
Assoc. Prof. Henning Bunzel	AU
Prof. Bent J. Christensen	AU
Assist. Prof. Kim Christensen	AU
Assoc. Prof. Charlotte Christiansen	AU, FSE
Assoc. Prof. Christian Dahl	AU, FSE
Prof. Tom Engsted	AU
Prof. Asger Lunde	AU, ASB-AU
Prof. Carsten Tanggaard	ASB-AU
Prof. Timo Teräsvirta	CREATES
Assoc. Prof. Allan Würtz	AU
Assistant Prof. Christos Ntantamis	CREATES
Assistant Prof. Olaf Posch	AU
Assistant Prof. Valeri Voev	AU
Research Fellows, Copenhagen	
Prof. Søren Johansen	KU, CREATES
Prof. Anders Rahbek	KU
Prof. Michael Sørensen	KU
International Research Fellows (dates for visits)	
Prof. Torben G. Andersen, Northwestern University, USA	CREATES 1 –7 June 2009 16 – 21 December 2009
Prof. Tim Bollerslev, Duke University, USA	CREATES 2 –6 June 2009 2 – 25 Aug 2009 18 – 19 December 2009

1 Acronyms: AU: Aarhus University, ASB-AU: Aarhus School of Business, Aarhus University, KU: University of Copenhagen, FSE: Forskningsrådet for Samfund og Erhverv (The Danish Council for Independent Research | Social Sciences), DG: Danmarks Grundforskningsfond (Danish National Research Foundation).

Assoc. Prof., Helle Bunzel, Iowa State University, USA	CREATES 1 November-20 December 2009
Prof. Peter Christoffersen, McGill University, Canada	
Assist. Prof. Peter Reinhard Hansen, Stanford University, USA	CREATES 8-30 March 2009 2 – 12 June 2009 2-14 August 2009 18-19 December 2009
Assoc. Prof. Michael Jansson, UC Berkeley, USA	CREATES 15 June – 15 July 2009 22 – 26 August 2009
Assist. Prof. Dennis Kristensen, Columbia University, USA	CREATES 2-24 June 2009 18-19 December 2009
Assoc. Prof. Morten Ø. Nielsen, Queen's University, Canada,	CREATES 25 May-22 June 2009
Assist. Prof. Lars Stentoft, HEC, Montreal, Canada	CREATES 22 May -14 June 2009 20 August – 7 September 2009 12 – 20 December 2009
Prof. Allan Timmermann, UC San Diego, USA	CREATES 1-7 June 2009 17-19 December 2009

Visiting Professors

Assoc. Prof., Gilles Teyssiere, Université de Paris, France	FSE 1 January – 31 July 2009 CREATES 1 August-31 December 2009
Prof. Gunnar Baardsen, Norwegian University of Science and Technology, Trondheim	CREATES 1 September-20 December 2009
Prof. Dominique Guegan, Université de Paris	1-31 May 2009

See also "International Research Fellows" above

Post doctoral scholars

Post doc, Katarzyna Lasak (PhD, Univ. Carlos III Madrid)	FSE
Post doc, Mark Podolskij (PhD Ruhr Univ. Bochum)	ETH Zürich
Post doc, Olaf Posch (PhD, Univ. of Hamburg)	AU
Post doc, Almut Veraart (PhD, Oxford University)	CREATES, FSE
Post doc, Jie Zhu (PhD, AU)	AU, SDU
Post doc, Valeri Voev (PhD, Universität Konstanz)	AU
Post doc, Isabel Casas (PhD, University of Western Australia)	FSE
Post doc, Robinson Kruse (PhD, Leibniz Universität Hannover)	CREATES, FSE
Post doc, Michel van der Wel (PhD, Free University Amsterdam)	CREATES, Erasmus University Rotterdam
Post doc, Frank S. Nielsen (PhD, AU)	CREATES, FSE
Post doc, Andreas Schrimpf (PhD, University of Tübingen)	FSE

PhD students

MSc(merc), Thomas Q. Pedersen, 5+3	CREATES
BSc(econ), Anders B. Kock, 4+4	CREATES
BSc(econ), Mateusz Piotr Dziubinski, 4+4	CREATES
MSc(econ), Martin Møller Andreasen, 5+3	AU
MSc(econ), Rune Mølgaard, 4+4	AU
MSc(econ), Torben Rasmussen, 5+3	AU
MSc(econ), Stefan Holst Bache, 5+3	AU
MSc(econ), Johannes Tang Kristensen, 5+3	AU
MSc(econ), Christian Bach Kristensen, 5+3	AU

MSc(stat), Zhenjiang Qin, 4+4	AU
MSc(econ), Frank Steen Nielsen, 5+3	FSE
MSc(econ), Laurent Callot, 5+3	AU-MVTU
BSc(econ), Niels Dall-Husted, 4+4	AU
MSc(econ), Yukai Yang, 5+3	AU-MVTU
MSc(econ), Eske Stig Hansen, 5+3	Copenhagen Economics, MVTU (Industrial PhD)
MSc(merc) Lasse Bork, 5+3	Jyske Bank, MVTU (Ind. PhD)
MSc(fin) Leonidas Tsiaras, 5+3	ASB-AU
MSc(math econ), Jacob L. Serup, 5+3	KU-AU-MVTU

Junior Fellows

PhD, Martin Møller Andreasen, Bank of England
PhD, Thomas Busch, Danske Bank
PhD, Assistant Professor, Stig V. Møller, ASB-AU
PhD, Assistant Professor, Alessandro Palandri, University of Warwick
PhD, Assistant Professor, David Skovmand, ASB-AU
Stud. oecon, Søren Bundgaard Brøgger, elite-student, IMSQE
Stud. oecon, Martin Busekist Andersen, elite-student, IMSQE
Stud. oecon, Adalheidur Osk Gudlaugsdóttir, elite-student, IMSQE
Stud.oecon Kasper Vinther Olesen, elite-student, IMSQE
Stud. oecon, Jeppe Overbeck, elite-student, IMSQE
Stud. oecon, Stephanie Bendorff Røpcke, elite student, IMSQE
Stud oecon, Rasmus Tangsgaard Varneskov, elite-student, IMSQE

Support staff

Martha Vogdrup Berdiin, Center Administrator	CREATES
Marie Louise Ates, Secretary	AU
Birgitte Højklint Nielsen, Secretary	AU
Thomas Stephansen, Secretary	AU

Research assistants (part time)

Mathis Nauerby Heltoft	CREATES
Lasse Jæger Nielsen	CREATES
Troels K. Danielsen	CREATES
Martin Falch Jakobsen	CREATES
Jonas Kau	CREATES
Christian Stampe Sørensen	CREATES
Lars Kjeldgaard	CREATES
Kenneth D. Petersen	CREATES
Rasmus Schnejder	CREATES

Advisory board

Prof. Tim Bollerslev, Duke University
Prof. Svend Hylleberg, University of Aarhus
Prof. Robert F. Engle, NYU Stern
Prof. Nick Kiefer, Cornell University
Prof. Neil Shephard, Oxford University

Table 1. CREATES affiliates and funding sources, "man-years" (årsværk), 2009.

	DG/ CREATES	Host-institution	Other external funding	Other sources	Total
Domestic Research Fellows	2.33	7.60	.57	4.36	**14.86**
International Research Fellows	.37	.10	-	9.03	**9.50**
Visiting Professors	.44	-	-	.56	**1.00**
Post Docs	.92	.58	4.51	2.25	**8.26**
PhD students	3.00	3.43	2.02	3.00	**11.45**
Research Assistance	.25	-	-	-	**.25**
Support Staff	1.00	.80	-	-	**1.80**
Total	**8.31**	**12.51**	**7.10**	**19.2**	**47.12**

Note: "Other external funding" includes research grants from FSE (Danish Social Sciences Research Council) and Faculty grants. "Other Sources" refer to salaries paid by other universities to individuals affiliated with CREATES.

2.1 RECRUITMENTS

According to the contract with Danmarks Grundforskningsfond a number of *new* openings should be filled in the contract period. The following *new* recruitments were made since the establishment of CREATES in 2007 (categorized according to funding):

New positions funded by host institution, AU[2]:

Prof. Tom Engsted (ASB-AU)	1 Sep 2007 –
Prof. Asger Lunde (ASB-AU)	1 Aug 2009 –
Assistant Prof., Valeri Voev (University of Konstanz)	1 Sep 2008 –
Assistant Prof., Olaf Posch (University of Hannover)	1 Sep 2008 –
Assistant Prof., Kim Christensen (ASB-AU)	1 June 2009 – 31 Dec 2009
	1 Jan 2012 – 31 Dec 2013
Post doc, Andreas Schrimpf (University of Tübingen)	1 Oct 2011 – 30 Sep 2012
PhD student, Zhenjiang Qin, 4+4 (China)	1 Feb 2008 – 31 Jan 2012
PhD student, Christian Bach Kristensen, 5+3 (AU)	1 Sep 2008 – 31 Aug 2011
PhD student, Johannes Tang Kristensen, 5+3 (SDU)	1 Sep 2008 – 31 Aug 2011
PhD student, Stefan Holst Bache, 5+3 (SDU)	1 Sep 2008 – 31 Aug 2011
PhD student, Yukai Yang, 5+3 (KU),	1 Jan 2009 – 31 Dec 2011
PhD student, Kenneth Dencker, 5+3 (AU)	1 May 2009 – 30 Apr 2012
PhD student, Laurent Callot, 5+3 (AU)	1 Sep 2009 – 31 Aug 2012
PhD student, Niels Husted Dall-Hansen, 4+4 (AU)	1 Sep 2009 – 31 Aug 2013
PhD student, Kasper Vinther Olesen, 4+4 (AU)	1 Sep 2010 – 31 July 2014

New positions funded by CREATES:

Assistant Prof., Christos Ntantamis (McGill University)	1 Aug 2008 –
Post doc, Kim Christensen (ASB-AU)	1 Apr 2007 – 31 July 2007
Post doc, Almut Veraart (University of Oxford)	1 Oct 2007 – 30 Sep 2009

[2] In parenthesis is indicated occupation prior to being affiliated with CREATES

Post doc, Valeri Voev (University of Konstanz)	1 Apr 2008 – 31 Aug 2008
Post doc, Isabel Casas (Univ. Carlos III, Madrid)	1 Sep 2010 – 31 Aug 2011
Post doc, Robinson Kruse (University of Hannover)	1 Aug 2008 – 31 July 2010
Post doc, Michel van der Wel (Free Univ., Amsterdam) (part time)	1 Sep 2008 – 31 July 2010
Post doc, Frank Nielsen (Aarhus University)	1 Feb 2009 – 31 Mar 2009
Visiting Professor, Gilles Teyssiere (Université de Paris)	1 Aug 2009 – 31 Dec 2009
PhD student, Thomas Quistgaard Pedersen, 5+3 (ASB-AU)	1 Sep 2007 – 31 Aug 2010
PhD student, Anders B. Kock, 4+4 (AU)	1 Sep 2007 – 31 Aug 2011
PhD student, Mateusz Piotr Dziubinski, 4+4 (Univ. of Warsaw, AU)	1 Feb 2008 – 31 Jan 2012
Secretary, Annette Andersen	1 Apr 2007 – 30 Sep 2008
Center administrator, Martha V. Berdiin	1 Oct 2008 – 28 Feb 2010

New positions, externally funded:

Post doc, Mark Podolskij (Ruhr Universität Bochum), faculty grant	1 Sep 2007 – 31 Aug 2008
ETH Zurich	1 Sep 2008 – 31 Aug 2009
Post doc, Katarzyna Lasak (University of Barcelona), faculty grant	1Aug 2007 – 31 July 2008
FSE	1 Aug 2008 – 31 Aug 2009
Post doc, Jie Zhu (University of Aarhus), faculty grant	1 Oct 2007 – 30 Sep 2009
Post doc, Olaf Posch (University of Hannover), faculty grant	1 Sep 2007 – 31 Aug 2008
Post doc, Isabel Casas (Univ. Carlos III, Madrid), FSE	1 Sep 2008 – 31 Aug 2010
Post doc, Frank Nielsen (Aarhus University), FSE	1 Apr 2009 – 31 Mar 2011
Post doc, Prof., Kim Christensen (ASB-AU), FSE	1 January 2010 – 31 December 2011
Post doc, Andreas Schrimpf (University of Tübingen), FSE	1 October 2009 – 30 September 2011
Visiting Professor, Gilles Teyssiere (Université de Paris), FSE	1 Jan 2009 – 31 July 2009

All positions agreed with Danmarks Grundforskningsfond to be funded by the host institution and CREATES at the post doc, assistant professor and higher levels have been filled. It should be noted that the host institution has contributed with additionally 1 full professorship, 2 assistant professorships, 5 post doc years, and 5 post doc years via (competitive) grants offered by the Faculty of Social Sciences.

Since its establishment, CREATES has experienced a great international interest in junior positions. By 1 January 2010 CREATES had a stock of 3 assistant professors and 8 post docs who were all recruited internationally. It is important that CREATES continues to offer positions at the post doc level in the future. However, additional external funding will be necessary to achieve this goal and initiatives in this direction are already being made.

3 PhD positions funded via the CREATES grant have now been filled and the first one will defend his thesis in 2010. Yet another 10 positions funded by the host institution have been filled since 2007. 25% of all *new* PhD scholarships have been offered to international students, and the challenge is to increase this figure in the future. According to the contract with Danmarks Grundforskningsfond, the host institution committed to finance additionally 7 PhD scholarships in the contract period, and hence this commitment has already been fulfilled.

3. RESEARCH PLAN AND PUBLICATIONS 2009

3.1 A REVIEW OF PUBLICATIONS

The 2007 Research Plan is specified in the contract between Danmarks Grundforskningsfond and CREATES (January 2007) where milestones until 1 April 2009 are outlined. It is no exaggeration to say that CREATES, in the first three years after its establishment, is already a great success in terms of both research activities and actual publications produced. In fact, productivity in terms of number of publications has been several times higher than the milestones set, and more importantly, the high qualitative standards put forth in the 2007 Research Plan have been fulfilled.

It is always difficult to rank journals, and making a short list of top journals is particularly difficult when it has to cover a range of fields: general econometrics, financial econometrics, and statistics/stochastics. In Baltagi (2007, Worldwide Econometrics Rankings: 1989-2005, Econometric Theory 23, pp. 952-1012) a list of 16 major econometrics journals are included in the ranking. However, the Baltagi list does not include publications in statistics and finance journals and it would be unfair to members of the center not to include such journals. In order to benchmark the research conducted at CREATES, the following lists of top journals are suggested (in alphabetic order):

General econometrics:

Econometrica, Econometric Reviews, Econometric Theory, Econometrics Journal, Journal of Applied Econometrics, Journal of the American Statistical Association, Journal of Business and Economic Statistics, Journal of Econometrics, Oxford Bulletin of Economics and Statistics, Review of Economics and Statistics.

Financial econometrics:

Journal of Banking and Finance, Journal of Empirical Finance, Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Financial Econometrics, Journal of Financial Economics, Journal of International Money and Finance, Journal of Monetary Economics, Journal of Money Credit and Banking, Review of Financial Studies.

Statistics/Stochastics:

Annals of Statistics, Bernoulli, Journal of Royal Statistical Society Series B, Stochastic Processes and its Applications, Journal of Time Series Analysis, Scandinavian Journal of Statistics, Finance and Stochastics, Mathematical Finance

Many more journals deserve to be on these lists. Members of CREATES regularly publish their results in less specialized journals that are considered absolute top journals in economics, for instance *American Economic Review, Journal of Economic Literature, Economic Journal, International Economic Review, Journal of Economic Dynamics and Control, Management Science* and many other journals. Several CREATES members have contributions to peer-reviewed handbook series such as *Handbook of Econometrics, Handbook of Financial Econometrics, Handbook of Financial Time Series* etc.; these are publications which are considered highly prestigious by the profession. CREATES members have a significant number of such contributions already published or in press. Likewise, contributions to *New Palgrave Dictionary of Economics* are considered very prestigious, and invitations to contribute to this series are only given to particularly influential researchers who have contributed significantly to the field. CREATES members have 5 such contributions in the most recent volume of the dictionary.

Details about publications in 2009 are reported in Appendix I, and in Appendix J a full publication review covering the funding period is reported. Publication summaries for 2007, 2008, and 2009 are reported in Tables 2-5 below.

The production of scientific peer reviewed journal articles in 2009 was slightly higher than in 2008. A total of 49 refereed journal articles were published, 60% of which were published in journals from the CREATES short list mentioned above. In addition, CREATES members contributed with 18 articles published in refereed book. The productivity of international research fellows is slightly higher than for domestic CREATES members. This reflects 1) that CREATES has a remarkably strong group of established international researchers, 2) that CREATES has a relatively large proportion of junior researchers who are at the beginning of their careers, and 3) some former productive junior researchers have moved to the group of international researchers.

It deserves mentioning at this point, that almost all of the CREATES post docs have managed to publish or to have papers forthcoming in journals appearing on the CREATES short list of leading journals.

Generally, the productivity at CREATES is very satisfactory and there is a great potential for further publications in the future: By 31 December 2009 CREATES members had 71 papers accepted for publication and during the reporting year additionally 60 research papers were produced in the CREATES research paper series. In steady state, publishing as many papers in peer reviewed journals as are being produced as working papers is highly satisfactory. This goal has almost been achieved. Note however, that some research papers are produced by visiting researchers who not necessarily are affiliated with CREATES at the time of publication, which typically occurs with a time lag.

During 2009 CREATES members also contributed with books published or forthcoming at international publishing houses:

Bent Jesper Christensen and Nicholas M. Kiefer, 2009, Economic Modeling and Inference, Princeton University Press.

Timo Teräsvirta, Dag Tjøstheim and Clive W. J. Granger, Modelling Nonlinear Economic Time Series, Oxford University Press, (forthcoming)

Comparing with the milestones put forth in the 2007 Research Plan it was stated that as by 31 March 2009 at least 20-30 working papers would have been produced with the status of being *submitted* to major econometrics and finance journals, at least 20-30 papers would be *under preparation for submission* to journals, and at least 20-30 papers have been *published* or *accepted for publication* in leading journals. By taking a look at Tables 4 and 5 (which includes the full calendar year of 2009 of course) it is seen that these goals have been well achieved. For instance, 125 articles have been published in refereed journals and more than 60% of them in leading econometrics, statistics, and finance journals. 173 working papers have been produced in the life time of CREATES, and by 31 December 2009, 69 articles have been accepted for future publication. Although we do not have the exact figures, our estimate is that around 70 papers are presently submitted to journals.

Table 2. Review of publications 2007

	CREATES members, Denmark	International CREATES members	Total
Articles in refereed journals	17 (6)	16 (10)	31 (16)
Notes in refereed journals	3 (1)	0	3 (1)
Contributions to refereed books	0	2	2
Refereed and edited books	1	0	1
Published working papers	33	21	50
Forthcoming articles in refereed journals and books	36 (11)	17 (9)	51 (19)
PhD theses	0	.	0

Note: Number in parenthesis indicates the number of publications appearing on the suggested benchmark list. Note that due to co-authorship the total column is not the sum of the other columns.

Table 3. Review of publications 2008

	CREATES members, Denmark	International CREATES members	Total
Articles in refereed journals	31 (15)	17 (11)	45 (24)
Notes in refereed journals	0	1 (0)	1 (0)
Contributions to refereed books	5	3	8
Refereed and edited books	0	0	0
CREATES Research Papers	47	12	63
Forthcoming articles in refereed journals and books	43 (20)	29 (17)	67 (31)
PhD theses	4	.	4

Note: Number in parenthesis indicates the number of publications appearing on the suggested benchmark list. Note that due to co-authorship the "Total" column is not the sum of the other columns.

Table 4. Review of publications 2009

	CREATES members, Denmark	International CREATES members	Total
Articles in refereed journals	31 (15)	24 (18)	49 (30)
Notes in refereed journals	0	0	0
Contributions to refereed books	8	10	18
Refereed and edited books	2	0	2
CREATES Research Papers	41	19	60
Forthcoming articles in refereed journals and books	45 (23)	32 (24)	71 (40)
PhD theses	4	.	4

Note: Number in parenthesis indicates the number of publications appearing on the suggested benchmark list. Note that due to co-authorship the "Total" column is not the sum of the other columns.

Table 5. Review of publications, total for 2007-2009

	CREATES members, Denmark	International CREATES members	Total
Articles in refereed journals	79 (36)	57 (39)	125 (70)
Notes in refereed journals	3 (1)	1 (0)	4 (1)
Contributions to refereed books	13	15	28
Refereed and edited books	3	0	3
CREATES Research Papers	121	52	173
PhD theses	8	.	8

Note: Number in parenthesis indicates the number of publications appearing on the suggested benchmark list. Note that due to co-authorship the "Total" column is not the sum of the other columns.

3.2 BIBLIOMETRIC BENCHMARKING

The largest bibliographic database dedicated to the Economics profession is run by IDEAS at the University of Connecticut and uses the so-called RePEc database as its source. More than 32 different ranking measures (number of publications, citations, impact factor weighted citations, working paper downloads etc.) are used, and the summary rank reports the average rank using the different measures. In the February 2010 ranking, CREATES was listed as number 116 out of 4685 institutions within *all* fields of economics. When focusing on somewhat narrower fields associated with the research actually conducted at CREATES, a rank of 41 (out of 1419 institutions) was given within the field of "Finance", rank 7 (out of 1289 institutions) within the field of "Econometrics", and rank 3 (out of 963 institutions) within the field of "Time Series Econometrics". Focusing on individuals, 4-6 CREATES members appear on the top 5% author rankings in the different categories mentioned above: Torben G. Andersen, Ole Barndorff-Nielsen, Tim Bollerslev, Søren Johansen, Timo Teräsvirta, and Allan Timmermann.

Baltagi (2007) (Worldwide Econometrics Rankings: 1989-2005, Econometric Theory 23, pp. 952-1012) reports a ranking of both institutions and individuals based on publications in 16 top econometrics journals for the 1989-2005 period (and sub-periods). The rankings are made according to different criteria including: by theoretical econometrics publications, by all econometrics publications, and according to the number of standardized page counts, number of articles, individual journals, and journal clusters. Reporting all rankings is too detailed, but it is worth noting that the following CREATES members appear on rankings including publications by the top 150 econometricians: Søren Johansen, Tim Bollerslev, Timo Teräsvirta, Allan Timmermann, Morten Ø. Nielsen, Michael Jansson, Ole Barndorff-Nielsen, Anders Rahbek and Niels Haldrup. Note, however, that the list does not include publications in finance and statistics journals where several CREATES members will typically publish and this may bias the view. Readers are referred to Baltagi (2007) for details. Of course, the Baltagi rankings may only be of historic interest since the ranking concerns the period prior to the establishment of CREATES, but it may still indicate the strength of the group and may be a reference point for future rankings in econometrics.

3.3 RESEARCH AREAS, THE 2007 RESEARCH PLAN, AND FUTURE RESEARCH DIRECTIONS

In the 2007 Research Plan specified between Danmarks Grundsforskningsfond and CREATES, the main research areas of CREATES was categorized as follows: econometric theory, asset returns and volatility, non-linear time series modeling, forecasting, predictability, and bubbles. These areas are all very active and rapidly expanding research fields where CREATES members contribute with research results at the absolute research frontier as previously documented. The categories have been chosen to provide an overview of the focused research areas, but in fact the different areas often overlap considerably, and in some cases a particular categorization can be somewhat artificial. The fact that the various research overlap considerably is also reflected by the participating researchers in the individual projects. In the 2007 annual report, classification of the publications according to the different categories was attempted, and a description of the various fields was given there. In the present report, the various publications have not been categorized. Notwithstanding, a look at the publication list will document that the research areas of econometric theory, empirical finance, financial econometrics including volatility modeling and the analysis of high frequency data dominate much of the research undertaken at CREATES. Members contribute significantly to the research frontier in these areas, and in several fields CREATES has some of the strongest research groups worldwide. It goes without saying that the mentioned research areas are still very active and will play a major role in the future research at CREATES, which is also reflected in recent recruitments.

4. PHD ACTIVITIES

By 31 December 2009 CREATES had a stock of 13 PhD students enrolled at the host institution and 2 PhD students at ASB-AU. One student is enrolled at the University of Copenhagen. 5 of the students are international students. In addition to those already enrolled as PhD students at the establishment of CREATES, at least 13 new students have been (or will be) enrolled as PhD students by 1 September 2010. 3 of these are financed via the CREATES grant, and the remaining students are financed by the host institution. 3 PhD scholarships are co-sponsored via grants from the Ministry of Science, Technology and Innovation.

The PhD co-funding by the host institution amounts to the number of scholarships agreed in the contract with Danmarks Grundforskningsfond for the entire contract period. For the remaining funding period, it is expected that additionally 2-3 PhD students will be offered scholarships funded by the host institution. See Table 6 for a review.

PhD students' external relations

It is an integral part of the PhD program that PhD students visit international research environments during their studies. The typical duration of a visit abroad is 4-6 months. During 2009 PhD students affiliated with CREATES had status as visiting PhD students at the following universities: Rady School of Management, University of California San Diego, Columbia University, Toulouse School of Economics. During 2007 and 2008 the following Universities have hosted CREATES PhD students: Duke University, New York University (Stern School), Cornell

Table 6. PhD students affiliated with CREATES

Name of student	Funding	2007		2008		2009		2010		2011		2012	
PhD students enrolled at host institution:													
Jie Zhu*	AU	■											
Toke L. Hjortshøj	AU	■	■										
David Skovmand	AU	■	■										
Martin M. Andreasen	AU	■	■	■									
Rune Mølgaard	AU	■	■	■	■								
Torben B. Rasmussen	AU	■	■	■	■								
Frank S. Nielsen	FSE	■	■	■	■								
Eske Stig Hansen	MVTU	■	■	■	■	■	■						
Thomas Q. Pedersen	CREATES		■	■	■	■	■	■					
Anders B. Kock	CREATES		■	■	■	■	■	■	■	■			
Mateusz Dziubinski*	CREATES			■	■	■	■	■	■	■	■		
Zhenjiang Qin*	AU			■	■	■	■	■	■	■	■		
Christian Bach	AU				■	■	■	■	■	■			
Stefan Holst Bache	AU				■	■	■	■	■	■			
Johannes T. Kristensen	AU				■	■	■	■	■	■			
Yukai Yang*	AU/MVTU					■	■	■	■	■	■		
Laurent Callot*	AU/MVTU						■	■	■	■	■	■	
Kenneth Dencker	AU						■	■	■	■	■	■	
Niels H. Dall-Hansen	AU						■	■	■	■	■	■	■
Kasper Vinther Olesen	AU								■	■	■	■	■
PhD NN	AU								■	■	■	■	■
PhD NN	AU										■	■	■
PhD NN	AU										■	■	■
PhD students enrolled at other institutions:													
Lasse Bork	ASB-AU	■	■	■									
Stig V. Møller	ASB-AU	■	■	■	■								
Leonidas Tsiaras*	ASB-AU	■	■	■	■	■							
Theis Lange	KU	■	■	■									
Jacob L. Serup	AU/KU/ MVTU					■	■	■	■	■	■		

Note: * International students

University, Princeton University, Harvard University, Manchester Business School, University of California Berkeley, Northwestern University, and Catholic University Leuven. In 2010 PhD students will have a visiting status at University of Amsterdam, University of Illinois, and University of California at San Diego. It should be mentioned here that with respect to PhD students' visit abroad CREATES also benefits from the contacts to the international research follows who in many cases have hosted PhD students from CREATES.

During 2009 CREATES has hosted 3 visiting PhD students from other European institutions (from Sweden, Italy, and Portugal).

PhD students are active in presenting their works at international conferences, seminars, symposia and workshops.

PhD theses

Four PhD theses were defended by CREATES students in 2009:

PhD, Rune Mølgaard, *Essays on Empirical Corporate Finance – Managerial Incentives, Information Disclosure, and Bond Covenants.*
Committee: Ass. Professor Kasper Larsen, Carnegie Mellon University, Pittsburgh, Professor Dr. Holger Kraft, Johann Wolfgang Goethe-Universität, Frankfurt am Main, Professor Torben M. Andersen, Aarhus University.
Stay abroad: Harvard University, spring 2007.

PhD, Frank Steen Nielsen, *On the Estimation of Fractionally Integrated Processes.*
Committee: Professor Dr. Joerg Breitung, University of Bonn, Professor Javier Hualde, Universidad Publica de Navarra, Assoc. Professor, Allan Würtz, Aarhus University.
Stay abroad: Cornell University, fall 2007.

PhD, Martin M. Andreasen, *DSGE Models and Term Structure Models with Macroeconomic Variables.*
Committee: Professor Oreste Tristani, European Central Bank, Professor Morten O. Ravn, European University Institute, Professor Tom Engsted, Aarhus University.
Stay abroad: Duke University, fall 2007.

PhD, Stig Vinther Møller, *Habit Persistence, Consumption Based Asset Pricing, and Time-Varying Expected Returns.*
Committee: Professor Björn Hansson, Lund University, Professor Jesper Rangvid, Copenhagen Business School, Associate Professor Esben Høg, Aarhus School of Business, Aarhus University.
Stay abroad: Manchester Business School, spring 2007.

It is expected that 3 CREATES PhD theses will be defended during 2010.

CREATES lunch seminar series

CREATES has a weekly lunch seminar series where PhD students and post doctoral fellows have priority in presenting and discussing their works.

PhD courses organized by CREATES

In collaboration with the Danish Graduate Program in Economics, DGPE, CREATES organizes and finances specialized PhD courses typically lasting from 2-3 days up to a week. The courses are taught by leading international researchers. In 2009 CREATES organized the following courses (see Appendix B.2 for details):

1. Professor, Timo Trimborn, University of Hamburg, *Matlab*, 5-6 March
2. Professor Joel Horowitz, Northwestern University, *Nonparametric and semiparametric methods in Econometrics*, 11-13 May
3. Professor Dominique Guegan, University of Paris, *Long Memory Processes and Structural Change Models*, 25 May
4. Professor Harry Parsch, University of Melbourne, *The Econometrics of Auctions*, 15-17 June
5. Professor Charles Bos, Free University Amsterdam, *Advanced Programming,* 17-21 August
6. Professor Gary Koop, University of Strathclyde, *Bayesian Econometrics*, 14-15 September
7. Dr Jurgen Doornik, University of Oxford, *Optimization in Econometrics*, 2-3 November
8. Professor Gunnar Baardsen, Norwegian University of Science and Technology, Trondheim, *Macroeconometric Models*, 16-17 November

In addition to the "short" PhD courses, CREATES faculty members contribute with full 10 ECTS PhD level courses at the School of Economics and Management.

5. EXTERNAL RELATIONS AND COLLABORATIONS

CREATES participates in numerous collaborations with institutions as well as individuals (see Appendix A for a full list). A few comments:

CREATES members participate in individual research projects with more than 100 individuals from other institutions worldwide. Approximately 60% of these collaborators participate in joint works with domestic CREATES members as can be seen from the publication review in Appendix I.

In addition to 3 PhD students visiting abroad during 2009, several fellows went on longer visits abroad, see Appendix A.2 for details.

In 2009 CREATES had 84 visitors staying for longer or shorter periods (including CREATES international fellows). Most visitors presented papers in CREATES' weekly seminar series or at symposia organized at CREATES (see Appendix B.1.1, B.3.1, B.3.2).

CREATES also collaborates with a number of international research institutions and centers, including (see Appendix A.1):

1. Granger Centre for Time Series Econometrics, University of Nottingham, England
2. Oxford-Man Institute of Quantitative Finance, Oxford University, England

3. ETH Zurich, Switzerland
4. Stevanovic Center for Financial Mathematics, University of Chicago
5. Society for Financial Econometrics, SoFiE

The form of the collaboration mainly concerns exchange and co-financing of post doctorates, exchange of PhD students and collaboration on the organization of PhD courses and exchange of visitors.

In 2009 CREATES organized a conference jointly with the Stevanovic Center for Financial Mathematics, University of Chicago. The theme of the conference was "*Financial Econometrics and Statistics: Current Themes and New Directions*" and was held in Skagen, 4-6 June. The Stevanovic Center co-financed the conference.

In 2009 CREATES also became one of 7 institutional members of SoFiE, The Society for Financial Econometrics. 5 CREATES members serve in the council board which has 27 members. We are happy that CREATES can support the creation of a new and important scientific society within our profession. In the fall of 2010, SoFiE and CREATES organize a joint conference on *"Measuring and Predicting Risk with Financial High Frequency Data"* to be held in Aarhus. The conference has Professor Nobel laureate Robert F. Engle, New York University, Professor Eric Ghysels, University of North Carolina, and Professor Niels Haldrup, CREATES, in the program board.

CREATES also collaborates with two national research centers: D-CAF, Danish Center for Accounting and Finance, and the Thiele Center for Applied Mathematics in Natural Science. The collaboration includes the organization of joint seminars and symposia.

6. D-CAF/CREATES DATA OFFICE

CREATES collaborates with D-CAF regarding access to relevant databases in Economics and Finance. Currently CREATES members at Aarhus University and D-CAF members have access to the CRSP, COMPUSTAT, DATASTREAM, and NYSE TAQ data bases in addition to various free data bases. An office has been established to offer support on accessing the relevant data and a data assistant has been employed.

In 2009 CREATES participated in an application with D-CAF headed by Professor Peter Ove Christensen to the National Programme for Research Infrastructure under the Danish Ministry of Science, Technology and Innovation. The proposal was granted DKK 10M to support increased access to financial and accounting data. There is no doubt that the abundant access to financial data will be of importance for future research projects and in attracting foreign researchers in financial econometrics. The grant supplements a grant worth DKK 4M from the Danish Council for Independent Research, Social Sciences.

7. CONFERENCES, SYMPOSIA, AND SEMINAR ACTIVITIES

Conference activities, internally and externally, are specified in Appendix B. CREATES members are active in presenting their work internationally at conferences, symposia, etc. In 2009 CREATES members participated in and gave paper presentations at more than 180 international conferences and departmental seminars. Also, CREATES members appear in the program committees for leading international conferences (Appendix B.1.1, B.1.2).

CREATES schedules a weekly seminar series which during 2009 was organized by Professor Christian Dahl. In 2009 a total of 30 paper presentations were given in the series (Appendix B.3.1). In the lunch seminar series, 22 paper presentations were given (Appendix B.3.2). The lunch seminars are organized by post docs Katarzyna Lasak and Almut Veraart.

Symposia and workshops

An important activity at CREATES is to organize focused symposia and workshops for members with specialist speakers invited. In 2009 3 such symposia were organized:

1. Symposium *"Cointegration, Fractional Processes and Long Memory"*, 10 March 2009. Organizer, Niels Haldrup.
2. Symposium "*Dynamic Asset Allocation*", 2-3 June 2009. Organizers, Tom Engsted, Olaf Posch, Thomas Q. Pedersen, Claus Munk, and Charlotte Christiansen.
3. Workshop "*Stationary and Non-stationary VAR models*", 2 October, Organizer, Niels Haldrup

Distinguished speaker lectures

The following distinguished speaker lectures were organized during 2008:

1. Professor Joel Horowitz, Northwestern University, *Variable Selection in High-dimensional Regression Models,* 14 May
2. Professor Takeshi Amemiya, Stanford University, *Thirty Five Years of Journal of Econometrics*, 6 August
3. Professor Sir David F. Hendry, University of Oxford, *Automatic Model Selection*, 20 August
4. Professor Søren Johansen, University of Copenhagen and CREATES, *25 Years with Cointegration*, 10 December

All distinguished speaker lectures are being video-recorded and can be viewed via CREATES' homepage, http://www.creates.au.dk.

International Conferences

CREATES had the honor of hosting the 20th $(EC)^2$ meeting 18-19 December 2009. The topic was *Real Time Econometrics*. The conference was co-sponsored by the European Central Bank and the Danish Council for Independent Research, Social Sciences. $(EC)^2$ is a series of annual international conferences on research in quantitative economics and econometrics, launched in 1990. The acronym $(EC)^2$ stands for European Conferences of the Econom[etr]ics Community. Its main aim is to maintain and extend an adequate forum for both senior and junior European researchers in quantitative economics and econometrics to discuss the progress and results of their research. More than 20 papers were presented by leading scientists in time series analysis. 35 papers were presented as posters. The conference had approximately 100 participants. The scientific committee for the conference had Professor Peter Reinhard Hansen, Stanford University and CREATES, as chair.

In collaboration with the Stevanovich Center for Mathematical Finance at University of Chicago, CREATES also organized the international conference *Financial Econometrics and Statistics: Current Themes and New Directions*, 4-6 June 2009 in Skagen. The conference had 20 paper presentations and almost 40 participants from North America and Europe. The organizers were Professor Tim Bollerslev, Duke University and CREATES, Professor Niels Nygaard, Stevanovich Center, and Professor Niels Haldrup, CREATES.

21-23 August 2009 CREATES organized a conference on *Periodicity and Nonstationarity in Economic Time Series*, Hotel Koldingfjord. The conference was in honor of Professor Svend Hylleberg who has had a major influence on the international standing of Danish econometricians today. The conference had 40 participants including a broad range of international researchers who have had a major impact on the development of the profession over more than 3 decades. The conference had Professors Tim Bollerslev, Bent Jesper Christensen, Asger Lunde and Niels Haldrup as organizers who also currently edit a special volume of *Journal of Time Series Econometrics* including papers presented at the conference.

8. EDUCATIONAL ACTIVITIES

In Appendix C the educational activities of "Aarhus-CREATES" faculty at the School of Economics and Management are listed together with short PhD courses organized by CREATES. As seen, CREATES faculty contributes significantly to the teaching at the School at the BA, MSc and PhD levels.

As a consequence of the CREATES grant, a number of *new* courses in econometrics at the MSc and PhD level are now offered at the School or are planned to be offered the future:

- Time Series Econometrics, 10 ECTS, MSc
- Empirical Finance, 10 ECTS, MSc
- Advanced Programming in Quantitative Economics, 5 ECTS, MSc + PhD
- Computational Methods in Econometrics, 10 ECTS, MSc + PhD
- Topics in Time Series and Financial Econometrics, 5 ECTS, MSC + PhD
- Applied Time Series and Financial Econometrics, 10 ECTS, MSc
- Financial Market Volatility, 10 ECTS, MSc

9. ACADEMIC SERVICES

Appendix D lists journals where CREATES members serve on the editorial board as associate editors. As can be seen, members participate in the editorial board of more than 30 peer reviewed journals. 8 of these journals appear on the CREATES priority list of top-journals.

In addition, all senior (and some junior) members regularly referee articles for a broad range of journals. It is estimated that on average senior members review 6-8 articles per year.

10. EXTERNAL FUNDING

A review of external funding is given in Appendix E. A number of grants were allocated prior to the establishment of CREATES in April 2007 (but are directly relevant to CREATES' activities and the external funding of the center during the funding period). In addition, CREATES received a number of external grants in 2007. During 2008 almost DKK 8,000,000 of extra external funding was raised and in 2009 additionally DKK 4,500,000 was raised. In total, approximately DKK 22,500,000 of external funding relevant to CREATES has been provided since its start, and of these, DKK 4,500,000 attributes to activities in 2009. Most of the external funding is provided by FSE (the Danish Council for Independent Research | Social Sciences), but the Faculty of Social Sciences has also been generous in providing additional grants to CREATES in the form of post doctoral fellowships.[3] A limited number of grants were provided via international funds including the Stevanovich Center for Mathematical Finance at University of Chicago, and the European Central Bank).

As previously mentioned, in 2009 CREATES also participated in a data base application with D-CAF headed by Professor Peter Ove Christensen to the National Programme for Research Infrastructure under the Danish Ministry of Science, Technology and Innovation. The proposal was granted DKK 10,000,000 to support access to financial data. The grant supplements yet another grant worth DKK 4,000,000 from the Danish Council for Independent Research, Social Sciences.

11. AWARDS AND ACKNOWLEDGMENTS

In 2009, a number of acknowledgments were given to CREATES members. PhD student Christian Bach received a travelling grant from *Købmand Ferdinand Sallings Mindefond* to undertake post graduate studies at Columbia University in the fall 2009. PhD student Thomas Quistgaard Pedersen also received a travelling grant, *Tuborgfondets Erhvervsøkonomiske Pris 2009*. Assistant professor Valeri Voev earned the EADS research prize "Claude Dornier" by the University of Konstanz from where he acquired his PhD degree. In January 2010 Post doc Kim Christensen received *Ung Eliteforskerpris* as a supplement to a post doc grant he received from the Danish Council for Independent Research in 2009. Teaching awards were given to Professor Christian M. Dahl and Professor Peter Christoffersen. Professor Allan Timmermann became an Appointed Fellow of Journal of Econometrics and Professor Michael Sørensen became an Elected Fellow of the Institute of Mathematical Statistics. Finally, Professor Anders Rahbek received a VELUX Visiting Professor Programme Grant to be used at University of Copenhagen.

It also deserves mention, that Professor Neil Shephard, University of Oxford, and Director of the Oxford-Man Institute of Quantitative Finance, became an Honorary Doctor (Honoris Causa) at Aarhus University in September 2009. In addition to serving in the CREATES advisory board, Neil Shephard also collaborates with several researchers who are affiliated with CREATES as fellows.

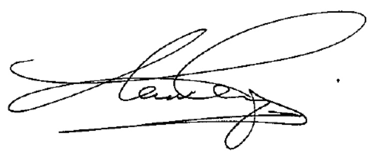
[3] Grants from the Faculty of Social Sciences are considered "external" in the sense that they were given in competition with other schools at the faculty and are beyond the budget of the School of Economics and Management.

12. SIGNATURE

(Ved underskriften bekræftes det, at beretning og regnskab med tilhørende noter og oversigter indeholder alle relevante oplysninger, som vedrører årets primære aktiviteter i Danmarks Grundforskningsfonds Center for Tidsrækkeøkonometri.)

To my knowledge, this report and accounts including notes and entry files comprise all the information concerning CREATES (The Danish National Research Foundation's Centre for Research in Econometric Analysis of Time Series).

31 March 2010



Niels Haldrup
Danmarks Grundforskningfonds
Center for Research in Econometric Analysis of Time Series, CREATES

Appendix A: External Relations

A.1 Research Institutions

	Collaborator	Collaboration subject and/or title. Output/results of collaboration if any
1	Danish Center for Accounting and Finance, D-CAF, Denmark	Seminar and research collaboration, Joint PhD courses, applied seminars, research collaboration. Also D-CAF and CREATES collaborate on data access via the D-CAF - CREATES Data Office. Joint Grant, worth 10 mill. DKK, from the National Programme for Research Infrastructure under the Danish Ministry of Science, Technology and Innovation. Granted fall 2009. Also, CREATES participates in a joint grant with D-CAF regarding data infrastructure worth 4 mill. DKK. The grant is from the Danish Council for Independent Research | Social Sciences.
2	Granger Centre for time Series Econometrics, University of Nottingham, England	Exchange of seminar visitors.
3	Oxford-Man Institute of Quantitative Finance, University of Oxford, UK	Exchange of seminar visitors, PhD students, joint postdoc positions. Director Neil Sheppard in CREATES' Advisory Board.
4	The Stevanovich Center for Financial Mathematics, University of Chicago, USA	Joint international Conference organization.
5	Thiele Centre for Applied Mathematics in Natural Science, DK	Seminar and research collaboration. Joint seminars and symposia.
6	ETSERN - Econometric Time Series European Research Network	European Network organizing Symposia in Time Series Econometrics across Europe.
7	ETH Zurich	Exchange, postdoctoral students, joint postdoc positions. Mark Podolskij, joint ETH Zurich - CREATES post doc.
8	NBER - National Bureau of Economic Research, NSF-National Science Foundation	CREATES organizing 2008 NBER-NSF time series conference.
9	SoFiE - The Society for Financial Econometrics	CREATES institutional member of SoFiE. Several CREATES members in Council Board. Joint Conference in 2010 to be held in Aarhus.

A.2 CREATES members' long visits/sabbaticals abroad

	Venue / Place	CREATES member	Period
1	Princeton University	Dennis Kristensen	Fall 2009
2	Rady School of Management, UCSD (Visiting PhD)	Thomas Quistgaard Pedersen	1 Aug - 14 Dec
3	Columbia University, (Visiting PhD)	Christian Bach Kristensen	1 Sep - 16 Dec
4	Toulouse School of Economics (Visiting PhD)	Eske Stig Hansen	1 Sep - 31 Dec
5	Queensland University of Technology, Brisbane	Timo Terasvirta	17 Oct - 23 Oct
6	University of Technology, Sydney	Timo Terasvirta	24 Oct - 1 Dec
7	Southwestern University of Finance and Economics, Chengdu	Timo Terasvirta	4-23 April
8	Stanford, UCSD	Asger Lunde	5-16 Oct

A.3 Visitors to CREATES 2009

	Name	Affiliation	Period
1	Jerome Adda	European University Institute	30 March - 1 April
2	Cristina Amado	Stockholm School of Economics and University of Minho	15 February - 15 June
3	Takeshi Amemiya	Stanford University	5-7 August
4	Torben G. Andersen	Northwestern University and CREATES	1-7 June
			16-21 December
5	Nektarios Aslanidis	University Rovira Virgili, Spain	18-29 May
			16-23 December
6	Luc Bauwens	UCL, CORE	18-19 December
7	Fred Espen Benth	University of Oslo	24-26 June
8	Tim Bollerslev	Duke University and CREATES	2-6 June
			2-25 August
			18-19 December
9	Charles Bos	VU University Amsterdam	16-22 August
10	Peter Boswijk	University of Amsterdam	30 September - 2 October
11	Nicole Branger	Finance Center Münster,Westfälische Wilhelms-Universität Münster	1-4 June
12	Joerg Breitung	University of Bonn	8-11 March
13	Helle Bunzel	Iowa State University and CREATES	November - 20 December
14	Gunnar Bårdsen	Norwegian University of Science and Technology, Trondheim	September - 20 December
15	Giuseppe Cavaliere	University of Bologna	4-11 August
			2-6 November
16	Fulvio Corsi	University of Lugano	25-27 February
17	Jurgen Doornik	University of Oxford	2-6 November
18	Rob Engle	New York University, Stern	20-23 August
19	José Fajardo	Ibmec Business School, Rio de Janeiro	16 January - 7 February
20	Giampiero Gallo	University of Florence	18-19 December
21	Dominique Guegan	PSE, University of Paris 1 - Pantheon-Sorbonne	4-29 May
22	Tue Gørgens	The Australian National University	19 October - 1 November
23	Peter Reinhard Hansen	University of Stanford and CREATES	8-30 March
			2-12 June
			2-14 August
			18-19 December
24	David Hendry	University of Oxford	19-23 August
25	Joel Horowitz	Northwestern University	10-17 May
26	Javier Hualde	University of Navarra	8-11 March
27	Emma M. Iglesias	Michigan State University	5-8 October
28	Michael Jansson	UC Berkeley and CREATES	15 June - 15 July
			22-26 August
29	Søren Johansen	University of Copenhagen and CREATES	9-11 March
			19-21 October
			26-27 November
			9-11 December

30	Ilze Kalnina	London School of Economics	28-31 January
31	Nick Keifer	Cornell University	19-25 August
32	Ralph S.J. Koijen	University of Chicago, Booth School of Business	1-4 June
33	Gary Koop	University of Strathclyde	14-18 September
34	Siem Jan Koopman	VU University Amsterdam, Tinbergen Institute	18-19 December
35	Holger Kraft	Goethe-University Frankfurt am Main	3-4 June
36	Dennis Kristensen	Columbia University and CREATES	2-24 June 18-19 December
37	Fang Liu	Catholic University of Leuven, Belgium	17-19 February
38	Bernd Lucke	Universität Hamburg	19-20 November
39	Anthony W. Lynch	NYU Stern School of Business	31 May - 6 June
40	Paolo Santucci de Magistris	University of Pavia	1 Sep 2008 - 1 Apr 2009 19-23 August
41	Marcel Marekwica	Copenhagen Business School	1-4 June
42	Marcelo Medeiros	PUC-Rio, Brazil	11-14 February
43	Antonio Mele	London School of Economics	27-30 September
44	Thomas Mikosch	University of Copenhagen	8-9 October
45	Grayham Mizon	University of Southhampton	19-23 August
46	Rocco Mosconi	Politecnico de Milano	30 September - 2 October
47	Ganeshkumar Munnorcode	Stockholm School of Economics	17 January - 1 July
48	Claus Munk	Aarhus University	2-4 June
49	Serena Ng	Columbia University	18-19 December
50	Morten Ørregaard Nielsen	Queen's University and CREATES	25 May - 22 June
51	Ingmar Nolte	Warwick Business School	7-14 March
52	Lars Nordén	Stockholm University	4-6 February
53	Roel Oomen	University of Amsterdam	3-5 December
54	Harry Paarsch	University of Melbourne	7-19 June
55	Paolo Paruolo	University of Insubria	30 September - 2 October
56	Gurnain Pasricha	University of California at Santa Cruz	14-17 February
57	Mark Podolskij	ETH Zurich and CREATES	29 May - 10 June
58	Anders Rahbek	University of Copenhagen and CREATES	9-11 March 1-2 October 2-6 November
59	Rickard Sandberg	Stockholm School of Economics	10-22 May
60	Andreu Sansó	Universitat de les Illes Balears	18-23 August
61	Georg Schaur	University of Tennessee-Knoxville	13-15 December
62	Peter Schotman	Maastricht University	1-3 June
63	Andreas Schrimpf	ZEW, Centre for European Economic Research	23-24 March 1-3 June
64	Jacob Lundbeck Serup	Københavns Universitet and CREATES	18-19 December
65	Neil Shephard	University of Oxford and Oxford-Man	10-11 September
66	Lars Stentoft	HEC Montreal and CREATES	22 May - 14 June 20 August - 7 September 12-20 December
67	Michael Sørensen	University of Copenhagen and CREATES	10 March
68	George Tauchen	Duke University	3-9 June
69	Gilles Teyssiere	University of Paris	6 January - 20 December

70	Allan G. Timmermann	Rady School of Management, UCSD and CREATES	1-7 June 17-19 December
71	Viktor Todorov	Northwestern University	3-10 June
72	Timo Trimborn	University of Hamburg	5-6 March
73	Oreste Tristani	European Central Bank	25-27 January
74	Carlos Velasco	Universidad Carlos III de Madrid	24-27 November
75	Luitgard Veraart	University of Karlsruhe	24-27 February
76	David Veredas	Université Libre de Bruxelles	11-13 March
77	Johan Vikström	Uppsala University	28-30 October
78	Michel van der Wel	Erasmus University Rotterdam and CREATES	16 March - 24 April 15-19 June 24-27 August 9-18 November
79	Hal White	University of California, San Diego	20-24 August
80	Michael Wolf	University of Zurich	7-9 June
81	Jonathan Wright	Johns Hopkins University	18-19 December
82	Meiqun Yin	Hanken School of Economics	5 January - 14 February
83	Kajetan Zwirglmaier	Technische Universität München	31 August - 20 December
84	Bernt Arne Ødegaard	University of Stavanger and Norges Bank	23-24 September

Appendix B: Conferences

B.1.1 Organization of international conferences, symposia, seminars etc.

	Title and date of event	Number of participants International	Danish
1	10 March Mini Workshop "Cointegration, Fractional Processes, and Long Memory" Organizer: Niels Haldrup	4	25
2	14 May Distinguished Speaker Seminar Series Speaker: Professor Joel Horowitz, Northwestern University Title: Variable Selection in High-Dimensional Regression Models Organizer: Niels Haldrup	4	50
3	2-3 June Symposium "Dynamic Asset Allocation" Organizers: Tom Engsted, Olaf Posch, Thomas Quistgaard Pedersen, Claus Munk and Charlotte Christiansen	8	16
4	4-6 June CREATES-Stevanovich Center Conference, Skagen "Financial Econometrics and Statistics: Current Themes and New Directions" Organizers: Tim Bollerslev, Duke University, Niels Nygaard, University of Chicago and Niels Haldrup	27	11
5	6 August Distinguished Speaker Seminar Series Speaker: Professor Takeshi Amemiya, Stanford University Title: Thirty Five Years of Journal of Econometrics Organizer: Niels Haldrup	3	45
6	20 August Distinguished Speaker Seminar Series Speaker: Professor Sir David F. Hendry, University of Oxford Title: Automatic Model Selection Organizer: Niels Haldrup	18	40
7	21-23 August Conference, Hotel Koldingfjord "Periodicity, Non-stationarity, and Forecasting of Economic and Financial Time Series" Organizers: Tim Bollerslev, Bent Jesper Christensen, Niels Haldrup, Asger Lunde	19	21

8	2 October Mini workshop "Stationary and Non-stationary VAR models" Organizers: Niels Haldrup	4	21
9	10 December Distinguished Speaker Seminar Series Speaker: Professor Søren Johansen, University of Copenhagen Title: 25 years with cointegration Organizer: Niels Haldrup	3	45
10	18-19 December EC2-conference, Aarhus University "Real Time Econometrics" Organizers: Tom Engsted, Niels Haldrup, Asger Lunde Program Chair: Peter Reinhard Hansen	63	35

B.1.2 Member of program committees / organization of international conferences

	Title of event	Program committee or organizer
1	Dynamic Macroeconomic Modeling in Matlab	Olaf Posch (organizer)
2	Symposium on Dynamic Asset Allocation	Olaf Posch (organizer)
3	SITE summer workshop, June 2009	Tim Bollerslev and Peter Reinhard Hansen (organizers)
4	CIREQ Time Series Conference, Montreal, Canada	Morten Ørregaard Nielsen (program committee)
5	Stanford Institute for Theoretical Economics Workshop on Volatility	Peter Reinhard Hansen (organizer)
6	Annual Conference on Forecasting Financial Markets and Economic Decision-making (FindEcon'2009), Lodz, Poland	Tom Engsted (program committee)
7	GRETA Conference on Risk	Allan Timmermann (Scientific Committee)
8	Humboldt-Copenhagen Financial Econometrics, w. N. Hautsch. Berlin. March, 2009	Anders Rahbek (program committee)
9	ETSERN meeting: In Nottingham and in Aarhus (program)	Anders Rahbek and Niels Haldrup (organizers)
10	Econometric Society European Meeting, Barcelona, August 2009	Niels Haldrup, Timo Teräsvirta, Søren Johansen and Anders Rahbek (program committee)
11	EC2-conference, "Real Time Econometrics", Aarhus, December 2009	Peter Reinhard Hansen (program chair), Asger Lunde, Tom Engsted and Niels Haldrup (organizers)
12	CREATES-Stevanovich Center Conference, "Financial Econometrics and Statistics: Current Themes and New Directions", Skagen, June 2009	Tim Bollerslev and Niels Haldrup (organizers and program chairs)
13	Society for Financial Econometrics European Conference, Genova, June 2009	Niels Haldrup, Timo Teräsvirta and Asger Lunde (Program committee)
14	Conference on Periodicity and Nonstationarity in Economic Time Series, Koldingfjord, 21-23 August 2009	Tim Bollerslev, Bent Jesper Christensen, Asger Lunde, Niels Haldrup

B.2 PhD Courses organized at CREATES

1 5-6 March
Timo Trimborn, University of Hamburg "Matlab"

2 11-13 May
Joel Horowitz, Northwestern University "Nonparametric and semiparametric methods in Econometrics"

3 25 May
Dominique Guegan, University of Paris "Long Memory Processes and Structural Change Models"

4 15-17 June
Harry Paarsch, University of Melbourne "The Econometrics of auctions"

5 17-21 August
Charles Bos, VU Amsterdam "Advanced Programming"

6 14-15 September
Gary Koop, University of Strathclyde "Bayesian Econometrics"

7 2-3 November
Jurgen Doornik, University of Oxford "Optimization in Econometrics"

8 16-17 November
Gunnar Baardsen, Norwegian University of Science and Technology, Trondheim "Macroeconometric Models"

B.3.1 Weekly Seminars

	Date	Speaker	Title
1	26 January	Oreste Tristani, European Central Bank	Optimal monetary policy in a model of the credit channel
2	29 January	Ilze Kalnina, London School of Economics	Subsampling High Frequency Data
3	5 February	Lars Nordén, Stockholm University	Investor Competence, Information and Investment Activity
4	12 February	Marcelo Medeiros, PUC-RIO	Asymmetries, breaks, and long-range dependence: An estimation framework for time series of daily realized volatility
5	16 February	Gurnain Pasricha, University of California at Santa Cruz	Financial Integration in Emerging Market Economies
6	18 February	Fang Liu, Catholic University of Leuven, Belgium	The Forex Forward Puzzle: the Career Risk Hypothesis
7	26 February	Fulvio Corsi, University of Lugano	Volatility Determinants: Heterogeneity, Leverage, and Jumps
8	12 March	David Veredas, Université Libre de Bruxelles	A Monthly Volatility Index for the US Real Economy
9	19 March	Martin Keller-Ressel, TU Wien, Austria	Affine processes and applications to stochastic volatility modelling
10	24 March	Andreas Schrimpf, ZEW, the Centre for European Economic Research	Global asset pricing: Is there a role for long-runconsumption risk?
11	26 March	Peter Reinhard Hansen, Stanford University and CREATES	Quadratic Variation by Markov Chains
12	2 April	Michel van der Wel, Erasmus University Rotterdam and CREATES	Dynamic Factor Model Specifications for the Term Structure of Interest Rates
13	16 April	Gilles Teyssiere, University of Paris and CREATES	Wavelet analysis of financial time series: multifractality and changes in long-range dependence
14	14 May	Joel Horowitz, Northwestern University	Distinguished Speaker Seminar Series "Variable Selection in High-Dimensional Regression Models"

15	28 May	Dominique Guegan, PSE, University of Paris 1 - Pantheon-Sorbonne	Option Pricing under GARCH models with Generalized Hyperbolic innovations
16	8 June	Michael Wolf, University of Zurich	Formalized Data Snooping Based on Generalized Error Rates
17	18 June	Harry Paarsch, University of Melbourne	Using grid distributions to test for affiliation in models for affiliation in models of first-price auctions with private values
18	6 August	Takeshi Amemiya, Stanford University	Distinguished Speaker Seminar Series "Thirty Five Years of Journal of Econometrics"
19	20 August	Sir David F. Hendry, University of Oxford	Distinguished Speaker Seminar Series "Automatic Model Selection"
20	10 September	Gunnar Bårdsen, Norwegian University of Science and Technology, Trondheim	Forecasting Levels of log Variables in Vector Autoregressions
21	17 September	Gary Koop, University of Strathclyde	Forecasting Inflation Using Dynamic Model Averaging
22	24 September	Bernt Arne Odegaard, University of Stavanger and Norges Bank	Liquidity and the Business Cycle
23	29 September	Antonio Mele, London School of Economics	Financial Volatility and Economic Activity
24	8 October	Thomas Mikosch, University of Copenhagen	The extremogram: a correlogram for extreme events
25	29 October	Johan Vikström, Uppsala University	Bounds On Treatment Effects On Transitions
26	5 November	Jurgen Doornik, University of Oxford	Econometric Model Selection With More Variables Than Observations
27	19 November	Bernd Lucke, Universität Hamburg	Letting Different Views about Business Cycles Compete
28	26 November	Carlos Velasco, Universidad Carlos III de Madrid	A distribution-free transform of the residuals sample autocorrelations with application to model checking
29	3 December	Roel Oomen, University of Amsterdam	Realized factor models for vast dimensional covariance estimation

30	10 December	Søren Johansen, University of Copenhagen	Distinguished Speaker Seminar Series "25 years with cointegration"

B.3.2 Lunch Seminars

	Date	Speaker	Title
1	20 January	Leonidas Tsiaras, CREATES	The Forecast Performance of Competing Implied Volatility Measures: The Case of Individual Stocks
2	3 February	José Fajardo, Ibmec Business School, Rio de Janeiro	Symmetry and Option Price Monotonicity with Levy Processes
3	10 February	Robinson Kruse, CREATES	Optimized significance levels for unit root pre-tests and forecast model selection
4	24 February	Luitgard Veraart, University of Karlsruhe	A stochastic volatility alternative to SABR
5	3 March	Frank Nielsen, CREATES	A dynamic long memory bivariate mixture model
6	17 March	Torben Rasmussen, CREATES	Jump Testing and the Speed of Market Adjustment
7	31 March	Stefan Holst Bache, CREATES	Quantile Regression and Panel Data with Applications
8	21 April	Charlotte Christiansen, CREATES	The Time-Varying Systematic Risk of Carry Trade Strategies
9	28 April	Valeri Voev, CREATES	Least Squares Inference on IntegratedVolatility, Covariance and the Relationship between Prices and Noise
10	5 May	Ganeshkumar Munnorcode, Stockholm School of Economics	Misspecification testing for STAR models under conditional heteroscedasticity
11	19 May	Rickard Sandberg, Stockholm School of Economics	Test for Unit roots versus Smooth Adjustments in U.S. Macoreconomic Data
12	26 May	Cristina Amado, Stockholm School of Economics / University of Minho	A Smooth Transition Approach to Modelling Diurnal Variation in Models of Autoregressive Conditional Duration
13	9 June	Thomas Quistgaard Pedersen, CREATES	The dividend-price ratio does predict long-horizon dividend growth outside US: Evidence from three European stock markets
14	8 September	Almut Veraart, CREATES	The concept of stochastic leverage

15	22 September	Carsten Tanggaard, CREATES	Effects of market making on traded prices and bid-ask spreads
16	6 October	Timo Teräsvirta, CREATES	Forecasting inflation with gradual regime shifts and exogenous information
17	20 October	Gilles Teyssiere, University of Paris	Wavelet Analysis of High Frequency Financial Data
18	27 October	Olaf Posch, CREATES	Asset prices in a neoclassical production economy
19	10 November	Kajetan Zwirglmaier, Technische Universität München	Causes of Seasonality in Economic Time Series – The Case of Timber Prices
20	11 November	Valeri Voev, CREATES	On economic evaluation of volatility forecasts
21	8 December	Johannes Tang Kristensen, CREATES	Macroeconomic Forecasting using Robustified Diffusion Indexes
22	15 December	Frank Nielsen, CREATES	A dynamic long memory bivariate mixture model

B.4 Participation in international conferences, symposia, seminars etc.

	Title of event	Venue	Name(s) of participant(s)	Contribution	Invited talk
1	Spring Meeting of Young Economists	Istanbul	Olaf Posch	presentation	
2	Recent Developments in Macroeconomics	Mannheim, ZEW	Olaf Posch	presentation	
3	Society of Computational Economics (CEF)	Sydney	Olaf Posch	presentation	
4	Course on Dynamic Optimization	Hamburg	Olaf Posch	lecture	x
5	Seminar	Mannheim, ZEW	Olaf Posch	presentation	x
6	Seminar	Northwestern University, January	Tim Bollerslev	talk	
7	2009 CASE Distinguished Lecture	Humboldt University, Berlin, Germany, March	Tim Bollerslev	lectures	x
8	Volatilities and Correlations in Stressed Markets	NYU, April	Tim Bollerslev	talk	
9	Financial Econometrics and Statistics	Skagen, Denmark, June	Tim Bollerslev		
10	SITE Conference	Stanford University, June	Tim Bollerslev	talk	
11	NBER Summer Institute	Boston, July	Tim Bollerslev	talk	
12	Periodicity, Non-Stationarity, and Forecasting	Kolding, Denmark, August	Tim Bollerslev		
13	Liquidity, Credit Risk and Extreme Events	Chicago, October	Tim Bollerslev		
14	Swiss Finance Institute	Geneva, Switzerland, November	Tim Bollerslev		
15	Real Time Econometrics	Aarhus, Denmark, December	Tim Bollerslev		
16	The Econometric Society Australasian Meeting	Canberra	Dennis Kristensen	talk	
17	Far East and South Asia Meeting of the Econometric Society	Tokyo	Dennis Kristensen	talk	
18	International Symposium on Econometric Theory and Applications	Kyoto	Dennis Kristensen	talk	
19	Latin American Meeting of the Econometric Society	Buenos Aires	Dennis Kristensen	talk	
20	NBER-NSF Time Series Conference	UC Davis	Dennis Kristensen	Poster	
21	Greater NY Metropolitian Area Econometrics Colloquium	Brown University	Dennis Kristensen	talk	
22	Symposium in Financial Econometrics	University of Indiana	Dennis Kristensen	talk	x

23	Workshop on Semi- and Nonparametric Methods in Econometrics	Banff International Research Station	Dennis Kristensen	talk	x
24	CIREQ Time Series Conference	Montreal, Canada	Morten Nielsen	talk and paper	x
25	Seminar	Cornell University	Morten Nielsen	talk and paper	x
26	European Financial Management Association - Annual meeting	Milan, Italy	Thomas Quistgaard Pedersen	talk	
27	Nordic Finance Network workshop	Copenhagen, Denmark	Thomas Quistgaard Pedersen	talk	
28	Swiss Probability Seminar	Bern	Mark Podolskij	talk	x
29	Financial Econometrics Conference	London	Mark Podolskij	talk	x
30	Non-Semimartingale Techniques in Mathematical Finance	Helsinki	Mark Podolskij	plenary talk	x
31	Financial Econometrics and Statistics: Current Themes and New Directions	Skagen	Mark Podolskij	talk	x
32	Statistical Inference for Levy Processes with Applications to Finance	Eindhoven	Mark Podolskij	talk	x
33	Challenges in Statistical Theory: Complex Data Structures and Algorithmic Optimization	Oberwolfach	Mark Podolskij	talk	x
34	Swiss Actuarial Meeting	Luzern	Mark Podolskij	talk	x
35	DYNSTOCH Meeting	Berlin	Mark Podolskij	talk	x
36	Individual Decision Making,	Warwick Business School	Alessandro Palandri	poster	
37	Computational and Financia	Limassol, Cyprus	Alessandro Palandri	talk	
38	Society for Financial Econometrics, 2nd annual meeting	Geneva	Allan Timmermann	talk	x
39	EC^2 meeting on Real Time Econometrics	Aarhus	Allan Timmermann	talk	x
40	McCombs School of Business, UT Austin	University of Texas, Austin	Allan Timmermann	seminar	x
41	Bauer College of Business, University of Houston	University of Houston	Allan Timmermann	seminar	x
42	WFA meetings	San Diego	Allan Timmermann	Discussant	
43	University of Aarhus (CREATES) workshop on portfolio allocation	Aarhus	Allan Timmermann	talk	x

44	Creates/Stephanovich Center Conference	Skagen	Allan Timmermann	talk	x
45	European Central Bank	Frankfurt, Germany	Allan Timmermann	seminar	x
46	Smith School of Business, University of Maryland	University of Maryland	Allan Timmermann	Seminar	x
47	AFA Winter meetings, 2009	San Francisco	Allan Timmermann	discussant	
48	Econometric Society Winter meetings, 2009	San Francisco	Allan Timmermann	discussant	
49	North American Summer Me	Boston MA, USA	Katarzyna Lasak	2 papers (presentation)	
50	Econometrics, Time Series Analysis and Systems Theory, A Conference in Honor of Manfred Deistler	IHS Vienna, Austria	Katarzyna Lasak	presentation	
51	Seminar at Institute for Advanced Studies (IHS)	IHS, Vienna, Austria	Katarzyna Lasak	talk	x
52	Warsaw Economic Meeting	Warsaw University, Poland	Katarzyna Lasak	presentation	
53	Econometric Society European Meeting	Barcelona, Spain	Katarzyna Lasak	presentation	
54	Seminar	Singapore National University	Peter Reinhard Hansen	talk	x
55	seminar	Stanford university, statistics	Peter Reinhard Hansen	talk	x
56	seminar	University of Southern California	Peter Reinhard Hansen	talk	x
57	seminar	CREATES, University of Aarhus	Peter Reinhard Hansen	talk	x
58	seminar	Univeristy of Michigan	Peter Reinhard Hansen	talk	x
59	Volatilities and correlations in stressed markets	New York University	Peter Reinhard Hansen	discussant	
60	seminar	Yale University	Peter Reinhard Hansen	talk	x
61	seminar	Chicago University	Peter Reinhard Hansen	talk	x
62	Financial Econometrics and Statistics: Current Themes and New Directions	Skagen	Peter Reinhard Hansen	participation	
63	Second Annual SoFiE Conference (Europe)	Geneva	Peter Reinhard Hansen	session chair, and program committee	
64	SITE workshop on volatility	Stanford University	Peter Reinhard Hansen	organizer	
65	NBER/NSF Summer institute: EFWW	Cambridge, MA	Peter Reinhard Hansen	participation	

66	NBER/NSF Time series conference	UC Davis, CA	Peter Reinhard Hansen	talk	
67	All UC Econometrics Conference	Riverside, CA	Peter Reinhard Hansen	talk	
68	seminar	Duke University	Peter Reinhard Hansen	talk	x
69	Real Time Econometrics	University of Aarhus	Peter Reinhard Hansen	program Chair	
70	Humboldt-Copenhagen Conference	Humboldt University Berlin	Michel van der Wel	paper presentation	
71	FERC 2009 Conference	Warwick University	Michel van der Wel	paper presentation	
72	Seminar	St. Gallen University, Switzerland	Charlotte Christiansen	talk	x
73	Seminar	Swiss National Bank, Switzerland	Charlotte Christiansen	talk	x
75	Humboldt--Copenhagen Conference 2009: Recent developments in Financial Econometrics	Humboldt University, Berlin, Germany	Almut E. D. Veraart	talk	
76	CREATES--Stevanovich Center Conference: Financial Econometrics and Statistics: Current Themes and New Directions	Skagen, Denmark	Almut E. D. Veraart	talk	x
77	24rd Annual Congress of the European Economic Association, 64rd European Meeting of the Econometric Society	Barcelona Graduate School of Economics, Barcelona, Spain	Almut E. D. Veraart	talk	
78	20th (EC)2 conference	Aarhus University, Aarhus, Denmark	Almut E. D. Veraart	talk	
79	ICORS	Parma, Italy	Søren Johansen	talk	x
80	Statisical analysis of climate data	Lecce, Italy	Søren Johansen	talk	x
81	Seminar	European University Institute	Niels Haldrup	paper presentation	x
82	European Meeting of the Econometric Society 2009	Barcelona	Niels Haldrup	programme committee	
83	The Society for Financial Econometrics	Geneva	Niels Haldrup	programme committee	
84	(EC)2 conference	Aarhus	Niels Haldrup	session chair	
85	Stevanovich Center-Creates Conference on Financial Econometrics and Statistics	Skagen, Denmark	Niels Haldrup	conference session chair	

86	3rd Italian Congress of Econometrics and Empirical Economics	Università Politecnica delle Marche, Faculty of Economics “Giorgio Fuà”, Ancona, (Italy)	Christos Ntantamis	paper	
87	43rd Annual Conference of the Canadian Economic Association	University of Toronto, Department of Economics, Toronto, (Canada)	Christos Ntantamis	paper	
88	43rd Annual Conference of the Canadian Economic Association	University of Toronto, Department of Economics, Toronto, (Canada)	Christos Ntantamis	other (discussant)	
89	64th Econometric Society European Meeting	Barcelona Graduate School of Economics, Barcelona, (Spain)	Christos Ntantamis	paper	
90	3rd International Conference on Computational and Financial Econometrics	Grand Resort, Limassol, (Cyprus)	Christos Ntantamis	paper	
91	CREATES Conference in Honour of Svend Hylleberg	Kolding, Denmark	Michael Jansson	talk	
92	All UC Econometrics Conference	Riverside, CA	Michael Jansson	talk	
93	Seminar	University of Texas, Austin	Michael Jansson	talk	
94	Seminar	Boston University	Michael Jansson	talk	
95	$(EC)^2$	Aarhus	Johannes Tang Kristensen	poster	
96	(EC)2	Aarhus	Anders Bredahl Kock	paper	
97	Asymptotical Statistics of Stochastic Processes	Le Mans, France	Michael Sørensen	talk	x
98	Stevanovich Center-Creates Conference on Financial Econometrics and Statistics	Skagen, Denmark	Michael Sørensen	talk	x
99	Joint Statistical Meetings	Washington DC, USA	Michael Sørensen	committee meetings	
100	Stochastic Processes and Their Applications	Berlin, Germany	Michael Sørensen	talk, committee meetings, session chair	
101	Dynstoch 2009 Workshop	Berlin, Germany	Michael Sørensen	talk	
102	Quantitative Methods in Finance	Sydney, Australia	Michael Sørensen	talk	x
103	Arne Ryde Workshop in Financial Economics	Lund University	Tom Engsted	paper	
104	NFN Research Workshop in Finance	Copenhagen Business School	Tom Engsted	discussant	
105	DGPE Workshop	Ebeltoft	Stefan Bache	paper, presentation	

106	ESEM	Barcelona	Stefan Bache	paper	
107	European Financial Management Association 18th Annual meeting	Milano	Thomas Busch		
108	DGPE Annual Workshop 2009	Hotel Ebeltoft Strand	Matt P. Dziubinski	talk, abstract, paper	
109	EC2	Aarhus University	Isabel Casas	poster	
110	EEA-ESEM	Universidad Autonoma de Barcelona	Isabel Casas	talk	
111	Econometrics, Time Series Analysis and Systems Theory	IHS, Vienna	Isabel Casas	talk	
112	Lunch Seminar	VU Amsterdam	Isabel Casas	talk	x
113	CASE-QPL Distinguished Lecture Series	Humboldt Univ, Berlin	Torben Andersen	lectures	x
114	SOFIE	Geneva;	Torben Andersen	talks	x
115	Society, Nonlibear Dynamics & E'metrics	Atlanta Fed. Res.	Torben Andersen	plenary	x
116	Microstructure & HF Data Conference	Warwick Bus, UK	Torben Andersen	key note	x
117	Financial Econometrics Conference	Toulouse	Torben Andersen	talk	
118	SITE Conference	Stanford	Torben Andersen	talk	
119	CREATES-Stevanovich	Skagen	Torben Andersen	talk	
120	Econometric Society, Winter Meeting	San Francisco	Torben Andersen	talk	
121	SOFIE-Stevanovich Liqiuidity Conference	Chicago	Torben Andersen	chair	
122	EC2 Meeting	Aarhus	Torben Andersen	chair	
123	Oxford-Man Institute Finance Seminar	Oxford, UK	Torben Andersen	seminar	
124	Rice University Finance Seminar	Houston	Torben Andersen	seminar	
125	SoFiE Opening Conference	NUY Stern, NY, USA, June 4-6	Asger Lunde	poster	
126	SITE workshop	Stanford University, USA, June 27-28	Asger Lunde	paper	
127	CREATES volatility Conference	Aarhus, Denmark, August 11-14	Asger Lunde	paper	
128	Oxford-Man Conference on Financial Econometrics & Vast Data	September 15-16, Oxford, UK	Asger Lunde	paper	
129	CREATES members meeting	Sophiendal Gods, Denmark, November 6-7	Asger Lunde	paper	

130	Invited Seminar at Department of Economics	University of Zurich, December	Asger Lunde	paper	x
131	ESEM meeting	Barcelona	Anders Rahbek	talk	
132	Time series conference	Cambridge University	Anders Rahbek	talk	x
133	Seminar	Montreal, University of	Anders Rahbek	talk	x
134	Croatian Quants' Day	University of Zagreb	Bent Jesper Christensen	talk	x
135	NBER-NSF Time Series Conference	University of California, Davis	Bent Jesper Christensen	talk	
136	Humboldt-Copenhagen Conference 2009	Berlin, Germany	Christian M. Dahl	talk	
137	Koldingfjord conference	Kolding, Denmark	Christian M. Dahl	talk	
138	ESEM-2009	Barcelona, Spain	Christian M. Dahl	talk	
139	Oxford University	Oxford, UK	Christian M. Dahl	talk	x
140	15th International CEF Conference	University of Technology, Sydney, Australia	Leonidas Tsiaras	paper	
141	Nordic Finance Network 2009 Research Workshop	Copenhagen Business School, Denmark	Leonidas Tsiaras	paper	
142	Spring Meeting of Young Economists	Istanbul, Turkey	Robinson Kruse	talk	
143	Conference on the World Economy	Warsaw, Poland	Robinson Kruse	talk	
144	Nordic Econometric Meeting	Lund, Sweden	Robinson Kruse	talk	
145	IWH Workshop on Forecasting	Halle, Germany	Robinson Kruse	talk	
146	Italian Congress of Econometrics and Empirical Economics	Ancona, Italy	Theis Lange	talk	
147	ESEM-meeting	Barcelona	Frank Nielsen		
148	CFE	Limassol	Frank Nielsen	talk	
149	EC2	Aarhus	Frank Nielsen		
150	Financial Systems, Efficiency and Stimulation of Sustainable Growth	Berlin	Timo Teräsvirta	invited discussant	
151	Recent Developments in Financial Econometrics	Berlin	Timo Teräsvirta	paper	
152	Forecasting and Monetary Policy	Berlin	Timo Teräsvirta		x
153	Financial Econometrics and Statistics: Current Themes and New Directions	Skagen	Timo Teräsvirta	session chair	

154	First European Conference of the Society for Financial Econometrics	Geneva	Timo Teräsvirta	paper	
155	EEA-ESEM 2009	Barcelona	Timo Teräsvirta	paper, programme committee member	
156	Periodicity, Non-stationarity, and Forecasting of Economic and Financial Time Series	Kolding	Timo Teräsvirta	talk	x
157	Workshop on Time Series Econometrics	Sydney	Timo Teräsvirta	talk	x
158	Séminaire « Monnaie – Banque - Finance – Assurance (MBFA) »	Paris	Timo Teräsvirta	talk	x
159	EC2 meeting, Aarhus	Aarhus	Timo Teräsvirta	session chair	
160	Financial Management Association annual meeting	Reno-Lake Tahoe, Nevada, USA	Lars Stentoft	paper	
161	Annual conference of CIRPEE	Quebec, Canada	Lars Stentoft	paper	
162	Northern Finance Association annual meeting	Niagara-on-the-Lake, Ontario, Canada	Lars Stentoft	paper	
163	Periodicity, Non-stationarity, and Forecasting of Economic and Financial Time Series	Hotel Koldingfjord, Denmark	Lars Stentoft	paper	x
164	Queen's University	Kingston, Ontario, Canada	Lars Stentoft	talk	x
165	Seminar	Helsinki School of Economics (March 2009)	Peter Christoffersen	talk	x
166	Seminar	Federal Reserve Bank of Atlanta (May 2009)	Peter Christoffersen	talk	x
167	Seminar	Hong Kong University of Science and Technology (May 2009)	Peter Christoffersen	talk	x
168	Seminar	Board of Governors of the Federal Reserve System, Visiting Scholar (June 2009)	Peter Christoffersen	talk	x
169	Seminar	Wharton Conference on Risk Management Roundtable (May 2009)	Peter Christoffersen	talk	x
170	Seminar	Oxford/LSE/LBS Asset Pricing Conference (May 2009)	Peter Christoffersen	talk	x
171	Seminar	Toulouse School of Economics Conference (May 2009)	Peter Christoffersen	talk	x
172	Seminar	PRMIA Montreal Risk Roundtable (January 2009)	Peter Christoffersen	talk	x
173	American Finance Association (January 2009)		Peter Christoffersen	3. Session Chair and Discussant	

174	EEA/ESEM	Barcelona	Andreas Schrimpf	talk
175	U Bonn	Bonn	Andreas Schrimpf	talk
176	Humboldt-Copenhagen Conference	Humboldt University	Valeri Voev	talk, paper
177	Arne Ryde Workshop	Lund University	Valeri Voev	talk, paper
178	SoFiE conference	Geneva	Valeri Voev	poster
179	ECARES Seminar	Free University Brussels	Valeri Voev	talk, paper
180	EC2 Conference	Aarhus University	Valeri Voev	talk, paper
181	15th international conference on panel data	Bonn	Allan Wurtz	talk

Appendix C: Educational activities (only School of Economics and Management)

	Title of activity	Level	ECTS	Number of participants
1	Microeconomics, Statistics, Mathematics	BA	20	190
2	Regression Analysis	BA	5	165
3	Finance and Investments	BA	10	170
4	Topics in Applied Economics and Finance	BA/MSc	5	10
5	Econometrics	BA	10	95
6	Applied Time Series and Financial Econometrics	MSc	10	25
7	Time Series Econometrics	MSc	10	30
8	Investments	MSc	10	35
9	Microeconomics, Math-Econ	BA	10	31
10	PhD Econometrics	PhD	10	10
11	Financial Market Volatility	PhD	10	7
12	Matlab	PhD	2	15
13	Nonparametric and semiparametric methods in Econometrics	PhD	2	22
14	Long Memory Processes and Structural Change Models	PhD	2	9
15	The Econometrics of auctions	PhD	2	14
16	Advanced Programming	PhD	5	30
17	Bayesian Econometrics	PhD	2	26
18	Optimization in Econometrics	PhD	2	21
19	Macroeconometric Models	PhD	2	15

Students surpervised at the centre by staff members		
Number of graduated PhD-students:	4	(3 at School of Economics and Management, 1 at Aarhus School of Business, Aarhus University')
Number of graduated Master-students (estimated):	35	(School of Economics and Management only)

Appendix D: Academic services

D.1 Scholarly communication

	Title of journal	Person	Editorial work
1	ALEA - Latin American Journal of Probability and Mathematical Statistics	Michael Sørensen	Associate Editor
2	Brazilian Journal of Probability and Statistics	Michael Sørensen	Associate Editor
3	Annals of Finance	Christian Dahl	Associate Editor
4		Allan Timmermann	Associate Editor
5	Applied Financial Economics	Timo Teräsvirta	Advisory Editor
6	Econometric Theory	Michael Jansson	Co-editor
7	Econometrica	Michael Jansson	Co-editor
8	Econometrics Journal	Michael Jansson	Associate Editor
9		Dennis Kristensen	Associate Editor
10		Anders Rahbek	Associate Editor
11		Allan Timmermann	Associate Editor
12	Economic Policy Review	Allan Timmermann	Associate Editor
13	European Finance Review	Tim Bollerslev	Associate Editor
14	Finans/Invest	Charlotte Christiansen	Editorial Board
15		Tom Engsted	Associate Editor
16	Foundations and Trends in Econometrics	Tim Bollerslev	Associate Editor
17	Internat. Financial Markets, Institutions & Money	Tim Bollerslev	Associate Editor
18	Journal of Applied Econometrics	Tim Bollerslev	Co-editor
19		Niels Haldrup	Associate Editor
20		Peter Christoffersen	Associate Editor
21		Peter Reinhard Hansen	Associate Editor
22		Allan Timmermann	Associate Editor
23	Journal of Asset Management	Allan Timmermann	Editorial Board
24	Journal of Business and Economic Statistics	Allan Timmermann	Associate Editor
25	Journal of Economic Dynamics and Control	Allan Timmermann	Associate Editor
26	Journal of Financial Econometrics	Torben Andersen	Co-editor
27		Peter Christoffersen	Associate Editor
28		Allan Timmermann	Associate Editor
29	Journal of Financial Forecasting (Risk Journals)	Allan Timmermann	Associate Editor
30	Journal of Futures Markets	Charlotte Christiansen	Associate Editor
31	Journal of Risk	Peter Christoffersen	Associate Editor
32	Journal of the European Mathematical Society	Ole Barndorff-Nielsen	Editorial Board
33	Journal of Time Series Econometrics	Niels Haldrup	Associate Editor
34	Mathematical Finance	Bent Jesper Christensen	Associate Editor
35	Monetary Studies	Timo Teräsvirta	Associate Editor
36	Oxford Bulletin of Economics and Statistics	Anders Rahbek	Associate Editor
37	Quantitative Finance	Peter Reinhard Hansen	Associate Editor
38	Research in International Business and Finance	Tom Engsted	Associate Editor
39	Scandinavian Journal of Economics	Niels Haldrup	Editorial Board
40	Scandinavian Journal of Statístics	Anders Rahbek	Associate Editor
41	Springer Selected	Michael Sørensen	Co-editor
42	Statistical Inference for Stochastic Processes	Michael Sørensen	Associate Editor
43	Stochastic Processes and Their Applications	Michael Sørensen	Associate Editor

NOTE: The list includes editorial positions where the CREATES members serve in the editorial board as editor or associate editor. In addition, CREATES members regularly review journal articles as referees for peer reviewed journals. On average, senior CREATES members handle 6-8 papers annually.

D.2 Assessments, international panels, membership and supervision

Number of staff conducting academic services	Number of grant and/or career/tenure assessments plus international panels	Number of positions and council seats in learned societies	Number of Ph.d. and doctor evaluations, national and international	Number of primary supervisions of Ph.D and master students
	16	**7**	**15**	55

Appendix E: External funding

E.1 Public Danish Funds

	Funding Body	Title/Purpose	Grant holder	Activity Period	Granted Amount, 1000 DKK	Amount for reported year, 1000 DKK
1	The Danish Council for Independent Research | Social Sciences	Dynamic Modelling of Long Memory and Persistence in Economic Time Series	Niels Haldrup	2006-2009	3.225	550
2	The Danish Council for Independent Research | Social Sciences	Analysis of Fractionally Integrated and Co-integrated Time Series with applications to Nordic Electricity Market Volatility	Morten Ø. Nielsen	2006-2008	560	0
3	The Danish Council for Independent Research | Social Sciences	Guest Professorship, Timo Teräsvirta	Niels Haldrup	2006-2007	912	0
4	The Danish Council for Independent Research | Social Sciences	Post doc Scholarship	Katarzyna Lasak	2008-2010	1.300	685
5	The Danish Council for Independent Research | Social Sciences	Quantile Regression on panel data in the presence of unobserved heterogeneity	Christian M. Dahl	2007-2008	563	162
6	The Danish Council for Independent Research | Social Sciences	Towards Integration of International Financial Markets	Charlotte Christiansen	2006-2008	611	0
7	Faculty of Social Sciences, Aarhus University	1-year post doc Faculty Grant	Mark Podolskij	2007-2008	430	0
8	Faculty of Social Sciences, Aarhus University	1-year post doc Faculty Grant	Olaf Posch	2007-2008	430	0
9	Faculty of Social Sciences, Aarhus University	1-year post doc Faculty Grant	Katarzyna Lasak	2007-2008	430	0
10	Faculty of Social Sciences, Aarhus University	2-year post doc Faculty Grant (Globalization)	Jie Zhu	2007-2008	860	0
11	Danish Center for Scientific Computing	Computing time at DCSC	Bent Jesper Christensen	2007-2008	400	0
12	The Danish Council for Independent Research | Social Sciences	2008 NBER-NSF time series conference, CREATES	Niels Haldrup	2008	96	0
13	The Danish Council for Independent Research | Social Sciences	Visiting Professorship, Gilles Teyssiere	Per B. Overgaard	2009	475	475

14	The Danish Council for Independent Research | Social Sciences	Empirical Modeling of Financial Markets during Turbulent periods and Structural Change	Charlotte Christiansen	2009-2011	2.970	178
15	The Danish Council for Independent Research | Social Sciences	Estimation, Testing, and Representation in Fractional Integration and Cointegration models subject to non-linearities	Frank S. Nielsen	2009-2011	1.381	562
16	The Danish Council for Independent Research | Social Sciences	Volatility Modelling: Leverage and Long Memory	Isabel Casas	2009-2011	1.436	727
17	Ministry of Science, Technology and Innovation	3 PhD Scholarships, Co-financing	Niels Haldrup	2008-2011	1.856	600
18	The Danish Council for Independent Research | Social Sciences	2-year Fellowship	Robinson Kruse	2009-2011	1.446	298
19	The Danish Council for Independent Research | Social Sciences	1-year Fellowship	Almut Veraart	2009-2010	724	188
20	The Danish Council for Independent Research | Social Sciences	2009 (EC)2-conference, CREATES	Niels Haldrup	2009	122	122
21	The Danish Council for Independent Research | Social Sciences	2010 workshop "Ambit processes, non-semimartingales and applications"	Almut Veraart	2010	58	0
22	The Danish Council for Independent Research | Social Sciences	Estimating multivariate financial volatility	Kim Christensen	2010-2012	2.149	0
	Total				**22.433**	**4.548**

	Funding to D-CAF (CREATES participates in grant)					
	National Programme for Research Infrastructure under the Danish Ministry of Science, Technology and Innovation	Danish Data Center for Accounting and Finance	Peter Ove Christensen	2010-2015	**10.000**	**0**
	The Danish Council for Independent Research | Social Sciences	Danish Data Center for Accounting and Finance	Peter Ove Christensen	2010-2015	**4.000**	**0**

E.2 Private Danish Funds

	Funding Body	Title/Purpose	Grant holder	Activity Period	Granted Amount 1000 DKK	Amount for reported year 1000 DKK
1	Danmarks Nationalbank	2008 NBER-NSF time series conference, CREATES	Niels Haldrup	2008	76	0
2	Velux Foundation	Visit from Columbia, NY	Anders Rahbek	2010	387	0

E.3 International Funds

	Funding Body	Title/Purpose	Grant holder	Activity Period	Granted Amount 1000 DKK	Amount for reported year 1000 DKK
1	NBER-National Bureau of Economic Research and NSF-National Science Foundation	2008 NBER-NSF time series conference, CREATES, 12-13 September 2008, 12.000 USD	Niels Haldrup	2008	66	0
2	Stevanovich Center for Mathematical Finance, University of Chicago	Stevanovich Center - CREATES joint conference in 2009: Financial Econometrics and Statistics, Current Themes and New Directions	Niels Haldrup	2009	300	300
3	The European Central Bank	2009 (EC)2-conference, CREATES	Niels Haldrup	2009	37	37
	Total				403	337

Note: The list only includes grants for CREATES members at the Host Institution, Aarhus University

Appendix F: Awards and acknowledgements

Award/Acknowledgement	Recipient	Granted amount in DKK, if relevant
Købmand Ferdinand Sallings Mindefond, travelling grant	Christian Bach Kristensen	150.000
EADS research prize "Claude Dornier" by the University of Konstanz and EADS	Valeri Voev	22.335
Tuborgfondets Erhvervsøkonomiske Pris 2009	Thomas Quistgaard Pedersen	150.000
VELUX Visiting Professor Programme Grant	Anders Rahbek and Dennis Kristensen	325.000
Ung Eliteforskerpris	Kim Christensen	200.000
Appointed Fellow of Journal of Econometrics	Allan Timmermann	
Elected fellow of the Institute of Mathematical Statistics	Michael Sørensen	
The golden pointer	Christian M. Dahl	7.500
McGill Graduate Teaching Award	Peter Christoffersen	CAD 1.500

Appendix G: Public outreach

G.1 Electronic media

G.2 Press

Specific media	Date	Type of communication	Subject/ Title	Contributor from the centre
Dagbladet "Politiken"	feb-09	Debatindlæg om finanskrisen		Tom Engsted
Economist Intelligence Unit:Executive Briefing (Web)		Featured Write-Up	The VIX, CIV, MFIV. Measuring up the accuracy of option-based predictors of volatility	Torben Andersen
FINANS/INVEST	4, 2009	Commentary	Finansiel Rådgivning: Et forbrugerpolitisk rædselskabinet.	Carsten Tanggaard
FINANS/INVEST	5, 2009	Commentary	Finansiel rådgivning: behov for enkel og effektiv finansaftalelov	Carsten Tanggaard

G.3 Other (talks at secondary educational institutions etc)

Specific type of communication	Date	Subject/Title	Contributor from the centre
Moderator at Hilton & Towers, Chicago	20-feb-09	Global Business, Signature Event, Kellogg Centennial Celebration	Torben Andersen
Chairman of the Money and Pension Panel		Agency under the Danish Ministry of Economic and Business Affairs	Carsten Tanggaard

Appendix H: Patents and applications

Appendix I: Publications

I.1 Articles in refereed journals

1 2009, Manuel Amman, David Skovmand and Michael Verhofen, Implied and Realized Volatility in the Cross-Section of Equity Options, International Journal of Theoretical and Applied finance, 12 (6), 745-765 (PR) (CO)

2 2009, Amber Anand, Carsten Tanggaard and Daniel G. Weaver, Paying for Market Quality, Journal of Financial and Quantitative Analysis, 1427-1457 (PR) (CO)

3 2009, Ole E. Barndorff-Nielsen, J.M. Corcuera, Mark Podolskij and J.H.C. Woerner, Bipower variation for Gaussian processes with stationary increments, Journal of Applied Probability 46, 132-150 (PR) (CO)

4 2009, Ole E. Barndorff-Nielsen, J.M. Corcuera and Mark Podolskij, Power variation for Gaussian processes with stationary increments, Stochastic Processes and Their Applications, 119, 1845-1865 (PR) (CO)

5 2009, Ole E. Barndorff-Nielsen, Peter R. Hansen, Asger Lunde and Neil Shephard, Realized Kernels in Practice: Trades and Quotes, Econometrics Journal, 12, 1-32 (PR) (CO)

6 2009, Ole E. Barndorff-Nielsen and J. Pedersen, Representation and properties of a class of conditionally Gaussian processes, ALEA, 6, 179-197 (PR) (CO)

7 2009, Mogens Bladt and Michael Sørensen, Efficient estimation of transition rates between credit ratings from observations at discrete time points, Quantitative Finance, 9, 147 - 160 (PR) (CO)

8 2009, Tim Bollerslev, George Tauchen and Hao Zhou, Expected Stock Returns and Variance Risk Premia, Review of Financial Studies, 22 (11), 4463-4492 (PR) (CO)

9 2009, Tim Bollerslev, Uta Kretschmer, Christian Pigorsch and George Tauchen, A Discrete-Time Model for Daily S&P 500 Returns and Realized Variations: Jumps and Leverage Effects, Journal of Econometrics, 150, pp.151-166 (PR) (CO)

10 2009, Blume, Ejrnæs, Nielsen and Allan Würtz, Labour Market Transitions of Immigrants with Emphasis on Marginalization and Selv-Employment, Journal of Population Economics, 22 (4), 881 (PR) (CO)

11 2009, C. Capistrán and Allan Timmermann, Disagreement and biases in inflation expectations, Journal of Money, Credit & Banking, 41(2), 365-396 (PR) (CO)

12 2009, C. Capistrán and Allan Timmermann, Forecast Combination with Entry and Exit of Experts, Journal of Business and Economic Statistics, 27, 429-440 (PR) (CO)

13 2009, Kim Christensen, Mark Podolskij and M. Vetter, Bias-correcting the realized range-based variance in the presence of market microstructure noise, Finance and Stochastics, 13, 239-268 (PR) (CO)

14 2009, Charlotte Christiansen and Angelo Ranaldo, Extreme Coexceedances in New EU Member States' Stock Markets, Journal of Banking and Finance, 33(6), 1048-1057 (PR) (CO)

15 2009, Peter Christoffersen, Heston, Jacobs, Why Multifactor Stochastic Volatility Models Work So Well, Management Science, 55 (12), 1914-1932 (PR) (CO)

16 2009, Christian M. Dahl, H. Hansen, and J. Smidt, The cyclical component factor model, International Journal of Forecasting, 25 (1), 119-127 (PR) (CO)

17 2009, Christian M. Dahl and Emma M. Iglesias, Volatility spill-overs in commodity spot prices: New empirical results, Economic Modelling, 26(3), 601-607 (PR) (CO)

18 2009, Tom Engsted, Statistical vs. Economic Significance in Economics and Econometrics: Further comments on McCloskey and Ziliak, Journal of Economic Methodology, 16(4), 393-408 (PR)

19 2009, Arnaud Gloter and Michael Sørensen, Efficient estimation of transition rates between credit ratings from observations at discrete time points, Stochastic Processes and their Applications, 119, 679 - 699 (PR) (CO)

20 2009, Joachim Grammig and Andreas Schrimpf, Asset Pricing with a Reference Level: New Evidence from the Cross-Section of Stock Returns, Review of Financial Economics, 18 (3), 113-123 (PR) (CO)

21 2009, Joachim Grammig, Michael Schuppli and Andreas Schrimpf, Long-Horizon Consumption Risk and the Cross-Section of Returns: New Tests and International Evidence, European Journal of Finance, 15, 511-532 (PR) (CO)

22 2009, M. Guidolin and Allan Timmermann, Forecasts of US short-term interest rates: A flexible forecast combination approach, Journal of Econometrics, 150(2), 297-311 (PR) (CO)

23 2009, Changli He, Andrés González and Timo Teräsvirta, Testing parameter constancy in stationary vector autoregressive models against continuous change, Econometric Reviews, 28, 225-245 (PR) (CO)

24 2009, J. Jacod, Y. Li, P. Mykland, Mark Podolskij and M. Vetter, Microstructure noise in the continuous case: the pre-averaging approach, Stochastic Processes and Their Applications, 119, 2249-2276 (PR) (CO)

25 2009, Michael Jansson, Victor Chernozhukov and Christian Hansen, Admissible Invariant Similar Tests for Instrumental Variables Regression, Econometric Theory, 25, 806-818 (PR) (CO)

26 2009, Michael Jansson, Victor Chernozhukov and Christian Hansen, Finite Sample Inference for Quantile Regression Models, Journal of Econometrics, 152, 93-103, (PR) (CO)

27 2009, Michael Jansson and Laura Chioda, Optimal Invariant Inference when the Number of Instruments is Large, Econometric Theory, 25, 793-805 (PR) (CO)

28 2009, Søren Johansen, Correlation, regression, and cointegration of nonstationary economic time series, Bulletin of the ISI LXII 2007, 19-26 (PR)

29 2009, Søren Johansen, Representation of cointegrated autoregressive processes with application to fractional processes, Econometric Reviews, 28, 121-145 (PR)

30 2009, M. C. Jones, Jens Perch Nielsen and Carsten Tanggaard, Local linear density estimation for filtered survival data, with bias correction, Statistics, 167-186 (PR) (CO)

31 2009, Dennis Kristensen and Anders Rahbek, Asymptotics of the QMLE for Non-Linear ARCH Models, Journal of Time Series Econometrics, 1(1), Article 2 (PR) (CO)

32 2009, Dennis Kristensen, On Stationarity and Ergodicity of the Bilinear Model with Applications to GARCH Models, Journal of Time Series Analysis, 30, 125-144 (PR)

33 2009, Dennis Kristensen, Semiparametric Modelling and Estimation: A Selective Overview, Quantile, 7, 53-83 (PR)

34 2009, Dennis Kristensen, Uniform Convergence Rates of Kernel Estimators with Heterogeneous, Dependent Data, Econometric Theory, 25, 1433-1445 (PR)

35 2009, Robinson Kruse and Phillipp Sibbertsen, Testing for a break in persistence under long-range dependencies, Journal of Time Series Analysis, 30 (3), 263-285 (PR) (CO)

36 2009, Asger Lunde and Allan Zebedee, Intraday volatility responses to monetary policy events, Financial Markets and Portfolio Management, 23, 383-399 (PR) (CO)

37 2009, Stig Vinther Møller, Habit persistence: Explaining cross-sectional variation in returns and time-varying expected returns, Journal of Empirical Finance, 16 (4), 525-536 (PR)

38 2009, Tomoaki Nakatani and Timo Teräsvirta, Testing for volatility interactions in the Constant Conditional Correlation GARCH model, Econometrics Journal, 12, 147-163 (PR) (CO)

39 2009, Morten Ørregaard Nielsen, A powerful test of the autoregressive unit root hypothesis based on a tuning parameter free statistic, Econometric Theory, 25, 1515–1544 (PR)

40 2009, Alessandro Palandri, Sequential Conditional Correlations: Inference and Evaluation, Journal of Econometrics, 153 (2), 122-132 (PR)

41 2009, M. H. Pesaran and Allan Timmermann, Testing dependence among serially correlated multicategory variables, Journal of the American Statistical Association, 104, 325-337 (PR) (CO)

42 2009, Mark Podolskij and M. Vetter, Bipower-type estimation in noisy diffusion models, Stochastic Processes and Their Applications, 119, 2803-2831 (PR) (CO)

43 2009, Mark Podolskij and M. Vetter, Estimation of volatility functionals in the simultaneous presence of microstructure noise and jumps, Bernoulli, 15(3), 634-658 (PR) (CO)

44 2009, Olaf Posch, Structural estimation of jump-diffusion processes in macroeconomics, Journal of Econometrics, 153, 196-210 (PR)

45 2009, Anders Rahbek, K. Fokianos and Dag Tjøstheim, Poisson Autoregression, Journal of the American Statistical Association (JASA), 104 (488), 1430-1439 (PR) (CO)

46 2009, Anders Rahbek and Dennis Kristensen, Asymptotics of the QMLE for Non-Linear ARCH Models, Journal of Time Series Econometrics, 1 (PR) (CO)

47 2009, Annastiina Silvennoinen and Timo Teräsvirta, Modelling multivariate autoregressive conditional heteroskedasticity with the Double Smooth Transition Conditional Correlation GARCH model, Journal of Financial Econometrics, 7, 373-411 (PR) (CO)

48 2009, Jie Zhu, Pricing Volatility of Stock Returns with Volatile and Persistent Components, Financial Markets and Portfolio Management, 23 (3), 243-269 (PR)

49 2009, Jie Zhu, Testing for Expected Return and Market Price of Risk in Chinese A-B Share Market – A Geometric Brownian Motion and Multivariate GARCH Model, Mathematics and Computers in Simulation, 79, 2633-2653 (PR)

I.2 Notes in refereed journals

I.3 Contributions to refereed books

1 2009, Torben G. Andersen and Luca Benzoni, Realized Volatility, Handbook of Financial Time Series, Springer Verlag, 555-575 (PR) (CO)

2 2009, Torben G. Andersen and Neil Shephard, Stochastic Volatility: Origins and Overview, Handbook of Financial Time Series, Springer Verlag, 233-254 (PR) (CO)

3 2009, Torben G. Andersen and Davis, Kreiss, Mikosch, Introduction, Handbook of Financial Time Series, Springer Verlag, 1-13 (PR) (CO)

4 2009, Torben G. Andersen and Luca Benzoni, Stochastic Volatility, Encyclopedia of Complexity and Systems Science, Springer Verlag (PR) (CO)

5 2009, Torben G. Andersen, Tim Bollerslev and Francis X. Diebold, Parametric and Nonparametric Volatility Measurement, in Handbook of Financial Econometrics (eds. Yacine Aït-Sahalia and Lars P. Hansen). Amsterdam: Elsevier Science B.V. (PR) (CO)

6 2009, Ole E. Barndorff-Nielsen and J. Schmiegel, Brownian semistationary processes and volatility/intermittency, In H. Albrecher, W. Runggaldier and W. Schachermeyer (Eds.): Advanced Financial Modelling. Radon Series Comp. Appl. Math. 8, 1-26, Berlin: W. de Gruyter (PR) (CO)

7 2009, Bo Martin Bibby, Martin Jacobsen and Michael Sørensen, Estimating functions for discretely sampled diffusion-type models, Handbook of Financial Econometrics, Elsevier, Amsterdam (PR) (CO)

8 2009, Tim Bollerslev, Glossary to ARCH (GARCH), in Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle (eds. Tim Bollerslev, Jeffrey R. Russell and Mark W. Watson). Oxford: Oxford University Press (PR)

9 2009, L. Catao and Allan Timmermann, Volatility Regimes and Global Equity Returns, Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle, Oxford: Oxford University Press, 257-295 (PR) (CO)

10 2009, Peter Christoffersen, Value-at-Risk Models, Handbook of Financial Time Series, Springer-Verlag Berlin, 753-766 (PR)

11 2009, Søren Johansen, Cointegration, Overview and Development, In T.G. Andersen, R. Davis, J-P. Kreiss, and T. Mikosch (eds.) Handbook of Financial Time Series, 671-693, Springer

12 2009, Søren Johansen and Bent Nielsen, An analysis of the indicator saturation estimator as a robust regression estimator, The Methodology and Practice of Econometrics: A Festschrift in Honour of David F. Hendry, Oxford University Press, 1-36 (PR) (CO)

13 2009, Theis Lange and Anders Rahbek, Regime Switching Models: A Survey, Handbook of Financial Time Series, Springer-Verlag, editors: T. Mikosch, T. G. Andersen, R. Davies and J.-P. Kress, 871-889 (PR) (CO)

14 2009, A. Patton and Allan Timmermann, Generalized Forecast Errors, A Change of Measure, and Forecast Optimality, Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle, Oxford: Oxford University Press, 194-212 (PR) (CO)

15 2009, A. Silvennoinen and Timo Teräsvirta, Multivariate GARCH models, in Torben .G. Andersen, R.A. Davis, J.-P. Kreiss and T. Mikosch, eds. Handbook of Financial Time Series, 201-229. New York: Springer (PR) (CO)

16 2009, Michael Sørensen, Parametric inference for discretely sampled stochastic differential equations, Handbook of Financial Time Series, Springer, Heidelberg, 531 - 553 (PR)

17 2009, Timo Teräsvirta, Introduction to univariate GARCH models, in T.G. Andersen, R.A. Davis, J.-P. Kreiss and T. Mikosch, eds. Handbook of Financial Time Series, 17-42, New York: Springer (PR)

18 2009, Timo Teräsvirta, Smooth transition regression modeling, in: H. Lütkepohl and M. Krätzig, eds.: Applied time series econometrics (in Chinese), 172-187, China Machine Press (PR)

I.4 Refereed books

1 2009, Bent Jesper Christensen and Nicholas M. Kiefer, Economic Modeling and Inference, Princeton University Press (PR) (CO)

I.5 Editor of refereed books

1 2009, Torben G. Andersen, Richard Davis, Jens-Peter Kreiss and Thomas Mikosch, Handbook of Financial Time Series, Springer Verlag (PR) (CO)

2 2009, Tim Bollerslev, Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle (ed. with Jeffrey R. Russell and Mark W. Watson), Oxford, UK: Oxford University Press (PR) (CO)

I.6 Working papers published in working paper series, conference contributions and non-refereed books, notes and articles.

I.6.1 CREATES Research Papers 2009

1 2009, Roman Frydman, Michael D. Goldberg, Søren Johansen and Katarina Juselius, A Resolution of the Purchasing Power Parity Puzzle: Imperfect Knowledge and Long Swings (CREATES RP 2009-1)

2 2009, Morten Ørregaard Nielsen, Nonparametric Cointegration Analysis of Fractional Systems With Unknown Integration Orders (CREATES RP 2009-2)

3 2009, Andrés González, Kirstin Hubrich and Timo Teräsvirta, Forecasting inflation with gradual regime shifts and exogenous information (CREATES RP 2009-3)

4 2009, Theis Lange, First and second order non-linear cointegration models (CREATES RP 2009-4)

5 2009, Tim Bollerslev, Natalia Sizova and George Tauchen, Volatility in Equilibrium: Asymmetries and Dynamic Dependencies (CREATES RP 2009-5)

6 2009, Anders Tolver Jensen and Theis Lange, On IGARCH and convergence of the QMLE for misspecified GARCH models (CREATES RP 2009-6)

7 2009, Jeroen V.K. Rombouts and Lars Stentoft, Bayesian Option Pricing Using Mixed Normal Heteroskedasticity Models (CREATES RP 2009-7)

8 2009, Torben B. Rasmussen, Jump Testing and the Speed of Market Adjustment (CREATES RP 2009-8)

9 2009, Dennis Kristensen and Andrew Ang, Testing Conditional Factor Models (CREATES RP 2009-9)

10 2009, José Fajardo and Ernesto Mordecki, Skewness Premium with Lévy Processes (CREATES RP 2009-10)

11 2009, Lasse Bork, Estimating US Monetary Policy Shocks Using a Factor-Augmented Vector Autoregression: An EM Algorithm Approach (CREATES RP 2009-11)

12 2009, Konstantinos Fokianos, Anders Rahbek and Dag Tjøstheim, Poisson Autoregression (CREATES RP 2009-12)

13 2009, Peter Reinhard Hansen and Guillaume Horel, Quadratic Variation by Markov Chains (CREATES RP 2009-13)

14 2009, Dennis Kristensen and Antonio Mele, Adding and Subtracting Black-Scholes: A New Approach to Approximating Derivative Prices in Continuous Time Models (CREATES RP 2009-14)

15 2009, Charlotte Christiansen, Angelo Ranaldo and Paul Söderllind, The Time-Varying Systematic Risk of Carry Trade Strategies (CREATES RP 2009-15)

16 2009, Ingmar Nolte and Valeri Voev, Least Squares Inference on Integrated Volatility and the Relationship between Efficient Prices and Noise (CREATES RP 2009-16)

17 2009, Tom Engsted, Statistical vs. Economic Significance in Economics and Econometrics: Further comments on McCloskey & Ziliak (CREATES RP 2009-17)

18 2009, Anders Bredahl Kock, Forecasting with Universal Approximators and a Learning Algorithm (CREATES RP 2009-18)

19 2009, Søren Johansen and Anders Rygh Swensen, On a numerical and graphical technique for evaluating some models involving rational expectations (CREATES RP 2009-19)

20 2009, Almut E. D. Veraart and Luitgard A. M. Veraart, Stochastic volatility and stochastic leverage (CREATES RP 2009-20)

21 2009, Ole E. Barndorff-Nielsen, José Manuel Corcuera and Mark Podolskij, Multipower Variation for Brownian Semistationary Processes (CREATES RP 2009-21)

22 2009, Giuseppe Cavaliere, Anders Rahbek and A.M.Robert Taylor, Co-integration Rank Testing under Conditional Heteroskedasticity by (CREATES RP 2009-22)

23 2009, Michael Frömmel and Robinson Kruse, Interest rate convergence in the EMS prior to European Monetary Union (CREATES RP 2009-23)

24 2009, Dominique Guégan, A Meta-Distribution for Non-Stationary Samples (CREATES RP 2009-24)

25 2009, Ole E. Barndorff-Nielsen and Almut E. D. Veraart, Stochastic volatility of volatility in continuous time (CREATES RP 2009-25)

26 2009, Tim Bollerslev and Viktor Todorov, Tails, Fears and Risk Premia (CREATES RP 2009-26)

27 2009, Kim Christensen, Roel Oomen and Mark Podolskij, Realised Quantile-Based Estimation of the Integrated Variance (CREATES RP 2009-27)

28 2009, Takamitsu Kurita, Heino Bohn Nielsen and Anders Rahbek, An I(2) Cointegration Model with Piecewise Linear Trends: Likelihood Analysis and Application (CREATES RP 2009-28)

29 2009, Martin M. Andreasen, Stochastic Volatility and DSGE Models (CREATES RP 2009-29)

30 2009, Eduardo Rossi and Paolo Santucci de Magistris, Long Memory and Tail dependence in Trading Volume and Volatility (CREATES RP 2009-30)

31 2009, Eduardo Rossi and Paolo Santucci de Magistris, A No Arbitrage Fractional Cointegration Analysis Of The Range Based Volatility (CREATES RP 2009-31)

32 2009, Alessandro Palandri, The Effects of Interest Rate Movements on Assets' Conditional Second Moments (CREATES RP 2009-32)

33 2009, Peter Christoffersen, Redouane Elkamhi, Bruno Feunou and Kris Jacobs, Option Valuation with Conditional Heteroskedasticity and Non-Normality (CREATES RP 2009-33)

34 2009, Peter Christoffersen, Steven Heston and Kris Jacobs, The Shape and Term Structure of the Index Option Smirk: Why Multifactor Stochastic Volatility Models Work so Well (CREATES RP 2009-34)

35 2009, Peter Christoffersen, Jeremy Berkowitz and Denis Pelletier, Evaluating Value-at-Risk Models with Desk-Level Data (CREATES RP 2009-35)

36 2009, Tom Engsted and Thomas Q. Pedersen, The dividend-price ratio does predict dividend growth: International evidence (CREATES RP 2009-36)

37 2009, Michael Jansson and Morten Ørregaard Nielsen, Nearly Efficient Likelihood Ratio Tests of the Unit Root Hypothesis (CREATES RP 2009-37)

38 2009, Frank S. Nielsen, Local Whittle estimation of multivariate fractionally integrated processes (CREATES RP 2009-38)

39 2009, Borus Jungbacker, Siem Jan Koopman and Michel van der Wel, Dynamic Factor Models with Smooth Loadings for Analyzing the Term Structure of Interest Rates (CREATES RP 2009-39)

40 2009, Niels Haldrup, Antonio Montañés and Andreu Sansó, Detection of additive outliers in seasonal time series (CREATES RP 2009-40)

41 2009, Dennis Kristensen, Pseudo-Maximum Likelihood Estimation in Two Classes of Semiparametric Diffusion Models (CREATES RP 2009-41)

42 2009, Ole Eiler Barndorff-Nielsen and Robert Stelzer, The multivariate supOU stochastic volatility model (CREATES RP 2009-42)

43 2009, Lasse Bork, Hans Dewachter and Romain Houssa, Identification of Macroeconomic Factors in Large Panels (CREATES RP 2009-43)

44 2009, Dennis Kristensen, Semiparametric Modelling and Estimation: A Selective Overview (CREATES RP 2009-44)

45 2009, Kim Christensen, Silja Kinnebrock and Mark Podolskij, Pre-averaging estimators of the ex-post covariance matrix (CREATES RP 2009-45)

46 2009, Matias D. Cattaneo, Richard K. Crump and Michael Jansson, Robust Data-Driven Inference for Density-Weighted Average Derivatives (CREATES RP 2009-46)

47 2009, Mark Podolskij and Mathias Vetter, Understanding limit theorems for semimartingales: a short survey (CREATES RP 2009-47)

48 2009, Isabel Casas and Irene Gijbels, Unstable volatility functions: the break preserving local linear estimator (CREATES RP 2009-48)

49 2009, Torben G. Andersen and Viktor Todorov, Realized Volatility and Multipower Variation (CREATES RP 2009-49)

50 2009, Robinson Kruse, Michael Frömmel, Lukas Menkhoff and Philipp Sibbertsen, What do we know about real exchange rate non-linearities? (CREATES RP 2009-50)

51 2009, Tue Gørgens, Christopher L. Skeels and Allan H. Würtz, Efficient Estimation of Non-Linear Dynamic Panel Data Models with Application to Smooth Transition Models (CREATES RP 2009-51)

52 2009, Torben G. Andersen, Dobrislav Dobrev and Ernst Schaumburg, Jump-Robust Volatility Estimation using Nearest Neighbor Truncation (CREATES RP 2009-52)

53 2009, Florian Heinen, Philipp Sibbertsen and Robinson Kruse, Forecasting long memory time series under a break in persistence (CREATES RP 2009-53)

54 2009, Tue Gørgens and Allan Würtz, Testing a parametric function against a nonparametric alternative in IV and GMM settings (CREATES RP 2009-54)

55 2009, Michael Jansson and Morten Ørregaard Nielsen, Nearly Efficient Likelihood Ratio Tests for Seasonal Unit Roots (CREATES RP 2009-55)

56 2009, Valeri Voev,' On the Economic Evaluation of Volatility Forecasts (CREATES RP 2009-56)

57 2009, Jesper Rangvid, Maik Schmeling and Andreas Schrimpf, Global Asset Pricing: Is There a Role for Long-run Consumption Risk? (CREATES RP 2009-57)

58 2009, Olaf Posch, Risk premia in general equilibrium (CREATES RP 2009-58)

59 2009, Christian M. Dahl and Emma M. Iglesias, Modelling the Volatility-Return Trade-off when Volatility may be Nonstationary (CREATES RP 2009-59)

60 2009, Ole E. Barndorff-Nielsen, José Manuel Corcuera and Mark Podolskij, Limit theorems for functionals of higher order differences of Brownian semi-stationary processes (CREATES RP 2009-60)

I.6.2 Other working paper publications

I.7 PhD Theses

1 2009, Rune Mølgaard, Essays on Dynamic Asset Allocation and Electricity Derivatives

2 2009, Frank S. Nielsen, On the estimation of fractionally integrated processes

3 2009, Stig Vinther Møller, Habit persistence, consumption based asset pricing, and time-varying expected returns

4 2009, Martin Møller Andreasen, DSGE Models and Term Structure Models with Macroeconomic Variables

I.8 Forthcoming articles in refereed journals and books

1 M. Aiolfi, M. Rodrigues and Allan Timmermann, Understanding analysts' earnings expectations: biases, nonlinearities and predictability, Journal of Financial Econometrics

2 Torben G. Andersen, Tim Bollerslev, Per Houmann Frederiksen and Morten Ørregaard Nielsen, Continuous-Time Models, Realized Volatilities and Testable Distributional Implications for Daily Stock Returns, Journal of Applied Econometrics

3 Torben G. Andersen, Tim Bollerslev and W. Huang, A Reduced Form Framework for Modeling and Forecasting Jumps and Volatility in Speculative Prices, Journal of Econometrics

4 Torben G. Andersen, Tim Bollerslev and F.X. Diebold, Parametric and Nonparametric Measurements of Volatility, Handbook of Financial Econometrics, North Holland

5 Torben G. Andersen and Viktor Todorov, Realized Volatility and Multipower Variation, Encyclopedia of Quantitative Finance; Wiley and Sons

6 Torben G. Andersen, Tim Bollerslev and Nour Meddahi, Realized Volatility Forecasting and Market Microstructure Noise, Journal of Econometrics

7 Torben Andersen and Luca Benzoni, Do Bonds Span Volatility Risk in the U.S. Treasury Market? A Specification Test for Affine Term Structure Models, Journal of Finance

8 Martin M. Andreasen, How to Maximize the Likelihood function for a DSGE model, Computational Economics, 35 (2), 127-154

9 Martin M. Andreasen, Stochastic Volatility and DSGE models, Economics Letters

10 O. Arizmendi, Ole E. Barndorff-Nielsen and V. Perez-Abreu, On free and classical type G laws, REBRAPE

11 Ole E. Barndorff-Nielsen, Peter R. Hansen, Asger Lunde and Neil Shephard, Subsampling Realized Kernels, Journal of Econometrics

12 Ole E. Barndorff-Nielsen and R. Stelzer, Multivariate supOU processes. Annals of Applied Probability.

13 Ole E. Barndorff-Nielsen, S. Kinnebrock and Neil Shephard, Measuring downside risk - realised semivariance, T. Bollerslev, J.R. Russell and M.W. Watson (Eds.): Volatility and Time Series Econometrics, Oxford University Press, 117-136

14 Jeremy Berkowitz, Peter F. Christoffersen and Denis Pelletier, Evaluating Value-at-Risk Models with Desk-Level Data, Management Science

15 Tim Bollerslev, Glossary to ARCH (GARCH), Volatility and Time Series Econometrics, Essays in Honor of Robert F. Engle (eds. Tim Bollerslev, Jeffrey R. Russell and Mark W. Watson). Oxford: Oxford University Press

16 Tim Bollerslev and Viktor Todorov, Jumps and Betas: A New Framework for Disentangling and Estimating Systematic Risks, Journal of Econometrics

17 Tim Bollerslev, Michael Gibson and Hao Zhou, Dynamic Estimation of Volatility Risk Premia and Investor Risk Aversion from Option-Implied and Realized Volatilities, Journal of Econometrics

18 Thomas Busch, Testing the Martingale Restriction for Option Implied Densities, Review of Derivatives Research

19 Thomas Busch, Bent Jesper Christensen and Morten Ørregaard Nielsen, The Role of Implied Volatility in Forecasting Future Realized Volatility and Jumps in Foreign Exchange, Stock, and Bond Markets, Journal of Econometrics

20 Helle Bunzel and Walt Enders, The Taylor Rule and "Opportunistic" Monetary Policy, Journal of Money, Credit, and Banking

21 Carlos Capistran and Allan Timmermann, Forecast Combination with Entry and Exit of Experts, Journal of Business and Economic Statistics

22 Carlos Capistran and Allan Timmermann, Disagreement and Biases in Inflation Expectations, Journal of Money, Credit and Banking

23 Luis Catao and Allan Timmermann, Volatility Regimes and Global Equity Returns, Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle

24 Giuseppe Cavaliere, Anders Rahbek and Robert Taylor, Testing for co-integration in vector autoregressions with non-stationary volatility, Journal of Econometrics

25 Giuseppe Cavaliere, Anders Rahbek and A.M.R. Taylor, Co-integration Rank Testing under Conditional Heteroskedasticity, Econometric Theory

26 Roxana Chiriac and Valeri Voev, Modelling and Forecasting Multivariate Realized Volatility, Journal of Applied Econometrics

27 Bent Jesper Christensen, Morten Ørregaard Nielsen and Jie Zhu, Long memory in stock market volatility and the volatility-in-mean effect: the FIEGARCH-M model, Journal of Empirical Finance

28 Charlotte Christiansen, Decomposing European Bond and Equity Volatility, International Journal of Finance and Economics

29 Charlotte Christiansen, Mean Reversion in US and International Short Rates, North American Journal of Economics and Finance

30 Charlotte Christiansen, Angelo Ranaldo and Paul Söderlind, The Time-Varying Systematic Risk of Carry Trade Strategies, Journal of Financial and Quantitative Analysis

31 Peter F. Christoffersen, Christian Dorion, Kris Jacobs and Yintian Wang, Volatility Components: Affine Restrictions and Non-Normal Innovations, Journal of Business and Economic Statistics

32 Peter Christoffersen, Jacobs, Mimouni, Models for S&P500 Volatility Dynamics: Evidence from Realized Volatility, Daily Returns, and Option Prices, Review of Financial Studies

33 Peter Christoffersen, Elkamhi, Feunou, Jacobs, Option Valuation with Conditional Heteroskedasticity and Non-Normality, Review of Financial Studies

34 Tom Engsted and Stig Vinther Møller, An Iterated GMM Procedure for Estimating the Campbell-Cochrane Habit Formation Model, with an Application to Danish Stock and Bond Returns, International Journal of Finance and Economics, Vol. 15(2), April 2010

35 Tom Engsted, S. Hyde and S.V. Møller, Habit formation, surplus consumption and return predictability: International evidence, Journal of International Money and Finance

36 Tom Engsted and Thomas Quistgaard Pedersen, The dividend-price ratio does predict dividend growth: International evidence, Journal of Empirical Finance

37 R. Frydman, M. Goldberg, Søren Johansen and K. Juselius, Testing hypotheses in an I(2) model with applications to the persistent long swings in the Dmk/$ rate, Journal of Econometrics

38 Arnaud Gloter & Michael Sørensen, Estimation for stochastic differential equations with a small diffusion coefficient, Stochastic Processes and their Applications

39 Timo Teräsvirta, Clive W. J. Granger, New Palgrave Dictionary of Economics, 2nd edition

40 Niels Haldrup, Separation in Cointegrated Systems, Journal of Financial Econometrics Tribute to Clive W.J. Granger, Journal of Financial Econometrics

41 Niels Haldrup, Frank S. Nielsen, Morten Ø. Nielsen, A Vector Autoregressive Model for Electricity Prices subject to Long Memory and Regime Switching, Energy Economics

42 J. Jacod, Mark Podolskij and M. Vetter, Limit theorems for moving averages of discretized processes plus noise, Annals of Statistics

43 S.T. Jensen, Theis Lange and Anders Rahbek, Estimation and Asymptotic Inference in the First Order AR-ARCH Model, Econometric Reviews

44 A.T. Jensen and Theis Lange, On IGARCH and Convergence of the QMLE for Misspecified GARCH Models, Journal of Time Series Econometrics

45 Søren Johansen, Cointegration. Overview and Development, Handbook of Financial Time Series, Springer

46 Søren Johansen and Morten Ørregaard Nielsen, Likelihood inference for a nonstationary fractional autoregressive mode, Journal of Econometrics

47 Søren Johansen, Some identification problems in the cointegrated vector autoregressive model, Journal of Econometrics

48 Anders Bredahl Kock and Timo Teräsvirta, Oxford Handbook on Economic Forecasting, Oxford University Press, 34

49 S.J. Koopman, M. Mallee and Michel van der Wel, Analyzing the Term Structure of Interest Rates using the Dynamic Nelson-Siegel Model with Time-Varying Parameters, Journal of Business and Economic Statistics

50 Dennis Kristensen, Nonparametric Filtering of the Realised Spot Volatility: A Kernel-Based Approach, Econometric Theory

51 Dennis Kristensen, Pseudo-Maximum Likelihood Estimation in Two Classes of Semiparametric Diffusion Models, Journal of Econometrics

52 Dennis Kristensen and Anders Rahbek, Likelihood-Based Inference in Nonlinear Error-Correction Models, Journal of Econometrics

53 Robinson Kruse, A new unit root test against ESTAR based on a class of modified statistics, Statistical Papers

54 Uwe Küchler and Michael Sørensen, A simple estimator for discrete-time samples from affine stochastic delay differential equations, Statistical Inference for Stochastic Processs

55 Theis Lange and Anders Rahbek, Regime Switching Models: A Survey, Handbook of Financial Time Series, Springer Verlag, editors: T. G. Andersen, R. A. Davis, J.-P. Kess and T. Mikosch

56 Katarzyna Lasak, Likelihood based testing for no fractional cointegration, Journal of Econometrics

57 Morten Ørregaard Nielsen, Nonparametric cointegration analysis of fractional systems with unknown integration orders, Journal of Econometrics

58 A.J. Patton, and Allan Timmermann, Monotonicity in Asset Returns: New Tests with Applications to the Term Structure, the CAPM and Portfolio Sorts, Journal of Financial Economics

59 Mark Podolskij and D. Ziggel, Testing for jumps: the wild bootstrap approach, Statistical Inference for Stochastic Processes

60 Mark Podolskij, Semimartingales, Encyclopedia of Quantative Finance, R. Cont eds.

61 Andreas Schrimpf and Qingwei Wang, A Re-appraisal of the Leading Indicator Properties of the Yield Curve under Structural Instability, International Journal of Forecasting

62 Andreas Schrimpf, International Stock Return Predictability under Model Uncertainty, Journal of International Money and Finance

63 Michael Sørensen, Estimating functions for diffusion-type processes, Statistical Methods for Stochastic Differential Equations, Chapmann and Hall

64 Michael Sørensen, Maximum likelihood estimation for integrated diffusion processes, Fernando Baltazar-Larios & Contemporary Quantitative Finance: Essays in Honour of Eckhard Platen, Springer

65 Michael Sørensen, Parametric inference for discretely sampled stochastic differential equations, Andersen, T.G., Davis, R.A., Kreiss, J.-P. and Mikosch, T. (eds.): Handbook of Financial Time Series, Springer

66 Timo Teräsvirta, Threshold models, New Palgrave Dictionary of Economics, 2nd edition

67 Timo Teräsvirta, Autoregressive conditional heteroskedasticity, Encyclopedia of Quantitative Finance

68 Timo Teräsvirta, Dag Tjøstheim and Clive W. J. Granger, Modelling nonlinear economic time series, Oxford University Press

69 Almut E. D. Veraart, Inference for the jump part of quadratic variation of Itô semimartingales, Econometric Theory

70 Almut E. D. Veraart and Matthias Winkel, Time change, Encyclopedia of Quantitative Finance

Total number of publications in reported year divided into;	Peer reviewed	Non-peer reviewed
Number of journal articles	49	
Number of conference series		
Number of monographs	3	
Number of book chapters	18	
Others		

I.9 List of journals considered to be the most prestigious within CREATES' research field (ordered alphabetically)

General Econometrics:

Econometrica
Econometric Reviews
Econometric Theory
Econometrics Journal
Journal of Applied Econometrics
Journal of American Statistical Association
Journal of Business and Economic Statistics
Journal of Econometrics
Oxford Bulletin of Economics and Statistics
Review of Economics and Statistics

Financial Econometrics:

Journal of Banking and Finance
Journal of Empirical Finance
Journal of Finance
Journal of Financial and Quantitative Analysis
Journal of Financial Econometrics
Journal of Financial Economics
Journal of International Money and Finance
Journal of Monetary Economics
Journal of Money Credit and Banking
Review of Financial Studies

Statistics/Stochastics:

Annals of Statistics
Bernoulli
Journal of Royal Statistical Society Series B
Stochastic Processes and its Applications
Journal of Time Series Analysis
Scandinavian Journal of Statistics
Finance and Stochastics
Mathematical Finance

In the February 2010 RePEc ranking CREATES has been listed as number 7 (out of 1289 institutions) within the field of "Econometrics"; and as number 3 (out of 963 Institutions) within the field of "Time Series Econometrics".

Link "Econometrics"

Link "Time Series Econometrics"

Appendix J: Publications Summary 2007, 2008, 2009

J.1 Articles in refereed journals

1 2009, Manuel Amman, David Skovmand and Michael Verhofen, Implied and Realized Volatility in the Cross-Section of Equity Options, International Journal of Theoretical and Applied finance, 12 (6), 745-765 (PR) (CO)

2 2009, Amber Anand, Carsten Tanggaard and Daniel G. Weaver, Paying for Market Quality, Journal of Financial and Quantitative Analysis, 1427-1457 (PR) (CO)

3 2009, Ole E. Barndorff-Nielsen, J.M. Corcuera, Mark Podolskij and J.H.C. Woerner, Bipower variation for Gaussian processes with stationary increments, Journal of Applied Probability 46, 132-150 (PR) (CO)

4 2009, Ole E. Barndorff-Nielsen, J.M. Corcuera and Mark Podolskij, Power variation for Gaussian processes with stationary increments, Stochastic Processes and Their Applications, 119, 1845-1865 (PR) (CO)

5 2009, Ole E. Barndorff-Nielsen, Peter R. Hansen, Asger Lunde and Neil Shephard, Realized Kernels in Practice: Trades and Quotes, Econometrics Journal, 12, 1-32 (PR) (CO)

6 2009, Ole E. Barndorff-Nielsen and J. Pedersen, Representation and properties of a class of conditionally Gaussian processes, ALEA, 6, 179-197 (PR) (CO)

7 2009, Mogens Bladt and Michael Sørensen, Efficient estimation of transition rates between credit ratings from observations at discrete time points, Quantitative Finance, 9, 147 - 160 (PR) (CO)

8 2009, Tim Bollerslev, George Tauchen and Hao Zhou, Expected Stock Returns and Variance Risk Premia, Review of Financial Studies, 22 (11), 4463-4492 (PR) (CO)

9 2009, Tim Bollerslev, Uta Kretschmer, Christian Pigorsch and George Tauchen, A Discrete-Time Model for Daily S&P 500 Returns and Realized Variations: Jumps and Leverage Effects, Journal of Econometrics, 150, pp.151-166 (PR) (CO)

10 2009, Blume, Ejrnæs, Nielsen and Allan Würtz, Labour Market Transitions of Immigrants with Emphasis on Marginalization and Selv-Employment, Journal of Population Economics, 22 (4), 881 (PR) (CO)

11 2009, C. Capistrán and Allan Timmermann, Disagreement and biases in inflation expectations, Journal of Money, Credit & Banking, 41(2), 365-396 (PR) (CO)

12 2009, C. Capistrán and Allan Timmermann, Forecast Combination with Entry and Exit of Experts, Journal of Business and Economic Statistics, 27, 429-440 (PR) (CO)

13 2009, Kim Christensen, Mark Podolskij and M. Vetter, Bias-correcting the realized range-based variance in the presence of market microstructure noise, Finance and Stochastics, 13, 239-268 (PR) (CO)

14 2009, Charlotte Christiansen and Angelo Ranaldo, Extreme Coexceedances in New EU Member States' Stock Markets, Journal of Banking and Finance, 33(6), 1048-1057 (PR) (CO)

15 2009, Peter Christoffersen, Heston, Jacobs, Why Multifactor Stochastic Volatility Models Work So Well, Management Science, 55 (12), 1914-1932 (PR) (CO)

16 2009, Christian M. Dahl, H. Hansen, and J. Smidt, The cyclical component factor model, International Journal of Forecasting, 25 (1), 119-127 (PR) (CO)

17 2009, Christian M. Dahl and Emma M. Iglesias, Volatility spill-overs in commodity spot prices: New empirical results, Economic Modelling, 26(3), 601-607 (PR) (CO)

18 2009, Tom Engsted, Statistical vs. Economic Significance in Economics and Econometrics: Further comments on McCloskey and Ziliak, Journal of Economic Methodology, 16(4), 393-408 (PR)

19 2009, Arnaud Gloter and Michael Sørensen, Efficient estimation of transition rates between credit ratings from observations at discrete time points, Stochastic Processes and their Applications, 119, 679 - 699 (PR) (CO)

20 2009, Joachim Grammig and Andreas Schrimpf, Asset Pricing with a Reference Level: New Evidence from the Cross-Section of Stock Returns, Review of Financial Economics, 18 (3), 113-123 (PR) (CO)

21 2009, Joachim Grammig, Michael Schuppli and Andreas Schrimpf, Long-Horizon Consumption Risk and the Cross-Section of Returns: New Tests and International Evidence, European Journal of Finance, 15, 511-532 (PR) (CO)

22 2009, M. Guidolin and Allan Timmermann, Forecasts of US short-term interest rates: A flexible forecast combination approach, Journal of Econometrics, 150(2), 297-311 (PR) (CO)

23 2009, Changli He, Andrés González and Timo Teräsvirta, Testing parameter constancy in stationary vector autoregressive models against continuous change, Econometric Reviews, 28, 225-245 (PR) (CO)

24 2009, J. Jacod, Y. Li, P. Mykland, Mark Podolskij and M. Vetter, Microstructure noise in the continuous case: the pre-averaging approach, Stochastic Processes and Their Applications, 119, 2249-2276 (PR) (CO)

25 2009, Michael Jansson, Victor Chernozhukov and Christian Hansen, Admissible Invariant Similar Tests for Instrumental Variables Regression, Econometric Theory, 25, 806-818 (PR) (CO)

26 2009, Michael Jansson, Victor Chernozhukov and Christian Hansen, Finite Sample Inference for Quantile Regression Models, Journal of Econometrics, 152, 93-103, (PR) (CO)

27 2009, Michael Jansson and Laura Chioda, Optimal Invariant Inference when the Number of Instruments is Large, Econometric Theory, 25, 793-805 (PR) (CO)

28 2009, Søren Johansen, Correlation, regression, and cointegration of nonstationary economic time series, Bulletin of the ISI LXII 2007, 19-26 (PR)

29 2009, Søren Johansen, Representation of cointegrated autoregressive processes with application to fractional processes, Econometric Reviews, 28, 121-145 (PR)

30 2009, M. C. Jones, Jens Perch Nielsen and Carsten Tanggaard, Local linear density estimation for filtered survival data, with bias correction, Statistics, 167-186 (PR) (CO)

31 2009, Dennis Kristensen and Anders Rahbek, Asymptotics of the QMLE for Non-Linear ARCH Models, Journal of Time Series Econometrics, 1(1), Article 2 (PR) (CO)

32 2009, Dennis Kristensen, On Stationarity and Ergodicity of the Bilinear Model with Applications to GARCH Models, Journal of Time Series Analysis, 30, 125-144 (PR)

33 2009, Dennis Kristensen, Semiparametric Modelling and Estimation: A Selective Overview, Quantile, 7, 53-83 (PR)

34 2009, Dennis Kristensen, Uniform Convergence Rates of Kernel Estimators with Heterogeneous, Dependent Data, Econometric Theory, 25, 1433-1445 (PR)

35 2009, Robinson Kruse and Phillipp Sibbertsen, Testing for a break in persistence under long-range dependencies, Journal of Time Series Analysis, 30 (3), 263-285 (PR) (CO)

36 2009, Asger Lunde and Allan Zebedee, Intraday volatility responses to monetary policy events, Financial Markets and Portfolio Management, 23, 383-399 (PR) (CO)

37 2009, Stig Vinther Møller, Habit persistence: Explaining cross-sectional variation in returns and time-varying expected returns, Journal of Empirical Finance, 16 (4), 525-536 (PR)

38 2009, Tomoaki Nakatani and Timo Teräsvirta, Testing for volatility interactions in the Constant Conditional Correlation GARCH model, Econometrics Journal, 12, 147-163 (PR) (CO)

39 2009, Morten Ørregaard Nielsen, A powerful test of the autoregressive unit root hypothesis based on a tuning parameter free statistic, Econometric Theory, 25, 1515–1544 (PR)

40 2009, Alessandro Palandri, Sequential Conditional Correlations: Inference and Evaluation, Journal of Econometrics, 153 (2), 122-132 (PR)

41 2009, M. H. Pesaran and Allan Timmermann, Testing dependence among serially correlated multicategory variables, Journal of the American Statistical Association, 104, 325-337 (PR) (CO)

42 2009, Mark Podolskij and M. Vetter, Bipower-type estimation in noisy diffusion models, Stochastic Processes and Their Applications, 119, 2803-2831 (PR) (CO)

43 2009, Mark Podolskij and M. Vetter, Estimation of volatility functionals in the simultaneous presence of microstructure noise and jumps, Bernoulli, 15(3), 634-658 (PR) (CO)

44 2009, Olaf Posch, Structural estimation of jump-diffusion processes in macroeconomics, Journal of Econometrics, 153, 196-210 (PR)

45 2009, Anders Rahbek, K. Fokianos and Dag Tjøstheim, Poisson Autoregression, Journal of the American Statistical Association (JASA), 104 (488), 1430-1439 (PR) (CO)

46 2009, Anders Rahbek and Dennis Kristensen, Asymptotics of the QMLE for Non-Linear ARCH Models, Journal of Time Series Econometrics, 1 (PR) (CO)

47 2009, Annastiina Silvennoinen and Timo Teräsvirta, Modelling multivariate autoregressive conditional heteroskedasticity with the Double Smooth Transition Conditional Correlation GARCH model, Journal of Financial Econometrics, 7, 373-411 (PR) (CO)

48 2009, Jie Zhu, Pricing Volatility of Stock Returns with Volatile and Persistent Components, Financial Markets and Portfolio Management, 23 (3), 243-269 (PR)

49 2009, Jie Zhu, Testing for Expected Return and Market Price of Risk in Chinese A-B Share Market – A Geometric Brownian Motion and Multivariate GARCH Model, Mathematics and Computers in Simulation, 79, 2633-2653 (PR)

50 2008, Jason Abrevaya and Christian M. Dahl , The effects of birth inputs on birthweight: evidence from quantile estimation on panel data, Journal of Business and Economic Statistics, 26(4), 379-397 (PR) (CO)

51 2008, Ole E. Barndorff-Nielsen, Peter R. Hansen, Asger Lunde and Neil Shephard, Designing Realized Kernels in to Measure the Ex-Post Variation of Equity Prices in the Presence of Noise, Econometrica, 76(6), 1481–1536 (PR) (CO)

52 2008, O.E. Barndorff-Nielsen and V. Pérez-Abreu, Matrix subordinators and related Upsilon transformations, Theory of Probability and its Applications, 52, 1-23 (PR) (CO)

53 2008, O.E. Barndorff-Nielsen and J. Schmiegel, Time change, volatility and turbulence, In A. Sarychev, A. Shiryaev, M. Guerra and M.d.R. Grossinho (Eds.): Proceedings of the Workshop on Mathematical Control Theory and Finance, Lisbon 2007. Berlin: Springer, 29-53 (PR) (CO)

54 2008, O.E. Barndorff-Nielsen and J. Schmiegel, A stochastic differential equation framework for the timewise dynamics of turbulent velocities, Theory of Probability and its Applications, 52, 372-388 (PR) (CO)

55 2008, O.E. Barndorff-Nielsen and F. Hubalek, Probability measures, Lévy measures, and analyticity in time, Bernoulli, 14, 764-790 (PR) (CO)

56 2008, O.E. Barndorff-Nielsen, J. Rosinski and S. Thorbjørnsen, General upsilon transformations, ALEA, 4, 131-165 (PR) (CO)

57 2008, O.E. Barndorff-Nielsen and M. Maejima, Semigroups of Upsilon transformations, Stochastic Processes and their Applications, 118, 2334-2343 (PR) (CO)

58 2008, F. Bec, Anders Rahbek and Neil Shephard, The ACR Model: A Dynamic Mixture Autoregression, Oxford Bulletin of Economics and Statistics, 70, 583-618 (PR) (CO)

59 2008, F. Bec, M. Ben-Salem and Anders Rahbek, Nonlinear Adjustment towards the Purchasing Power Parity Relation: A Multivariate Approach, Economics Bulletin, 6, 1-6 (PR) (CO)

60 2008, Eric Bentzen, Peter R. Hansen, Asger Lunde and Allan A. Zebedee, The Greenspan Years: An Analysis of the Magnitude and speed of the Equity Market Response to FOMC Announcements, Financial Markets and Portfolio Management, 22, 3-20 (PR) (CO)

61 2008, Tim Bollerslev, Tzuo Hann Law and George Tauchen, Risk, Jumps, and Diversification, Journal of Econometrics, 144(1), 234-256 (PR) (CO)

62 2008, Thomas Busch, Testing the martingale restriction for option implied densities, Review of Derivatives Research, 11, 61-81 (PR)

63 2008, Isabel Casas, Estimation of stochastic volatility with LRD, Mathematics and Computers in Simulation, 78, 335-340 (PR)

64 2008, Isabel Casas and Jiti Gao, Econometric estimation in long-range dependent volatility models: Theory and practice, Journal of Econometrics, 147, 72-83 (PR) (CO)

65 2008, Isabel Casas and Jiti Gao, Specification Testing in Discretized Diffusion Models: Theory and Practice, Journal of Econometrics, 147, 131-140 (PR) (CO)

66 2008, Charlotte Christiansen, Juanna Schrøter Joensen and Jesper Rangvid, Are Economists More Likely to Hold Stocks?, Review of Finance, 12(3), 465-496 (PR) (CO)

67 2008, Charlotte Christiansen, Level-ARCH Short Rate Models with Regime Switching: Bivariate Modeling of US and European Short Rates, International Review of Financial Analysis, 17(5), 925-948 (PR)

68 2008, Peter F. Christoffersen, Kris Jacobs, Chay Ornthanalai and Yintian Wang, Option Valuation with Long-run and Short-run Volatility Components, Journal of Financial Economics, 90, 272–297 (PR) (CO)

69 2008, Christian M. Dahl, Henrik Hansen and John Smidt, The cyclical component factor model, International Journal of Forecasting, 24(4), 119-127 (PR) (CO)

70 2008, H. Dette and Mark Podolskij, Testing the parametric form of the volatility in continuous time diffusion models - an empirical process approach, Journal of Econometrics, 143, 56-73 (PR) (CO)

71 2008, Graham Elliott, Ivana Komunjer and Allan Timmermann, Biases in Macroeconomic Forecasts: Irrationality or Asymmetric Loss?, Journal of European Economic Association, 6, 122-157 (PR) (CO)

72 2008, Graham Elliott and Allan Timmermann, Economic Forecasting, Journal of Economic Literature, 46(1), 3-56 (PR) (CO)

73 2008, Julie Lyng Forman and Michael Sørensen, The Pearson diffusions: A class of statistically tractable diffusion processes, Scandinavian Journal of Statistics, 35, 438-465 (PR) (CO)

74 2008, P. H. Frederiksen and M. Ø. Nielsen, Finite sample accuracy and choice of sampling frequency in integrated volatility estimation, Journal of Empirical Finance, 15, 265-286 (PR) (CO)

75 2008, Andrés González and Timo Teräsvirta, Modelling autoregressive processes with a shifting mean, Studies in Nonlinear Dynamics and Econometrics, 12(1), Article 1 (PR) (CO)

76 2008, Massimo Guidolin and Allan Timmermann, Size and Value Anomalies under Regime Shifts, Journal of Financial Econometrics, 6, 1-48 (PR) (CO)

77 2008, Massimo Guidolin and Allan Timmermann, International Asset Allocation under Skew and Kurtosis Preferences, Review of Financial Studies, 21(2), 889-935 (PR) (CO)

78 2008, Niels Haldrup, Peter Mølgaard and Claus Kastberg Nielsen, Sequential Versus Simultaneous Market Delineation: The Relevant Antitrust Market for Salmon, Journal of Competition Law and Economics, 4(3), doi:10.1093/joclec/nhn020, 893-913 (PR) (CO)

79 2008, Niels Haldrup and Andreu Sansó, A Note on the Vogelsang Test for Additive Outliers, Statistics and Probability Letters, 78, 296-300 (PR) (CO)

80 2008, Peter R. Hansen, Jeremy Large and Asger Lunde, Moving Average-Based Estimators of Integrated Variance, Econometric Reviews, 27(1), 79-111 (PR) (CO)

81 2008, Peter Reinhard Hansen, Reduced-Rank Regression: A Useful Determinant Identity, Journal of Statistical Planning and Inference, 138, 2688-2697 (PR)

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