

RGC Ref. No.: <u>UGC/IIDS15/B02/18</u> (please insert ref. above)

**RESEARCH GRANTS COUNCIL
COMPETITIVE RESEARCH FUNDING SCHEMES FOR
THE LOCAL SELF-FINANCING DEGREE SECTOR**

INTER-INSTITUTIONAL DEVELOPMENT SCHEME (IIDS)

Completion Report
(for completed projects only)

<p><u>Submission Deadlines:</u> 1. The unspent balance, if applicable, and auditor's report: within six months of the approved project completion date.</p> <p>2. Completion report: within 12 months of the approved project completion date.</p>

Part A: The Project and Investigator(s)

1. Project Title

Recent developments in Theoretical and Applied Econometrics Analysis

2. Investigator(s) and Academic Department(s) / Unit(s) Involved

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	Dr. YUEN Wai-kee/ Assistant Professor	Department of Economics and Finance/ Hong Kong Shue Yan University
Co-Principal Investigator(s)	N/A	N/A
Co-Investigator(s)	Dr. WOO Kai-yin/ Associate Professor	Department of Economics and Finance/ Hong Kong Shue Yan University
Co-Investigator(s)	Dr. TANG Chi-ho/ Assistant Professor	Department of Economics and Finance/ Hong Kong Shue Yan University
Others	N/A	N/A

3. Project Duration

	Original	Revised	Date of RGC / Institution Approval (must be quoted)
Project Start Date	1 Jan 2019	N/A	N/A

Project Completion Date	31 Dec 2019	N/A	N/A
Duration (<i>in month</i>)	12 months	N/A	N/A
Deadline for Submission of Completion Report	31 December 2020	N/A	N/A

Part B: The Final Report

5. Collaboration with Other Self-Financing Degree-Awarding Institutions

	Name of Institution(s)	% of Participation	Distinctive <u>Element(s)</u> of the Institution in Responsible Project
Applying Institution	Hong Kong Shue Yan University (HKSYU)	100%	Take all the responsibility of organization and promotion the events
Collaborating Institution(s) (If any) #	N/A	N/A	N/A
	N/A	N/A	N/A
	N/A	N/A	N/A
Total:		100%	

If no other eligible local self-financing degree-awarding institutions are involved, please input "N/A" in this table.

6. Project Objectives

6.1 Objectives as per original application

1. Workshops aim at training colleagues and other participants in applied econometrics analysis regarding the four areas: 1) Model selection strategies, 2) Nonlinear econometric methods, 3) Dynamic panel data analysis and 4) Stochastic dominance.
2. Seminars aim at informing colleagues and other participants the recent developments in theoretical and applied econometric analysis regarding the four areas: 1) Model selection strategies, 2) Nonlinear econometric methods, 3) Dynamic panel data analysis and 4) Stochastic dominance.
3. International conference aims at
 - Providing a venue for colleagues to learn from top econometricians.
 - Bringing academics and researchers from different disciplines together to exchange and share their research experiences regarding theoretical and applied econometrics.
 - Providing an opportunity for participants of the international conference to submit and present their original research papers on theoretical and applied econometrics.
4. Enhance teaching and learning by informing colleagues and other participants of recent developments in theoretical and applied econometric analysis

6.2 Revised objectives

Date of approval from the RGC: 2018/12/14

Reasons for the change:

Since the budget in relation to the invitation of the speaker from Taiwan is cut, the related workshop (Stochastic dominance and it's applications in Portfolio Management) and seminar (Recent developments in Econometric Applications of

Stochastic Dominance) in June 2019 will be cancelled.

1. *Workshops aim at training colleagues and other participants in applied econometrics analysis regarding the three areas: 1) Model selection strategies, 2) Nonlinear econometric methods and 3) Dynamic panel data analysis.*
2. *Seminars aim at informing colleagues and other participants the recent developments in theoretical and applied econometric analysis regarding the three areas: 1) Model selection strategies, 2) Nonlinear econometric methods and 3) Dynamic panel data analysis.*
3. *International conference aims at*
 - *Providing a venue for colleagues to learn from top econometricians.*
 - *Bringing academics and researchers from different disciplines together to exchange and share their research experiences regarding theoretical and applied econometrics.*
 - *Providing an opportunity for participants of the international conference to submit and present their original research papers on theoretical and applied econometrics.*
4. *Enhance teaching and learning by informing colleagues and other participants of recent developments in theoretical and applied econometric analysis*

6.3 Realisation of the objectives

(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

All the objectives are fully (100%) realized:

Objective 1 was fully (100%) achieved by the successful organization of 3 workshops relating to the applied econometrics analysis regarding model selection strategies, nonlinear econometric methods, and dynamic panel data analysis. Dr. Jurgen DOORNIK (University of Oxford) hosted the workshop applications of automated general-to-specific modelling strategies and trained us in using the software XIModeler. We are impressed by the power of the XIModeler to estimate 300 models and automatically select the best one within a few seconds. Prof WONG Wing-Keung (Asia University) hosted the workshop applications of nonlinear econometric methods and trained us with sample code of R programming to work on linear and non-linear models. Prof HSIAO Cheng (University of Southern California) has hosted the workshop applications of dynamic and nonlinear Panel data modelling and trained us to work with the dynamic panel data model.

Objective 2 was fully (100%) achieved by the successful organization of 3 seminars relating to the applied econometrics analysis in the 3 areas. Dr. DOORNIK has hosted the seminar recent developments in automated general-to-specific modelling strategies and informed us the methodology and algorithms to handle the challenges of model selection. Prof WONG hosted the seminar advancements in nonlinear econometric methods and informed us the use of multivariate linear and nonlinear causality tests to detect a multivariate nonlinear deterministic process. Prof HSIAO hosted the seminar advancements in panel data analysis and informed us the panel parametric, semiparametric, and nonparametric methods of constructing counterfactuals.

Objective 3 was fully (100%) achieved by the successful organization of the International conference “Recent developments in Theoretical and Applied Econometrics Analysis”. There are 19 presentations from 19 Universities (Shanghai University, Shanghai University of Finance and Economics, University of Illinois, Asia University, CUHK, CityU, OU, HKBU and HKSYU) contribute to the conference. The conference provided a venue to bring colleagues, academics, and researchers from different disciplines together to exchange and share their research experiences regarding theoretical and applied econometrics. The conference also provided an opportunity for participants of the international conference to submit and present their original research papers on theoretical and applied econometrics. Six colleagues from department of economics and finance and one colleague from department of accounting have presented their research in the conference and the e-version of conference proceedings has been published in Dec 2019. This IIDS project “Recent developments in Theoretical and Applied Econometrics Analysis” inspired Dr. YUEN (PI) to get another IIDS project “The Evolution of Digital Entrepreneurship, FinTech and FinReg” (RGC Ref. No.: UGC/IIDS15/B01/19). Gaining the knowledge in recent development of econometric, Dr. WOO (CO-I) got a FDS “Empirical Tests of Economic Integration and Estimates of Transaction Costs: A Study of Belt and Road Initiative” (UGC/FDS15/B06/20). Moreover Dr. WOO (CO-I) works with Prof Wong (Keynote speaker) on a research work "Review on efficiency and anomalies in stock markets" and the paper was successfully published in *Economies*, Vol. 8(1), 2020, 20.

Objective 4 was fully (100%) achieved, colleagues reflect that the workshops and seminars are useful and can enhance in their teaching and student learning. For example, speakers have brought us the XIMolder, R studio and code block. Colleagues can now make use of the software tools to teach students to use the software in courses like financial data analysis, economic forecasting and econometric.

6.4 Summary of objectives addressed to date

Objectives	Addressed <i>(please tick)</i>	Percentage Achieved <i>(please estimate)</i>
1. Workshops aim at training colleagues and other participants in applied econometrics analysis regarding the three areas: 1) Model selection strategies, 2) Nonlinear econometric methods and 3) Dynamic panel data analysis.	✓	100%
2. Seminars aim at informing colleagues and other participants the recent developments in theoretical and applied econometric analysis regarding the three areas: 1) Model selection strategies, 2) Nonlinear econometric methods and 3) Dynamic panel data analysis.	✓	100%
3. International conference aims at <ul style="list-style-type: none"> • Providing a venue for colleagues to learn from top econometricians. • Bringing academics and researchers from different disciplines together to exchange and share their research experiences regarding theoretical and applied econometrics. • Providing an opportunity for participants of the international conference to submit and present their original research papers on theoretical and applied econometrics. 	✓	100%
4. Enhance teaching and learning by informing colleagues and other participants of recent developments in theoretical and applied econometric analysis	✓	100%

6.5 Project progress

Original Implementation Schedule	Revised Implementation Schedule (Date of RGC's Approval)	Updated Progress
Workshop and Seminar of Automated general-to-specific modelling strategies, March 2019	Workshop and Seminar of Automated general-to-specific modelling strategies, June 2019 (1 March 2019)	N/A
Workshop and Seminar of dynamic panel data analysis, May 2019	Workshop and Seminar of dynamic panel data analysis, April 2019 (24 OCT 2018)	N/A
Workshop and Seminar of nonlinear econometric methods, April 2019	Workshop and Seminar of nonlinear econometric methods, June 2019 (26 April 2019)	N/A
Conference, Aug 2019	Conference, July 2019 (24 OCT 2018)	N/A

6.6 Speaker(s)

Title / Name (Surname in Capital Letters)	Post / Institution	Title / Topic of Presentation / Course	Previous Research Links with Hong Kong Institutions (Nature and Date (Month / Year))
Professor Cheng HSIAO	Professor of Economics, University of Southern California	Seminar: Advancements in panel data analysis Workshop: Applications of Dynamic and nonlinear Panel data modelling	City University of Hong Kong. (Delivered a distinguished lecture on 5 June 2008, “ <i>Evaluating the economic impact of CEPA on Hong Kong</i> ”)
Dr. Jurgen DOORNIK	James Martin Fellow at the Institute for New Economic Thinking at University of Oxford	Seminar: Recent developments in automated general-to-specific modelling strategies Workshop: Applications of automated general-to-specific modelling strategies	N/A
Professor WONG Wing-Keung	Chair Professor Department of Finance, Fintech Center and Big Data Research Center Asia University, Taiwan	Seminar: Advancements in nonlinear econometric methods Workshop: Applications of nonlinear econometric methods	Department of Economics, Hong Kong Baptist University (Professor, 2008-2016)

- 6.7 Please provide details of the activities organized, including the theme / objectives of the activities, targeted participants, attendance, analysis of participants, e.g. country of origin, research background, etc., evaluation forms of the activities and a summary of the participants' evaluation. (Photos of the activities are preferred.)

Analysis of Participants

The IIDS project successfully invited 3 leading scholars in the field of econometric to give 3 seminars and 3 workshops on the recent developments of econometric between April to June 2019. An international conference on the recent developments in theoretical and applied econometrics analysis is organized on 18 July 2019 in Hong Kong Shue Yan University. All events are being opened to other institutions and to the public. All the materials and information of the project have been posted to the official website (<https://ecme.hksyu.edu/>) for the public and colleagues from other institutions to access. The project information has also been posted on Moodle staff page for colleagues in Shue Yan to access. Since the project website will keep on attracting visitors in the next few years, the total number of visitors will keep on increasing.

The series of events attracted 162 attendances and 1086 visitors to the project website by the end of 2020. The project website has been viewed for 3721 times, 93% of the visitors comes from Hong Kong, 2% from China, 1% from US and 4% from other countries. The events have attracted colleagues from CU, OU, BU, CityU and oversea universities to attend. The social unrest in second half year of 2019 was the main barrier for people to attend the events. To promote the exposure of the events, we build an official website and post all the project materials to the website. The website successfully attracted 1086 visitors and 3721 views by the end of 2020. The following table summarized the number of attendances to events and visitors to websites:

Seminars and Workshops	Departmental staffs	Students	Other Department	Outside	Total
Dynamic Panel data analysis	18	27	3 (DP, AVP, ACC)	2 (BU)	50
Nonlinear econometric methods	18	15	3 (SW, ACC)	5 (OU, AL)	41
Automated general-to-specific modelling	18	17	2 (ACC)	4 (CU, OU)	41
Conference	9	10	1 (ACC)	10 (CU, OU, BU, CityU, Oversea)	30
				Total	162
Project Website				View	3099
				Visitors	1086
VP: Vice president of HKSYU AVP: Academic Vice president of HKSYU ACC: colleagues from accounting department SW: colleagues from department of social work BU: Baptist University					

CU: Chinese University
 OU: Open University
 CityU: Hong Kong City University
 Oversea: Shanghai University, Shanghai University of Finance and Economics,
 University of Illinois
 AL: alumni

All the events have received 66 feedback forms, the responds of the attendance are very positive. In a 5 points scale with 5 being the highest, the average score for the question “The Seminar/workshop/conference was useful to me” is 4.69. Moreover, the average score for the overall rating is 4.75. The following table summarized the average score of the feedbacks

	Seminar 16 April	Workshop 16 April	Seminar 3 June	Workshop 10 June	Seminar 26 June	Workshop 26 June	Conference 18 July	Overall mean
Q1	4.63	4.44	4.90	4.60	4.89	4.70	4.70	4.69
Q2	4.63	4.44	4.90	4.70	4.89	4.70	4.70	4.71
Q3	4.50	4.67	4.90	4.70	4.78	4.50	4.70	4.68
Q4	4.63	4.56	4.90	4.60	4.78	4.60	4.80	4.69
Q5	4.50	4.56	4.90	4.60	4.89	4.70	4.70	4.69
Q6	4.38	4.56	4.80	4.80	4.78	4.70	4.80	4.69
Q7	4.63	4.67	4.90	4.70	4.89	4.70	4.80	4.75

Q1 The Seminar was useful to me.

Q2 The content was presented in a logical, well-organized sequence.

Q3 The level of interactivity was appropriate.

Q4 The presenter was familiar and comfortable with the content

Q5 The use of media was effective and professional.

Q6 The presenter made good use of the allotted time.

Q7 Overall rating

5 points scale with 5 being the highest point of satisfaction/agreement

Seminar and Workshop (April): Dynamic Panel Data Analysis



Panel data modelling is a key area in econometrics. Panel data modelling involves both time and cross-sectional dimensions. It can be used to estimate data across time

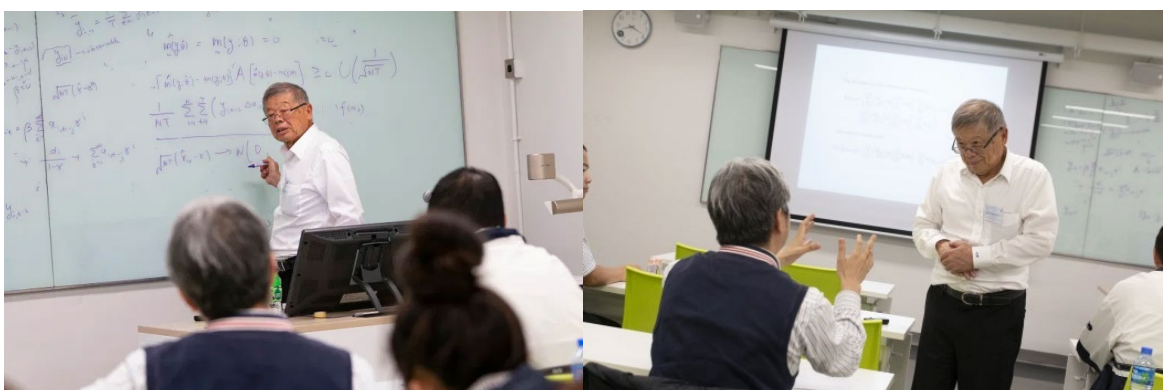
and individuals. Recent developments in the application of panel data analysis go beyond linear model analysis to consider the dynamic and nonlinear modelling of panel data). The seminar and workshop will provide opportunities for colleagues and other participants to learn to apply the new techniques to handle with cross sectional data.

I would like to express my appreciation to Prof Cheng HSIAO (Department of Economics, University of Southern California) for providing a seminar on “Advancements in panel data analysis” and a workshop on “Applications of Dynamic and nonlinear Panel data modelling” in Hong Kong Shue Yan University on 16 April, 2019.

The seminar was held at 15:00 – 17:00 in conference hall of the Library Complex, HKSYU. Since this is the first seminar of the IIDS project, we are happy that HKSYU Deputy President, Dr. HU and Academic Vice President, Prof SUN join the seminar. All 9 departmental staffs, 14 students (Department of Economics and Finance), and one colleagues from Baptist University attend the seminar.



In the seminar, Prof HSIAO explored the advantage and disadvantage of non-parametric, parametric, and semi-parametric approach to dynamic Panel data analysis. Each approach has its advantages and disadvantages. Simulation results show that, if the observed data are stationary, the panel semi-parametric method appears capable of generating counterfactuals close to the (true) data generating process in a wide array of situations. If the data are nonstationary, then the panel nonparametric method appears to dominate the parametric and semiparametric approaches. However, no method appears capable of dominating all other methods under all different data generating processes and different sample configurations of cross-sectional dimension and pre-treatment time dimension. Prof HSIAO suggested a model averaging method as a robust method for generating counterfactuals.



The workshop was held at 19:00 – 21:00 in Rm 205 in the main academic building, HKSYU. All 9 departmental staffs, 13 students (Department of Economics and Finance), one colleague from accounting department and one colleague from Baptist University attend the seminar. In workshop Prof HSIAO taught us the important consideration when working with dynamic panel models. The 3 major issue to consider are initial value distribution, controlling the impact of incidental parameters to obtain valid inference on structural parameters and relative sample size between cross-sectional dimension and time series dimension.

Both the seminar and workshop are extremely informative, and the active participation illustrated the importance of these topics to our colleagues and students.

Hong Kong Shue Yan University
Department of Economics and Finance
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IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis

Seminar: Advancements in panel data analysis

Speaker: Professor Hsiao Cheng (University of Southern California)

Date: 16 April 2019 (Tue)
Time: 15:00 – 17:00
Venue: C/F, Library Complex

Panel Parametric, Semi-parametric and Nonparametric Construction of Counterfactuals

We consider panel parametric, semi-parametric and nonparametric methods of constructing counterfactuals. We show through extensive simulations that no method is able to dominate other methods in all circumstances. Since the true data generating process is typically unknown. We therefore also suggest a model averaging method as a robust method to generate counterfactuals. As an illustration of the sensitivity of counterfactual construction, we re-examine the impact of California's Tobacco Control Program on per capita cigarette consumption and election day registration (EDR) laws on voters turnout by different methods.

Hong Kong Shue Yan University
Department of Economics and Finance
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IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis

Workshop: Applications of Dynamic and nonlinear Panel data modelling

Speaker: Professor Hsiao Cheng (University of Southern California)

Date: 16 April 2019 (Tue)
Time: 19:00 – 21:00
Venue: Room 205, Main Academic Building

Important Considerations in Working Panel Dynamic Models

This workshop discusses three important issues arising from analyzing panel dynamic models:

- (1) Initial value distribution
- (2) Fixed versus random effects specification
- (3) Relative sample size between the cross-section dimension, N , and the time series dimension, T .

It highlights the difference between the likelihood approach and the method of moments approach in view of these three issues. The focus will be on consistency, efficiency and asymptotic unbiasedness.

Seminar and Workshop (June): Nonlinear econometric methods



Because most economic and financial data series cannot be assumed to be linear, a transition function that specifies the transition dynamic is essential in analyzing nonlinear models. The seminars and workshops will provide opportunities for colleagues and other participants to learn to apply the tools to capture asymmetric and nonlinear patterns in their data analysis.



I would like to express our appreciation to Professor WONG Wing-Keung for providing a seminar on “Advancements in nonlinear econometric methods” and a workshop on “Applications of nonlinear econometric methods” in Hong Kong Shue Yan University on 3 June 2019. The seminar was held at 15:30 – 17:30 in conference hall RLB303 of the Research Complex, HKSYU. All 9 departmental staffs, 8 students (Department of Economics and Finance), a colleague from Accounting Department, a colleague from OU and two alumni attend the seminar. In the seminar, Prof Wong provided an example of using use cointegration and multivariate nonlinear causality to study financial development and economic growth. The multivariate nonlinear test not only takes into consideration both dependent and joint effects among variables but is also able to detect a multivariate nonlinear deterministic process that cannot be detected by using any linear causality test.



The workshop was held on 10 June 2019 at 14:00 – 16:00 in RLG402 in the research complex, HKSYU. All 9 departmental staffs, 7 students (Department of Economics and Finance), one colleague from accounting department, one colleague from social work, one colleague from open university, and 2 two alumni attend the seminar. In workshop Prof Wong taught us the use of R programming codes with R-studio and code block to analysis the dynamic feature of the data with multivariate nonlinear econometric methods.

Both the seminar and workshop are extremely informative, and the active participation illustrated the importance of these topics to our colleagues and students.

 **Hong Kong Shue Yan University**
Developments of Economics and Finance
 The project is fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project no. UGC/IIDS15/Bo2/18)

IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis

Seminar: Advancements in nonlinear econometric methods

Speaker: Professor Wong, Wing Keung
 (Asia University, Taiwan)

Date: 3 June 2019 (Mon)

Time: 15:30 - 17:30

Venue: RLB 303, Research Complex



In this seminar, the speaker recommends using both multivariate linear and nonlinear causality tests to analyze the relationship between financial development and economic growth. In particular, multivariate nonlinear causality test allows us to consider dependent and joint effects among financial variables, and detect a multivariate nonlinear deterministic process. By the end of the seminar, the recent applications of multivariate nonlinear co-integration and causality tests will be discussed.

Do both demand-following and supply-leading theories hold true in developing countries?



Free online registration

 **Hong Kong Shue Yan University**
Department of Economics and Finance
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IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis

Workshop: Applications of nonlinear econometric methods

Speaker: Professor Wong, Wing Keung
 (Asia University, Taiwan)

Date: 10 June 2019 (Mon)

Time: 14:00 – 16:00

Venue: RLG402, Research Complex



This workshop will discuss the econometric programs for linear and nonlinear co-integration and causality. Sample computer codes will be illustrated during the workshop. It is designed to familiarize participants with the common computer codes for tackling financial and economic research questions.

Presentation: Practice in nonlinear co-integration and causality tests



Free online registration

Seminar and Workshop (June): Automated General-to-Specific Modelling




Model selection is the most fundamental and most challenging part of econometrics. Recent developments in model selection provide a useful alternative strategy. Automatic general-to-specific model selection algorithms are an automatic model selection procedure based on the general-to-specific approach. This strategy has been applied to a wide range of economic theories. The seminars and workshops will provide opportunities for colleagues and other participants to learn to apply the strategy to handle structure changes in their models, control for spurious results and improve efficiency.



I would like to express my appreciation to Dr. Jurgen DOORNIK (University of Oxford) for providing a seminar on “Recent developments in automated general-to-specific modelling strategies” and a workshop on “Applications of automated general-to-specific modelling strategies” in Hong Kong Shue Yan University on 26 June 2019. The seminar was held at 15:30 – 17:30 in conference hall RLB303 of the Research Complex, HKSJU. All 9 departmental staffs, 9 students (Department of Economics and Finance), a colleague from Accounting Department, a colleague from OU and CU attend the seminar. In the seminar, Dr. DOORNIK presented automatic general-to-specific selection of univariate econometric and provide an overview of the approach, and then consider extension of these procedures to the multivariate setting. The starting point is a vector autoregression, and the final stage can be a simultaneous equations model where the role of identification is considered to obtain procedures that are relevant for empirical modelling.



The workshop was held on 26 June 2019 at 11:00 – 13:00 in RLG402 in the research complex, HKSYU. All 9 departmental staffs, 8 students (Department of Economics and Finance), one colleague from accounting department, one colleague from OU, and one alumnus attend the seminar. In workshop Dr. DOORNIK introduced the XIModeler a powerful tool for the empirical modeler. The workshop introduced Autometrics, which successfully implements the general-to-specific approach. Foundations of the algorithm together with interesting extensions, including applications that have more variables than observations are illustrated with XIModeler.

 **Hong Kong Shue Yan University**
Department of Economics and Finance

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IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis


Seminar: Recent developments in automated general-to-specific modelling strategies

Speaker: Dr. Jurgen DOORNIK
(University of Oxford)

Date: 26 June 2019 (Wed)


Time: 3:30pm – 5:30pm


Venue: RLB303, Research Complex



Abstract: Automatic general-to-specific selection of univariate econometric models is now well established and available in software. Extensions include saturation estimators, e.g. adding an impulse dummy for every observation to handle outliers. This seminar will provide an overview of the approach, and then consider extension of these procedures to the multivariate setting. The starting point is a vector autoregression, and the final stage can be a simultaneous equations model where the role of identification is considered. The aim is to obtain procedures that are relevant for empirical modelling.

Automatic Selection of Multivariate Dynamic Econometric Models

Free online registration: 

 **Hong Kong Shue Yan University**
Department of Economics and Finance

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IIDS - Recent Developments in Theoretical and Applied Econometrics Analysis


Workshop: Applications of automated general-to-specific modelling strategies

Speaker: Dr. Jurgen DOORNIK
(University of Oxford)

Date: 26 June 2019 (Wed)


Time: 11:00 am – 1:00 pm

Venue: RLG402, Research Complex



Abstract: Automatic model selection is a powerful tool for the empirical modeller. This workshop will introduce Autometrics, which successfully implements the general-to-specific approach. Foundations of the algorithm will be described, together with interesting extensions, including applications that have more variables than observations. Hands-on computer illustrations will be used throughout.

Automatic Model Selection with Applications

Free online registration: 

International Conference: Theoretical and Applied Econometrics

The one-day conference was held on 18 July 2019 from 9:30 to 17:45 in RLB302 and RLB303. There are 19 presentations in 5 sessions. Scholars comes from 9 Universities (Shanghai University, Shanghai University of Finance and Economics, University of Illinois, Asia University, CUHK, CityU, OU, HKBU and HKSYU) contributed to the conference. The conference provided a venue to bring colleagues, academics, and researchers from different disciplines together to exchange and share their research experiences regarding theoretical and applied econometrics. Dr. TANG (CO-I) received comments from Dr. Li Sung-ko during the conference and included his suggestion in the article (entitled “What do we know about housing supply? The case of Hong Kong SAR”). The conference also provided an opportunity for participants of the international conference to submit and present their original research papers on theoretical and applied econometrics. Six colleagues from department of economics and finance and one colleague from department of accounting have presented their research in the conference. The e-version of conference proceedings has been published in Dec 2019 (<https://ecme.hksyu.edu/index.php/category/18-july-2019-conference/conference-proceeding/>).



CALL FOR PAPERS

INTERNATIONAL CONFERENCE: THEORETICAL AND APPLIED ECONOMETRICS

July 18, 2019 at Hong Kong Shue Yan University

The deadline for abstract submission has been extended
until **22 June, 2019** due to a high number of requests

The conference aims to provide an international platform for sharing research interests and cutting-edge knowledge in econometric methods and applications of econometrics. It intends to bring academics, researchers and students together to exchange and share their research experiences and results regarding theoretical and applied econometrics. Researchers are invited to submit and present their original research papers.

Free Registration: The conference is fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project no. UGC/IIDS15/Bo2/18)

Interested researchers are invited to send an abstract of 200-300 words based on, but not limited to, the following topics

Panel data analysis
Nonlinear econometrics
Partial least squares
Modelling strategies
Non-parametric models
IV estimation
Bayesian econometrics
Propensity score analysis
Density forecast models
Nowcasting
Machine learning

Abstract deadline:
~~4 June 2019~~ **22 June 2019**
Email your abstract to:
ecme@hksyu.edu

Website:
<https://ecme.hksyu.edu>

All accepted abstracts will be published in the conference abstract book. All full papers accepted will be published electronically in proceedings

Principal Investigator
Dr. YUEN W. K. Thomas

Co-Investigators
Dr. WOO K.Y.
Dr. TANG C. H. Edward



Hong Kong Shue Yan University Department of Economics & Finance

IIDS INTERNAIONAL CONFERENCE: THEORETICAL AND APPLIED ECONOMETRICS

Keynote:

Professor Wing-Keung WONG
(Chair Professor of Finance,
Department of Finance, Fintech
Center, and Big Data Research
Center, Asia University, Taiwan)



Date:
July 18, 2019
(THUR)



7. Research-Related Outcome

7.1 Potential for development into research proposal and the proposed course of action (Maximum half a page)

The project strengthens the capability of colleagues to conduct research using econometric. The seminar and workshops covered recent development of theoretical and applied econometric analysis in the three areas: 1) automatic model selection algorithm, 2) nonlinear econometric methods, 3) dynamic panel data analysis. We are happy to note that the strengthening of colleagues' knowledge in recent development of econometric enable Dr. YUEN (PI) and Dr. WOO (CO-I) to successfully got funding for one IIDS project and one FDS project. Dr. TANG (CO-I) has one publication under FDS project discussing empirical challenges of studying primary housing market in Hong Kong. (see section 7.3 for details).

7.2 Research collaboration achieved (Please give details on the achievement and its relevant impact)

We are happy to note that Dr. K.Y. WOO, the CO-I of this project, has established a research collaboration with one of our speakers, Prof WONG.

Prof Wong invited Dr. WOO for a research work: "Review on efficiency and anomalies in stock markets" was coauthored with Kai-Yin Woo, Chulin Mai, Michael McAleer and Wing-Keung Wong. It was successfully published in *Economies*, 2020, Vol. 8(1), 20.

Also, as a PI, Dr. WOO invited Prof Wong as a Co-I in a proposed RGC project. It was successfully approved in September 2020. The name of the project is: "Empirical Tests of Economic Integration and Estimates of Transaction Costs: A Study of Belt and Road Initiative" funded by the University Grants Committee (UGC) (UGC/FDS15/B06/20) (with the Co-Is: Shu-Kam Lee, Wing-Kwong Au and Wing-Keung Wong)

7.3 Any new development and/or challenging research topic(s) has / have been identified and any new initiative(s) for future research has / have been inspired.

Recent development in econometric, such as automatic econometric algorithm, is the backbone of supervised machine learning. There is no doubt that machine learning and artificial intelligence are going to change the way we live. This IIDS project "Recent developments in Theoretical and Applied Econometrics Analysis" inspired Dr. YUEN (PI) to propose another IIDS project "The Evolution of Digital Entrepreneurship, FinTech and FinReg" (RGC Ref. No.: UGC/IIDS15/B01/19). The proposed project successfully got funding from RGC in 2019.

Gaining the knowledge in recent development of econometrics, Dr. WOO (CO-I) got funding from the FDS. The research topic is "Empirical Tests of Economic Integration and Estimates of Transaction Costs: A Study of Belt and Road Initiative" (RGC Ref No.: UGC/FDS15/B06/20).

Dr. TANG (CO-I) received comments from Dr. Li Sung-ko during the conference and included his suggestion in the article (entitled "What do we know about housing supply? The case of Hong Kong SAR"). One major contribution of this article is to discuss the empirical challenges of studying primary housing market in Hong Kong.

8. The Layman's Summary

(Describe in layman's language the nature, significance and value of the research activities, in no more than 200 words)

Modern economics and finance research demand sophisticated econometric skills and models, making it important for academics to keep up to date on the recent developments in theoretical and applied econometric analysis. The IIDS project provide opportunities for participants to update their analytical capabilities and widen their knowledge of research regarding theoretical and applied econometric. An e-version of conference proceedings (International Conference for Theoretical and Applied Econometrics) has been published in Dec 2019, which is a publication resulting from participation in the conference. The project offered an opportunity for participants to build academic networks with leading econometrics scholars (Prof HSIAO, Prof WONG, and Dr. DOORNIK). Econometrics can be applied in an interdisciplinary content, colleagues in other disciplines can learn how to apply econometric in their own research. I am happy that colleagues from department of accounting and social work join the events. The project can enhance teaching by giving colleagues knowledge and tools of cutting-edge econometric analysis. Speakers (Dr. DOORNIK and Prof WONG) have brought us the XIModler and the sample R programming code. Colleagues can now use the tools to teach students to use the software in courses like financial data analysis, economic forecasting and econometric.

Part C: Research Output**9. Recognized Conference(s) Paper(s) Related To This Project Was / Were Delivered (As Applicable)***(Please attach a copy of each conference abstract)*

Month / Year / Place	Title	Conference Name	Submitted to RGC <i>(indicate the year ending of the relevant progress report)</i>	Attached to this Report <i>(Yes or No)</i>	Acknowledged the Support of RGC <i>(Yes or No)</i>
July/2019/ Hong Kong	International Conference Theoretical and Applied Econometrics Conference Proceedings	International Conference Theoretical and Applied Econometrics	N/A	Yes https://ecm.e.hksyu.edu/index.php/category/18-july-2019-conference-conference-proceeding/	Yes
N/A	N/A	N/A	N/A	N/A	N/A

10. Research Personnel Trained (As Applicable)

Name	Capacity
N/A	N/A

11. Other Impact (As Applicable)*(e.g. prizes, collaboration with other research institutions, technology transfer, etc.)*

N/A

12. Statistics on Research Outputs

	Peer-reviewed Journal Publications	Conference Papers	Scholarly Books, Monographs and Chapters	Patents Awarded	Other Research Outputs (please specify)	
No. of outputs arising directly from this project	N/A	N/A	N/A	N/A	Type	No.
					Conference Proceedings	1

13. Public Access Of Completion Report

(Please specify the information, if any, that cannot be provided for public access and give the reasons.)

Information that Cannot Be Provided for Public Access	Reasons
N/A	N/A