Gregory Chow and Xiaohong Chen:
winners of the 2017 China Economics Prize
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1 Congratulations

- My warmest congratulations to Gregory Chow and Xiaohong Chen for winning the China Economics Prize.

- When I heard the news I felt what a wonderful pair Gregory and Xiaohong to select for this award!

- It is an excellent idea to honor these two Chinese scholars whose work has been useful and inspiring to so many researchers and practitioners around the world.

- If awards are defined by the qualities of the awardees, in two years the China Economics Prize has been set on a great course.

2.1 Gregory Chow's research and influence

- Gregory Chow was a household name in econometrics when I was a PhD student at the LSE in the early 1980s.

- He was famous for having developed in 1960 a test of equality between the coefficients in two regressions, the Chow test.

- His interest on the stability of regressions came out of his pioneering work on the demand for automobiles.

- In fact, the close interplay between methods of data analysis and applications, in the best of Chicago traditions, has been a defining trait of Greg Chow's work throughout his career.

- He made many significant contributions on the econometrics of simultaneous equation models and criteria for model selection.

- He also did path-breaking work on optimal control theory and its application to stochastic economic models.

- My introduction to optimal control as well as to Chow's way of thinking and free spirit happened while reading as a graduate student his 1983 Econometrics textbook.
- I was fascinated by his tour the force around models of optimizing agents and his conclusion:
    - "The question is how far one should push optimizing behavior in building economic models for multiperiod decisions under uncertainty and where one should stop."
- At the time I was also intrigued and stimulated by his discussions of model selection, random coefficients, and Bayesian estimation.
- Many years later I met Gregory on occasion of a short visit to Princeton. We had lunch together and we talked about econometrics, but also about his interests on the Chinese economy.
- I gave a seminar as part of the econometrics research program named in his honor. Afterwards, he said that it seemed to him that my paper was easier to follow than the typical econometric paper at the time, a comment that made me very happy!

- Gregory Chow has undertaken a remarkable activity in using the tools of economic analysis to understand the Chinese economy, and to introduce the tools themselves to students in China.

- Here his activity has not been confined to publishing journal articles and books on the subject of China. He has also set up schemes to promote the exchange and transfer of modes of thinking between China and the West.

- He set up the "Gregory Chow Project" to seek out outstanding science and engineering students at China´s universities to study economics in the US.

- He also set up the "Gregory Chow Fund" under the Chinese Economist Society to fund overseas economists to come and teach at China´s universities.

2.2 Xiaohong Chen's research and influence

- Xiaohong is largely responsible for developing the large-sample theory for estimation and inference on seminonparametric models using the method of penalized sieves.
- She likes to call a model seminonparametric if it contains both finite dimensional and infinite-dimensional parameters of interest.
- These methods have become popular in theoretical and applied work in economics.
- Partly because they facilitate a closer match of statistical models with economic foundation.
- Partly because of the increasing feasibility of analyzing large datasets.
- Partly because the generality of the approach in allowing to integrate tightly specified parametric aspects with flexible functional components.
- But also importantly because we have her econometric theory to guide us!

Some of her most important papers

- I will mention Xiaohong's 2003 seminal paper with Chunrong Ai, which introduced the method of sieves for models with conditional moment restrictions and studied its properties. This work has been very influential.

- I should also mention her important work with Demian Pouzo tackling the difficult but empirically relevant situation in which model errors may depend on the parametric and nonparametric components in non-linear and non-smooth ways.

- This work has led to several publications including two recent landmark papers. The first one establishes the consistency and the convergence rate of the estimators of the nonparametric part, while the second provides conditions for the asymptotic normality of test statistics constructed from functionals of the original estimates.

- The Chen-Pouzo class of estimation problems includes many situations of applied interest involving endogenous regressors, such as nonparametric quantile instrumental variables, for which there was no econometric guidance previous to their work.

- For example, their results are directly useful to understand the properties of the nonparametric estimates of the distribution of market wages in my recent work with Stéphane Bonhomme on quantile selection models.

Promoting applications

- A remarkable aspect of Xiaohong is that she is an econometric theorist that has successfully promoted the application of her approach in a vast arrays of areas in applied econometrics.

- I would mention her work with Richard Blundell and Dennis Kristensen on instrumental-variable estimation of shape-invariant Engel curves; her work with Sydney Ludvigson on habit formation in asset pricing models, and her work with Tim Conley on spatial dependence.

- Her intense activity of dissemination of econometric methodology has also produced wonderful surveys that will have a lasting impact because they are very useful to students and researchers.

- Let me mention her 2007 Handbook of Econometrics chapter on sieve estimation of semi-nonparametric models.

- Also her World Congress chapter on nonlinear and nonparametric time series models, which I had the fortune to commission and edit for the Shanghai meetings in 2010.

2.3 Remarks about the winners

- Generationally I am between Gregory and Xiahong. Twice closer in time to Xiaohong than to Gregory.
- As a result, in the case of Gregory I felt the influence of the seniors whom you admire, but I have had more opportunities for personal interaction with Xiaohong.
- I first met Xiahong at the time of my first visit to Chicago when she was an Assistant Professor there.
- Since then we have met many times in different parts of the world, including her visit to CEMFI in Madrid where she delivered a memorable short course on the econometrics of sieves to our PhD students.
- I feel lucky to belong to a community of economists populated by individuals such as Gregory and Xiaohong.
- When I think of these people, overcoming adversity and tenacity come to mind. Xiaohong's arrival in North America was not an easy one.
- Also come to mind the transmission of the lessons you learned to a broader community. I very much admire Gregory's contribution to building bridges between China and the West, and his relentless pursuit of using the tools of economic analysis to understand the Chinese economy and set an agenda for researchers both sides of the ocean.

3 Outlook on the future of econometric research

- It is wonderful that the China Economics Prize has been awarded to two very distinguished econometricians spanning different generations and work styles.

- There is a strong tradition of research in econometrics by Chinese scholars. This award should be an stimulus to the new generations to enter the field of econometrics. But what field are they going to enter?

- We are in the midst of momentous changes. Every aspect of public and private life are quickly becoming capable to conversion into data and thus amenable to systematic empirical scrutiny.

- This is true of text; of administrative records such as taxes, social security or credit registries; of the exchanges between firms and consumers; and of health and hospital records.

- We are desperately short of econometric methodology that is relevant for datasets like those and the questions that come with them.

- As an example this year I discussed the project of a group of researchers who had access to a fabulous IRS dataset assembled from the universe of matched tax forms for US workers and corporations during 2001-2014.

- Measurement affects behavior We are going to see these effects in a stronger way to the extent that measurement will become at the same time a powerful policy tool in itself as well as a tool for policy evaluation.
- We have seen this happening in surveys on managerial practices and we are seeing it happening in research on the visibility of wealth inequality and its effects on cooperation and production.
- Think of measurements such as teacher value-added, bank-specific credit supply shocks, firm and worker level productivities, or health capital.
- There are many exciting research areas that are quickly developing. Among those:
- Causality in networks: designing experimental and observational strategies using models.
- Statistical properties of simulation estimators and machine learning algorithms.
- Tools to help macroeconomics to rely less on theory and more on data, both micro and aggregate data combined.
- I conclude congratulating again Gregory and Xiaohong on a richly deserved honor!