



## PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

### Open PhD position at FUB for CSC scholarship candidates 2018

*Please note: the PhD position is only offered to Chinese PhD candidates for application in the framework of the FUB-CSC PhD Program.*

<b>Department/Institute:</b>	School of Business and Economics
<b>Subject area:</b>	Statistics
<b>Name of Supervisor:</b>	Prof. Dr. Timo Schmid
<b>Number of open PhD positions:</b>	1-2
<b>Type of the PhD Study:</b>	Full-time
<b>Project title:</b>	Multidimensional poverty estimation using small area estimation (SAE) and prediction methods

#### PhD Project description:

The project will develop novel SAE statistical methodologies for resolving the challenges faced by statistical organizations in estimating complex indicators. In recent years, there has been growing demand for developing SAE methods suitable for estimating the incidence of income poverty, the quantile share ratio, the Gini coefficient and multidimensional deprivation. This has been at the center of methodological work at the World Bank (WB), Eurostat or CONEVAL. Estimating non-linear indicators requires the estimation of the distribution function of the outcome variable for example, income. Popular methods are the use of Empirical Best Prediction (EBP) (Molina and Rao, 2010) and the World Bank method (Elbers et al, 2002). The methodologies mentioned above assume that the outcome of interest is continuous for example, household income. Practitioners, however, are also interested in discrete outcomes. An example is the estimation of deprivation indicators that encompass a number of dimensions such as income, food, health, education and social security. More specifically, the interest is in estimating the proportion of households deprived in each of the dimensions and the average number of combined deprivations (multidimensional deprivation) in small areas. The discrete nature of such indicators means that the methods for continuous data are no longer applicable and models for discrete outcomes are needed. The project will extend the methodologies for continuous data to discrete outcomes.

#### Language requirements:

IELTS: 6.5 or TOEFL: 95 ibt.

#### Academic requirements:

The most important formal qualification for being able to do a PhD/doctorate here is a very good higher education degree in **Economics, Statistics** or **Mathematics** (Economics as minor subject) that is recognized in Germany. Generally, that is a degree equivalent to a **German Master** completed after eight semesters of study. A Bachelor's degree is not sufficient for a full time doctorate. Some knowledge in survey statistics and a computer language like R are helpful. All research projects must meet the highest standards on issues of research ethics and plagiarism.

#### Information of the professor or research group leader:

Prof. Dr. Timo Schmid has a Master's degree in mathematics with economics as minor subject. Afterwards he finished his PhD (Supervisors: Prof. Dr. Ralf Münnich (Trier, Germany) and Prof. Dr. Ray Chambers (Wollongong, Australia)) in statistics in 2012 and changed to the Freie Universität Berlin. His research fields are survey statistics, statistical modelling, small area estimation, robust methods, spatial statistics and poverty estimation. His team consists of 5 PhD students and himself. Further information is available here:

<http://www.wiwiss.fu-berlin.de/fachbereich/vwl/Schmid/index.html> , at the bottom of the homepage, you find a link to his English CV

**Please note:** In a first step, the complete application must be submitted to the Beijing Office for evaluation by January 4<sup>th</sup>, 2018. Please do not contact the professor before. He/She will get in contact with you after having received the complete application via the Beijing Office in January.