Research Track Record

I. Primary research interests

These include microeconometric methods and their application in labour, population and development economics.

The area of my particular interest is structural estimation of theoretical models that formalize labour market interactions of utility maximizing agents in presence of information asymmetry. This is also the area in which I have the biggest experience so far collected.

Apart from structural estimation, I am equally interested in econometric modelling that quantifies individual decision rules using incompletely observed data. Examples of such problems could be investigation of competitiveness between formal and informal sectors of a labour market in a developing economy or joint determination of female labour supply and birth decisions.

Below I list examples of my current and most recent research activity in these areas.

Structural econometrics My current work in the structural field is a joint research with Irene Endres (University of Würzburg) and Klaus Wälde (University of Glasgow). We ask what are welfare consequences of Hartz IV reform of unemployment benefit system in Germany. To answer this question we formulate an equilibrium search model with a stepwise profile of benefit payments and endogenous search effort. Time-dependence of optimal search effort generates an endogenous distribution of unemployment duration characterized by a time-dependent hazard function. The main challenge on the econometric side is the estimation of the model using the data from a longitudinal survey of individuals only (i.e., no information about firms). Up to now the baseline version of the model and two more generalizations are estimated. Our empirical results show that although Hartz IV reform has indeed contributed to the reduction of the aggregate unemployment rate, welfare of employed and unemployed workers has gone down. Value of a firm, on the other hand, has increased. Consequently, reduction of unemployment without reduction of social welfare is a distributional issue between workers and firms rather than between employed and unemployed workers.

My very last completed work in the structural field is a joint paper with Christian Holzner (Ifo Institute for Economic Research, Munich). In this paper we formulate and

estimate an extension of a Burdett-Mortensen model that allows for skill heterogeneity and increasing returns technologies. One of the challenges on the empirical side of the paper is an identifiability problem induced by both skill multiplicity and appearance of an additional subset of parameters (namely, the homogeneity degrees of production functions which are absent in the original Burdett-Mortensen setting). The main question of the paper is whether a marginal shift in the skill structure of the labour force towards higher proportion of more skilled workers could generate an excess return after subsidizing the cost of education. Our estimation results for the German labour market show that this would indeed be the case if we increase the fraction of medium-skilled workers by educating the low-skilled ones and keep the share of high-skilled workers unchanged.

Non-structural econometrics My current work in the non-structural field is a joint project with Stephan Klasen (University of Göttingen). We formulate a conditional parametric poverty measure, where conditioning is on the set of known policy parameters. Thereby we become able to perform ex ante assessment of the immediate poverty-reduction effect of any given parametric policy, evaluate income and inequality effects of this policy and infer about its pro-poorness. Up to now a compete characterization of poverty responses to normally- and Bernoulli-distributed policies has been made. However, right now the work has come to a relative standstill because of the objective critique that returns to individual characteristics, which we keep constant for the moment, may change as a result of policy intervention. One possible solution is to suggest that after implementation of a given policy the returns follow some random adjustment path and consider a marginal version of our poverty measure where integration is over all possible adjustment paths. Another possibility would be to built our results into a microsimulation model.

The most recent completed work in the non-structural field is a joint paper with Isabel Günther (Harvard University). We analyze an informal labour market in a developing economy and try to answer whether the agents voluntarily enter informal employment. The main challenge we face is the fact that the informal market in a typical developing economy is most likely non-homogeneous and there may exist segments with voluntary and involuntary entry. To infer about this phenomenon from the observable data we formulate the econometric model, which turns out to be a finite mixture of Heckman models with sample selection. Our model induces a non-

trivial identification problem, which we have succeeded solving as well. Our results in application to the urban labour market of Côte d'Ivoire show that the informal sector indeed comprises of both voluntary and involuntary entry segments and only a certain fraction of workers prefers informality to formal employment.

Econometric theory Although all the work described above has rather an applied character, I am not less interested in econometric theory (in particular: more rigorous treatment of the properties of common estimators; asymptotic theory and identification). Of course, no self-contained theoretical work is in sight at this stage. It's mainly about reading.

II. Secondary research interests

These are selected topics in population economics, especially, fertility and female labour supply, and development economics, especially, evolution of a (possibly) nonstationary income distribution in a developing economy. Below is also one relatively old idea which I would ideally like to return to at some point in future.

Of interest is formulation of an estimable model that explains optimal timing of first birth given costs of childcare and better career prospects implied by birth postponement. Ability to disentangle and quantify career planning effect and costs effect would reveal which type of family-supporting policy is more relevant: enhancement of the possibilities to combine employment with childbearing or reduction of the costs of childcare? This is a purely empirical question which is to be answered on a case by case basis.

III. Broader view

Above were listed my particular research interests for the time being as well as the fields where my experience is the richest. Generally speaking, though, any non-standard microeconometric model that could emerge from a particular economic problem or a particular data set is of a potential interest.

Teaching Track Record

Below is the list of courses taught within the last two years. Each course is two hours per week except of "Growth and development" (taught jointly with other research assistants; one hour per week).

All the courses were taught in German.

Lecture courses:

- Microeconometrics (2006-07, graduate):

  maximum likelihood estimation, hypothesis testing; models for discrete and limited dependent variables, count data models [Greene, 2004, and Ronning, 1991]

Tutorials:

- Applied intertemporal optimization (2007, graduate, postgraduate):

  continuous time dynamic programming, stochastic optimal control theory and applications

- International trade (2006-07, graduate):

  international capital flows, outsourcing, trade and growth, empirics of trade and growth

- Growth and development (2006, graduate):

  efficient and inefficient use of resources, neoclassical and endogenous growth theories, poverty traps, growth regressions and convergence

- Macroeconomics (2006, undergraduate):

  micorfoundations of macroeconomics, neoclassical theory, competitive models with unions and equilibrium unemployment, international trade