

Institution: Birkbeck, University of London
Unit of Assessment: 18 Economics and Econometrics
Title of case study: Impact of applied demand analysis on competition policy
<p>1. Summary of the impact</p> <p>The methodological and applied work on micro-econometric demand analysis outlined here has been repeatedly used by the UK Competition Commission (since 2002) and the Co-operation & Competition Panel (now Monitor) of the UK Department of Health (since 2009) in their respective competition analyses, and by the Hong Kong Consumer Council in its Public Estate Supermarket Study (since 2011). It contributed to the European Commission White Paper on the quantification of antitrust damages (2010), underpinning some of the econometric methodology proposed there to assess cartel damages in EU Courts. Beckert's work in the area of micro-econometric demand analysis connects micro-economic demand theory with various econometric methodologies to assess demand-side substitution in the presence of taste heterogeneity. His research is disseminated through articles in peer-reviewed academic journals, policy articles, and through consultation by antitrust authorities, think tanks and economic consultancies.</p>
<p>2. Underpinning research</p> <p>(a) Background</p> <p>The promotion of competition is a central tenet of modern economic policy in market economies. Competition is most vibrant in an economic environment that offers consumers (or downstream firms) choice between suppliers of goods and services. Such goods and services are typically differentiated, reflecting taste heterogeneity in consumer demand. The degree to which choice is exercised is determined by the ability and the willingness of consumers to switch between suppliers and product varieties. This is ultimately an empirical matter which can be analysed within the framework of micro-econometric demand analysis.</p> <p>Modern demand analysis acknowledges preference heterogeneity as an important demand feature. It is critical to our understanding of differentiated product industries that are ubiquitous in the fabric of today's market economies. It has been incorporated in the micro-econometric analysis of discrete choice situations since the pioneering work of McFadden (1974) who was awarded the Nobel Prize in Economics (2000); Daniel McFadden (UC Berkeley) is a co-author of Beckert and his former PhD supervisor.</p> <p>(b) Discrete choice analysis</p> <p>In discrete choice contexts, decision makers select out of a menu of distinct, unranked choice alternatives. But not until an early econometric exploration of discrete-continuous choices in Dubin and McFadden (1984) and a more comprehensive and prominently disseminated analysis in Beckert (2005) (3.5) has preference heterogeneity been properly modelled in empirically more prevalent continuous choice situations. In continuous choice contexts, decision makers select the amount to consume of an economic good or service. Further theoretical econometric work by Beckert (2007) (3.4) and Beckert and Blundell (2008) (3.3) published and cited in top international academic journals, laid the groundwork for identification of structural preference heterogeneity from estimation of reduced form demand systems in the continuous choice context. This work has proven to be essential for the further development of the econometric analysis of continuous choices; Matzkin (2007) and Blundell, Kristensen and Matzkin (2011).</p>

(c) Antitrust Market Analysis

Differentiated products are central to many antitrust investigations of mergers and markets. Depending on the stage of the supply chain at which the respective investigation focuses, it is concerned with either consumer demand or business-to-business transactions. The analyses thereby have to confront the respective idiosyncrasies of the demand situation, and Beckert's research has contributed to the econometric modelling of both. In consumer level demand analysis using micro level data, product attributes can typically be treated as exogenously determined, and demand heterogeneity arises from unobserved features of consumer preferences. In business-to-business transaction data analysis, parties to a contract typically bargain over contract details, contracts are often bespoke, attributes are negotiated over, and heterogeneity arises from unobserved outside options of the bargaining parties.

The analysis of consumer demand for differentiated products is critical to assess the degree of competition between merging or incumbent firms. Product differentiation can thereby extend along various product attributes. Early empirical and econometric modelling work by Beckert (2005) examines consumer demand responses to different qualities of service in Internet access. It provides estimates of consumers' propensities to switch between different qualities of service when prices are nonlinear and service valuation and performance are ex ante uncertain. These features of product differentiation are intrinsic to many consumer choice situations, in particular in the context of network industries. Subsequent work by Beckert (2010) (3.1) and Beckert and Mazzarotto (2010) (3.2) focuses on locally differentiated consumer retail markets.

(d) Healthcare

Geographic and quality aspects of choice are at the heart of more recent empirical work by Beckert, Christensen and Collyer (2011) (3.6) on hospital choice and competition for NHS funded acute services in England. The efficient and cost effective provision of healthcare has received attention by academics and policy makers, in the UK since the introduction of hospital choice and competition through the National Health Service Act (2006).

3. References to the research

- 3.1 Beckert, W. (2010): "A Micro-econometric Approach to geographic Market Definition in Local retail Markets: Demand Side Considerations", *Economics*, **Vol.3, 2010-29**, available at: <http://www.economics-ejournal.org/economics/journalarticles/2010-29>.
- 3.2 Beckert, W. and N. Mazzarotto (2010): "Price-Concentration Analysis in Merger Cases with Differentiated Products", *Economics*, **Vol.3, 2010-16**, available at: <http://www.economics-ejournal.org/economics/journalarticles/2010-16>.
- 3.3 Beckert, W. and R. Blundell (2008): "Heterogeneity and the Nonparametric Analysis of Consumer Choice: Conditions for Invertibility", *The Review of Economic Studies*, **75**, 1069-1080.
- 3.4 Beckert, W. (2007): "Specification and Identification of Stochastic Demand Models", *Econometric Reviews*, **26(6)**, 669-683.
- 3.5 Beckert, W. (2005): "Estimating Heterogeneous Preferences, with an application to demand for internet services" *The Review of Economics and Statistics*, **87(3)**, 495-502; featured article on the *REStat* website in 2005.
- 3.6 Beckert, W., Christensen, M. and K. Collyer (2011): "Choice and Competition in NHS-Funded Acute Services in England", *The Economic Journal*, **Vol.122, Issue 560**, 400-417.

4. Details of the impact

1. Member of the Academic Panel of the Competition Commission (since 2007)

By way of background, Beckert's early work on micro-econometric demand in discrete-continuous choice situations in network industries led to consultation by the Competition Commission in its (2002) inquiry into mobile telephony termination charges. In this inquiry, it was critical to understand how mobile telephony users make choice out of a discrete menu of alternative pricing plans and subsequently utilize the service. Conceptually, this choice problem is addressed in Beckert's (2005) paper on demand for internet services, and it was this work that the Commission wanted to draw upon in this inquiry (5.4).

Beckert's consultation role with the Competition Commission subsequently expanded, and he is now a member of the Academic Panel of the Commission. He has since advised on numerous merger and market inquiries, most notably on the Commission's (2008) groceries market investigation. Beckert's (2010) (3.1) paper on micro-econometric approaches to geographic market definition in local retail markets informed this inquiry; the approach proposed in that paper was used to estimate the relative strength of various store attributes in consumers' valuations of chain store offerings and is summarized in the Commission's Final Report. His (2010) paper on price-concentration analysis in differentiated product industries, initially published as a Competition Commission working paper, was first used in the Commission's analysis of the (2006) merger of the Vue and Ster multiplex cinema operators and formed the methodological foundation of the Commission's competitive assessment in the groceries market inquiry; cf. Final Report. It has also been referenced in the Commission's current Audit Market investigation (referred on 21 Oct 2011, statutory deadline 20 Oct 2013) (5.6).

2. Academic Advisor of the Hong Kong Consumer Council (since February 2012)

Following his contributions to the groceries market inquiry as well as his publications on antitrust market definition, since 2011 Beckert has advised the Hong Kong Consumer Council on its investigation into competition among public housing estate-based supermarkets in Hong Kong (5.7).

3. Oxera Economics Council (since December 2007)

Beckert serves on the academic advisory board of Oxera Consulting Ltd, an international economic consultancy (5.3). In this capacity, he was a contributing author to the European Commission's 2010 White Paper on "*Quantifying Antitrust Damages*". This paper provides pragmatic, non-binding assistance in the difficult task of quantifying damages in antitrust cases, both for the benefit of national courts and the parties of antitrust damages litigation. This White Paper is aimed at assisting the European Commission in developing guidance in this respect.

4. Economics Reference Groups, Co-operation and Competition Panel, Monitor and NHS (since October 2009)

In the UK, the NHS Act (2006) opened up healthcare to market forces, introducing choice and competition. Patients' geographic and quality preferences are important determinants of choice outcomes, and Beckert's work (3.6) examines both. Beckert was appointed a member of the Economics Reference Group of the Co-operation and Competition Panel (now Directorate), an advisory panel to the Department of Health and Monitor (5.2). Its remit is to protect and promote the interests of people who use health care services by promoting provision of health care services in the UK which is economic, efficient and effective, and maintains or improves the quality of the services. Beckert's (2011) paper on hospital choice, co-authored with the director of economic analysis of the Panel, which was first published as a Co-operation and Competition Panel working paper, is now published in a distinguished academic journal and widely referenced by academic

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and health economics and policy experts; it directly reflects on the methodology the Panel uses in order to assess demand-side aspects of hospital mergers in England. This work has been recognized through Beckert's honorary appointment to the Steering Group on Competition in Healthcare Markets of the Nuffield Trust (5.1) a charity and think tank whose aim is to produce independent analysis and debate of UK healthcare policy. The empirical approach to simulate the effect of mergers between hospitals laid out in that paper is currently being used by the Competition Commission in the competitive assessment of a merger between two large foundation trusts in England. (5.5).

5. Research Associate, Institute for Fiscal Studies (since September 2003)

Beckert's overall academic contributions have been recognized by his appointment as research associate at the Institute for Fiscal Studies. He participates in conferences and meetings on analysis of taxation and related issues in public policy.

5. Sources to corroborate the impact

- 5.1 Chief Economist, Nuffield Trust to corroborate the work on competition in healthcare provision in the UK.
- 5.2 Director, Economic Analysis, Co-operation and Competition Directorate, NHS to corroborate the work on competition analyses.
- 5.3 Director, Oxera Economics to corroborate the work on empirical competition analysis.
- 5.4 Director of Economic Analysis, U.K. Competition Commission to corroborate the work on analyses carried out by the UK Competition Commission.
- 5.5 Beckert's work on "Choice and Competition in NHS-Funded Acute Services in England" was discussed in the *Financial Times* on 03 May 2011, and in *The Telegraph* on 14 May 2012.
- 5.6 His work on "A Micro-econometric Approach to geographic Market Definition in Local retail Markets: Demand Side Considerations" was on SSRN's Top Ten download list for ERN: Semiparametric & Nonparametric Methods (Topic), Jan 2011.
- 5.7 Beckert was employed by Hong Kong Consumer Council as a Consultant - Consulting contract, survey design by HKCC and response from Beckert available.