

**MAER NETWORK - META-ANALYSIS OF ECONOMICS RESEARCH WORKSHOP**  
**OREGON STATE UNIVERSITY** **OCTOBER 2009**



**COLLOQUIUM PROGRAM**  
**OCTOBER 1-4, 2009**  
**(FINAL 9-15-09)**



**Organizers:**

**Hristos Doucouliagos:** Professor of Economics, Deakin University, Australia

**Robert Johnston:** Director of George Perkins Marsh Institute and Professor of Economics,  
Clark University, USA

**Randall Rosenberger:** Associate Professor of Environmental Economics, Oregon State  
University, USA

**T.D. Stanley:** Professor of Economics and Business, Hendrix College, USA

**Sponsors:**

**U.S. Environmental Protection Agency**  
**Oregon State University**

**Thursday, October 1, 2009**

Participants arrive

1730-2000 **Opening Reception** (CH2M HILL Alumni Center, Giustina Living Room)

**Friday, October 2, 2009**

0830-0845 **Welcome Address** – Munisamy Gopinath, Director, Graduate Program in Applied Economics, CH2M HILL Alumni Center, Willamette Room 115AB

0845-1015 **Plenary Session 1**, CH2M HILL Alumni Center, Willamette Room 115AB  
(Chair: Will Wheeler)

John Loomis, Randall Rosenberger & Leslie Richardson – Do Meta Analyses of Non-Market Values Stand the Test of Time? An Investigation into the Temporal Stability of Regression Results of Recreation and Endangered Species Meta Analyses

Tom Stanley & Randall Rosenberger – Are Recreation Values Systematically Underestimated? Reducing Publication Selection Bias for Benefit Transfer

1015-1030 **Break**

1030-1200 **Plenary Session 2**, CH2M HILL Alumni Center, Willamette Room 115AB  
(Chair: John Loomis)

Robert Johnston & Joshua Duke – Characterizing Welfare Patterns Associated with Study-Invariant Spatial Factors: Spatial Data Supplemented Meta-Regression

Klaus Moeltner, Robert Johnston & Randall Rosenberger – Benefit Transfer from Multiple Contingent Experiments: A Flexible Two-Step Model Combining Individual Choice Data with Community Characteristics

1200-1300 **Lunch**

1300-1430 **Plenary Session 3**, CH2M HILL Alumni Center, Willamette Room 115AB  
(Chair: Sharan Campleman)

Alief Rezza – FDI and Pollution Haven: A Meta Analysis

Jon Nelson – Alcohol Marketing, Adolescent Drinking, and Publication Bias in Longitudinal Studies: A Critical Appraisal using Meta-Analysis

1430-1445 **Break**

**Friday, October 2 (continued)**

1445-1700     **Concurrent Sessions A1 and A2** (4 papers each)

**Session A1**, CH2M HILL Alumni Center, Willamette Room 115 AB  
(Chair: Robert Johnston)

Terry Griffin, Diana Danforth & Pat O’Leary – Environmental and Economic  
Impact of the COTMAN Program: A Meta-Analytic Synthesis

Bishwa Koirala, Hui Li & Robert Berrens – Further Investigation of  
Environmental Kuznets Curve Studies using Meta Analysis

Kelly Maguire, Nathalie Simon & Chris Dockins – Valuing Mortality Risk  
Reductions for Environmental Policy using Stated Preference Studies: A Meta  
Analysis

Arvin Vista & Randall Rosenberger – Primary Study Aggregation Effects: Meta-  
Analysis of Sportfishing Values in North America

**Session A2**, CH2M HILL Alumni Center, Trysting Tree Room 114AB  
(Chair: Geoff Pugh)

Patrice Larouche & Hristos Doucouliagos – Labour Unions and Intangible Capital

Peter-Jan Engelen & Marc van Essen – A Meta-Analytical Review of IPO  
Underpricing and the Strategic Role of Underpricing on Firm Risk and  
Performance

Fabian Homberg, Katja Rost & Margit Osterloh – Do Synergies Exist in Related  
Acquisitions? A Meta-Analysis of Acquisition Studies

Marc van Essen – Business Group Performance, Context, and Strategy: A Meta-  
Analysis

1730-2000     **Working Reception**, Hilton Garden Inn, University Club Room

**Saturday, October 3, 2009**

0830-0845 **Welcome Address** – Ed Ray, President, Oregon State University, LaSells Stewart Center, Construction and Engineering Hall

0845-1015 **Plenary Session 4**, LaSells Stewart Center, Construction and Engineering Hall  
(Chair: Martin Paldam)

Henri de Groot – The Economics of Zipf’s Law: A Meta-Analysis

Zorica Kalezic & Geoff Pugh – Ownership Concentration and Firm Performance:  
A Meta Regression Analysis

1015-1030 **Break**

1030-1215 **Concurrent Sessions B1 and B2** (3 papers each)

**Session B1**, LaSells Stewart Center, Agricultural Production Room  
(Chair: Chris Doucouliagos)

Laurent Callot, Bent Christensen & Martin Paldam – Natural Born Funnel  
Asymmetries: A Simulation Analysis of the Basic Graph of Meta-Analysis

Lars Feld, Jost Heckemeyer & Michael Overesch – Capital Structure Choice and  
Company Taxation: A Meta Study

Ellie Wheeler, Joan Costa-Font & Tom Stanley – Is Health Care a Luxury?  
Regions, Aggregation, Publication Bias and the Winner’s Curse

**Session B2**, LaSells Stewart Center, Agricultural Leaders Room  
(Chair: Arvin Vista)

Aynur Alptekin & Paul Levine – Military Expenditure and Economic Growth: A  
Meta-Analysis

Kolawole Ogundari & Bernhard Brummer – An Examination of Technical  
Efficiency and Its Drivers in Nigerian Agriculture using Meta-Analysis

Yannick Bineau – Renminbi’s Misalignment: A Meta-Analysis

1215-1330 **Lunch**

**Saturday, October 3, 2009 (continued)**

- 1330-1500     **Plenary Session 5**, LaSells Stewart Center, Construction and Engineering Hall  
(Chair: Tom Stanley)  
                  Hristos Doucouliagos & Martin Paldam – Development Aid Inertia: Stylized  
                  Facts and a Meta Study  
                  Hristos Doucouliagos & Martin Paldam – Democracy, Human Rights and the  
                  Allocation of Aid
- 1500-1530     **Break**
- 1530-1630     **Closing Remarks and MAER Business Meeting**, LaSells Stewart Center,  
Construction and Engineering Hall  
(Chair: Randall Rosenberger)
- 1730-2000     **Dinner**, Philomath Scout Lodge (<http://www.philomathscoutlodge.org/>)  
Transportation provided departing from Hilton Garden Inn beginning at 1715

## ABSTRACTS

### Plenary Session 1

#### **Do Meta Analyses of Non-Market Values Stand the Test of Time? An Investigation into the Temporal Stability of Regression Results of Recreation and Endangered Species Meta Analyses**

*John Loomis*: Dept. of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO, USA

*Randall Rosenberger*: Dept. of Forest Ecosystems & Society, Oregon State University, Corvallis, OR, USA

*Leslie Richardson*: Dept. of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO, USA

The results of meta analyses of non market valuation studies have many uses including synthesizing the effects of methodological variables on willingness to pay (WTP), testing for any time trend in WTP values, and for benefit transfer purposes. Use of meta analysis regression equations for benefit function transfer takes advantage of the independent variables in a meta analysis to tailor the calculation of WTP to the location, size and quality of the policy site. One concern in performing such benefit function transfer is the stability of coefficients from one generation of benefit transfer functions to the next. In this paper we investigate the similarity of estimated coefficients on the original study methodological variables and site attributes over time for two major meta analyses: (a) outdoor recreation use values; (b) total economic values of endangered species. For outdoor recreation use values, we find a high degree of consistency in the signs and significance of common variables, notwithstanding substantial differences in coding and model specification across three meta-analyses conducted in 1989, 2000, and 2009. For endangered species we find there is a high degree of consistency in signs and significance of variables between the original meta analysis conducted in 1995 and the most recent one conducted in 2008. An intercept shift variable for new study was not statistically significant for itself or when interacted with methodological and species/population change size variables. However, a Chow test of equality of the two meta regressions coefficients shows that collectively, there is a significant difference in the coefficients when analyzed jointly as a group.

#### **Are Recreation Values Systematically Underestimated? Reducing Publication Selection Bias for Benefit Transfer**

*T.D. Stanley*: Dept. of Economics and Business, Hendrix College, Conway, AR, USA

*Randall Rosenberger*: Dept. of Forest Ecosystems & Society, Oregon State University, Corvallis, OR, USA

This paper shows how reported recreation values can be systematically underestimated when they are derived from price coefficients. Simulations show that these publication selection biases can be very large. Because selected price coefficients are transformed into estimates of value, conventional meta-analytic methods used to deal with publication selection will often make the bias worse. Simulations also show that an alternative, meta-regression estimator, Root-n MRA, can greatly reduce this potential bias and has lower MSE than alternative meta-analytic methods. This method uses the square root of a study's sample size as a proxy for the standard error of welfare measures, thus avoiding simultaneity bias associated with welfare measures and standard errors of price coefficients. Methods for detecting publication selection are illustrated by applying alternative estimators to the outdoor recreation valuation literature, in general, and freshwater fishing, in particular.

## Plenary Session 2

### **Characterizing Welfare Patterns Associated with Study-Invariant Spatial Factors: Spatial Data Supplemented Meta-Regression**

*Robert J. Johnston:* George Perkins Marsh Institute, Clark University, Worcester, MA, USA

*Joshua M. Duke:* Dept. of Food and Resource Economics, University of Delaware, Newark, DE, USA

This paper reports on an approach to meta-analysis denoted spatial data supplemented (SDS) meta-regression. Within SDS MRMs, metadata drawn from primary studies are supplemented with quantitative and specific data on study-invariant spatial attributes drawn from outside sources including geographic information system (GIS) or remote sensing databases, government data (e.g., town, county or state public records and databases), and other sources. Through the incorporation of associated covariates in regression models, SDS MRMs are able to estimate spatial welfare and preference patterns that remain imperceptible to other empirical methods, including most traditional MRMs. As a result, SDS MRMs are better able to quantify value surface patterns that lead to systematic WTP differences across sites.

### **Benefit Transfer from Multiple Contingent Experiments: A Flexible Two-Step Model Combining Individual Choice Data with Community Characteristics**

*Klaus Moeltner:* Dept. of Resource Economics, University of Nevada, Reno, NV, USA

*Robert J. Johnston:* George Perkins Marsh Institute, Clark University, Worcester, MA, USA

*Randall Rosenberger:* Dept. of Forest Ecosystems & Society, Oregon State University, Corvallis, OR, USA

The focus of this study is on benefit transfer (BT) based on combined information from multiple choice experiments (CEs). In principle there are two general approaches to build a candidate transfer function from several CE sources: (i) The aggregate approach, which uses the reported parameter estimates from original CE studies and combines them with attribute settings pertinent to the policy context; or (ii) The choice-level approach, which combines the raw choice data from source studies to generate a new set of estimates of transfer parameters. This study aims to capitalize on the strengths of both strategies. We propose a flexible two-step approach that combines raw choice data from potentially heterogeneous CE experiments with community-level information to generate a predictive distribution of policy-relevant benefits. For the dual reasons of computational convenience and intuitive interpretation of predictive constructs, we use a Bayesian estimation framework. Our key finding is that predicted benefit distributions flowing from our proposed mixture model have substantially better overlap with directly estimated benefits based on actual data than the worst-case transferred benefits building on a single source study.

## Plenary Session 3

### **FDI and Pollution Haven: A Meta Analysis**

*Alief A. Rezza*: Dept of Economics, Norwegian School of Economics and Business Administration, Bergen, Norway

This paper analyzes the effects of environmental regulations on FDI using meta-analysis. The goal is to determine the central tendency of the prior results in the study of the Pollution Haven Hypothesis (PHH), as well as the determinants of the variation. Using data from 13 empirical studies that supplied 295 observations, we provide insights into possible explanations of the heterogeneous estimates reported in the literature. As analysis of the differences in the effect of environmental regulations across studies is hampered by the fact that the environmental regulation is approached in different variables in the different studies, we therefore decide to employ three different left-hand-side variables. The first is the elasticity of FDI with respect to environmental regulations. Unfortunately, with this approach we could only proceed with fewer observations since most of the data to compute the elasticity of interest are not available. Second approach is then conducted by employing another dimensionless variable, namely the t-statistic, which can take on either positive or negative values. The t-statistic provides us with standardized measure of the effect of the environmental regulations on the dependent variable which allows a cross-study comparison. Lastly, we complement these regressions estimates with a limited dependent variable model that investigates factor that determine whether the estimated elasticity has the sign that is in favor of PHH and is significantly different from zero at conventional levels. Ordinary least square (OLS) regression is performed in each approach. In addition to that, we employ Huber-White robust estimation and weighted least square (WLS) regression to address the problem of heteroskedasticity in meta-analysis.

### **Alcohol Marketing, Adolescent Drinking, and Publication Bias in Longitudinal Studies: A Critical Appraisal using Meta-Analysis**

*Jon P. Nelson*: Dept. of Economics, Pennsylvania State University, University Park, PA, USA

This paper presents a meta-analysis of longitudinal studies of alcohol marketing and adolescent drinking. The paper provides a narrative summary of 21 longitudinal studies, and 12 of these are selected for inclusion in the meta-analysis. Each study surveyed a sample of youth to determine baseline drinking status and marketing exposure, and re-surveyed the youth to determine subsequent drinking outcomes. Logistic analyses provide estimates of the log-odds ratio for effects of baseline marketing on drinking at follow-up. Using results in the 12 studies, two meta-samples are analyzed: 23 effect-size estimates for drinking onset (initiation); and 40 estimates for drinking behaviors (frequency, amount, bingeing). Marketing methods include ads in mass media (TV, magazines, billboards), promotional media (branded merchandise, movie displays, TV videos), and subjective evaluations by respondents (liking of ads, brand awareness). Publication bias in these data is assessed in three ways: first, a weighted-mean and graphical analysis using filled funnel plots that account for imputed “missing” values using the trim-and-fill procedure; second, bivariate regressions using the z-statistics for the effect sizes and the estimated precision of the effects (inverse standard error); and third, multivariate regressions, which account for study heterogeneity, publication bias, and data interdependencies. The MRA tests are conducted using OLS with cluster robust errors, random effects multilevel regressions with study-level errors, and Tobit left-censored regressions with cluster robust errors. In addition, the paper provides an evaluation of “dissemination bias.” Dissemination bias is the use of empirical results depending on the strength and direction of research findings. In particular, I provide evidence of selective use of results (aka “cherry-picking” or “overreaching”) on the part of both investigators and health policy interest groups.



## Plenary Session 4

### **The Economics of Zipf's Law: A Meta-Analysis**

*Henri L.F. de Groot*: Dept. of Spatial Economics, VU University, Amsterdam, The Netherlands

This paper presents a meta-analysis of the empirical literature on Zipf's law for cities. We build on an existing meta-analysis by Volkert Nitsch (1995), who combines 515 estimates from 29 studies. We extend this analysis in various ways. First, we combine 1217 estimates from 52 studies, including a considerable number of estimates from developing countries. Second, we analyze the role of primate cities by exploring the constant in the rank-size rule. Third, we add a set of explanatory factors including income, degree of urbanization, population density, trade patterns, infrastructure and institutions. The latter allows us to test for several hypotheses in the economic geography literature, particularly those concerning the role of trade openness, infrastructure and the institutional quality in explaining city growth.

### **Ownership Concentration and Firm Performance: A Meta Regression Analysis**

*Zorica Kalezic*: Staffordshire University Business School, Stoke-on-Trent, UK

*Geoff Pugh*: Staffordshire University Business School, Stoke-on-Trent, UK

According to the corporate governance literature, the relationship between ownership and firm performance is highly ambiguous. Existing literature offers three different answers concerning the nature, significance and the sign of the relationship, including the incentive alignment theory (positive relationship), entrenchment theory (negative relationship), and neutrality theory (no relationship). In addition to inconclusiveness on theoretical grounds, a seminal paper by Demsetz and Villalonga (2001) emphasizes that empirical research on ownership concentration differs significantly with respect to the choice of variables, econometric models and the treatment of ownership concentration endogeneity. In an attempt to "harmonize dissonance" existing in the literature, we apply meta-regression analysis (MRA) to analyze 39 empirical studies. We find that on average there is negative but insignificant impact of ownership concentration on firm performance. Moreover, MRA helps us to explain the magnitude of significant variations in results across studies. The novelty of this research is the inclusion of the so called "seminal paper effect". Namely, up to now we have not come across MRA studies that discuss the effects on an established empirical literature of a new and highly influential study, which rapidly comes to be regarded as "seminal". The question is what happens in the literature if a seminal paper changes in the way the problem of interest is analyzed? In the corporate governance literature on the relationship between ownership concentration and firm performance, we report evidence that the Demsetz and Villalonga (2001) paper divides the literature into two distinct subsamples.

## Plenary Session 5

### **Development Aid Inertia: Stylized Facts and a Meta Study**

*Hristos Doucouliagos*: Dept. of Economics, Deakin University, Melbourne, Australia

*Martin Paldam*: Dept. of Economics, University of Aarhus, Aarhus, Denmark

The flows of development aid contain much inertia, measured as the first order autocorrelation. Surprisingly, this aspect of development aid has not received wide recognition: It is ignored in the majority of the 166 empirical aid allocation papers and is only implied in the much smaller aid volatility literature. The later argues that aid is pro-cyclical, implying that aid inertia is larger than 1. In this paper we provide a comprehensive assessment of the degree of inertia. We commence with a primary time series analysis of aid allocations, finding that inertia is about 0.82, so aid is counter-cyclical. We then apply meta-analysis to 35 studies that report 212 estimates of inertia, and find the average coefficient to be about 0.70.

### **Democracy, Human Rights and the Allocation of Aid**

*Hristos Doucouliagos*: Dept. of Economics, Deakin University, Melbourne, Australia

*Martin Paldam*: Dept. of Economics, University of Aarhus, Aarhus, Denmark

A vast literature of over 166 empirical studies has explored donor motives for giving development aid. The literature has not resolved the relative importance of competing motives for aid allocation. One such motive is rewards for good behaviour: Donors might be influenced by the recipient's human rights record and degree of democracy. 23 studies report 176 estimates of the effect of human rights on the amount of aid received, and another 35 report 300 estimates of the effects of democracy. We apply meta-regression analysis to this literature. The results confirm that both human rights and democracy are important determinants of aid allocations, with democracy being the more important factor. Good behaviour appears to be more important to donors than humanitarian needs. We show that the Carter administration in particular was more motivated to rewarding human rights improvements.

## **Concurrent Session A1**

### **Environmental and Economic Impact of the COTMAN Program: A Meta-Analytic Synthesis**

*Terry Griffin*: Dept of Agricultural Economics and Agribusiness, University of Arkansas, Little Rock, AR, USA

*Diana Danforth*: Dept of Agricultural Economics and Agribusiness, University of Arkansas, Little Rock, AR, USA

*Pat O'Leary*: Agricultural Research, Cotton Incorporated, Cary, NC, USA

COTMAN is a crop information system based on in-season plant monitoring of cotton (*Gossypium hirsutum* L.). The COTMAN program uses crop monitoring techniques to summarize developmental status, detect stress, and assist with in-season and end of season management decisions. The use of COTMAN for production farm management decisions has been studied extensively with respect to physiological cutout and last economic application of insecticide and irrigation, as well as optimal timing of defoliant. Effect sizes commonly reported by COTMAN research include changes to cotton lint yield and/or quality and total reduction in input applications. A meta-analysis of studies reporting NAWF5 for termination of pesticide applications or other production practices is being conducted. Results of this meta-analysis are useful to agricultural researchers, farmers wishing to minimize unneeded pesticide applications, and to understanding the environmental impact of reduced input use due to the COTMAN program.

### **Further Investigation of Environmental Kuznets Curve Studies using Meta Analysis**

*Bishwa S. Koirala*: Dept. of Economics, University of New Mexico, Albuquerque, NM, USA

*Hui Li*: Dept. of Economics, Eastern Illinois University, Charleston, IL, USA

*Robert P. Berrens*: Dept. of Economics, University of New Mexico, Albuquerque, NM, USA

With continued growth in available evidence, statistical investigation of the systematic variation across Environmental Kuznets Curve (EKC) studies may help us better understand the relationship between economic growth and environmental quality. This investigation uses meta-analysis, based on 848 observations covering 99 empirical EKC studies, to investigate this relationship. Using cluster analysis to account for heterogeneity across studies, econometric results indicate that the type of environmental quality indicator significantly affects the absence or presence of the EKC, and any predicted income turning points (ITP). Relative to earlier meta-analyses, the larger data set (44.21 % more observations) allows a much broader dis-aggregation across environmental quality and pollution measures. Results indicate an EKC-type relationship for deforestation and most air pollution measures. However, in the high profile case of CO<sub>2</sub>, the predicted value of the corresponding ITP is both extremely large in relative terms (10.34 times the world GDP per capita in 2007 purchasing power parity), and far outside the range of the data.

## **Concurrent Session A1 (continued)**

### **Valuing Mortality Risk Reductions for Environmental Policy using Stated Preference Studies: A Meta Analysis**

*Kelly B. Maguire*: National Center for Environmental Economics, U.S. Environmental Protection Agency, USA

*Nathalie B. Simon*: National Center for Environmental Economics, U.S. Environmental Protection Agency, USA

*Chris Dockins*: National Center for Environmental Economics, U.S. Environmental Protection Agency, USA

EPA's Guidelines advise analysts to use a central VSL estimate of \$4.8 million in 1990 dollars. Based on the gross domestic product (GDP) deflator this converts to approximately \$7.2 million in 2008 dollars. For the present research we focus exclusively on stated preference studies to estimate the value of mortality risk reductions with the goal of producing a range of estimates using a variety of approaches, including meta-regression analysis. We begin by conducting a comprehensive literature search of both the published and grey literatures to gather all studies conducted in the last decade. We then apply a set of evaluation criteria for selecting those studies to be included in deriving a default estimate, and we vary those criteria in a sensitivity analysis. Once we have selected a set of studies we apply various techniques to derive a central estimate and range of estimates that summarize the results. Such techniques range from selecting one estimate per study as is done in EPA's current default estimate to applying a full-scale meta-regression analysis using multiple estimates per study. In developing the database for analysis we include all possible estimates presented in each underlying study and then apply a range of techniques ranging from a replication of the techniques underlying EPA's current default estimate to a more sophisticated meta-regression analysis that accounts for underlying differences in study characteristics such as the type of risk reduction and country where the study was conducted.

### **Primary Study Aggregation Effects: Meta-Analysis of Sportfishing Values in North America**

*Arvin B. Vista*: Dept. of Forest Ecosystems & Society, Oregon State University, Corvallis, OR, USA

*Randall Rosenberger*: Dept. of Forest Ecosystems & Society, Oregon State University, Corvallis, OR, USA

There are many factors that affect the development, design and implementation of primary research projects that may carry forward in applications of benefit transfers. This paper evaluates aggregation structure of primary research studies and their implication for benefit transfer using meta-regression analysis. Aggregation structures of primary research may be defined as single-site, regional or full models. Our application is applied to the sportfishing valuation literature, which consists of 140 individual studies that spans 1969 to 2006 and provides 920 welfare measures for the USA and Canada. Following the 'best practice' guidelines for meta-analyses, results indicate that median and mean consumer surplus estimates from primary 'singles-site' studies are relatively lower than the primary 'regional' studies. However, out-of-sample benefit transfer estimates using single-site model are higher than the regional model. Not accounting for aggregation differences among primary studies leads to biased value estimates in benefit transfer, depending on the policy settings.

## **Concurrent Session A2**

### **Labour Unions and Intangible Capital**

*Patrice Larouche*: Dept. of Management, Nancy University, Nancy, France

*Hristos Doucouliagos*: Dept. of Economics, Deakin University, Melbourne, Australia

Prior meta-analyses have explored the effects of unions on profits, productivity, and physical capital formation. This paper extends this line of research by exploring the effects of unions on intangible capital, particularly Research and Development. Economic theory is ambiguous regarding the effects of labour unions and there is no consensus between empirical studies on the impact of unions on technological diffusion and innovation. Drawing upon the extant empirical studies, we show in this paper that it is indeed possible to draw robust conclusions regarding the effects of unions on capital. The paper also uses meta-analysis to evaluate the net economic effect of unions, by considering their effects on factor accumulation, productivity and profitability.

### **A Meta-Analytical Review of IPO Underpricing and the Strategic Role of Underpricing on Firm Risk and Performance**

*Peter-Jan Engelen*: Dept. of Finance, Utrecht University, Utrecht, The Netherlands

*Marc van Essen*: Dept. of Business-Society Management, RSM Erasmus University, Rotterdam, The Netherlands

In the present paper we address both shortcomings with the help of novel meta-analytical techniques, employed on the most comprehensive international database on Underpricing of IPOs to date that includes both management and finance literatures. Specifically, we employ Hedges and Olkin-type meta-analyses and meta-analytic structural equations modeling. Our preliminary results provide evidence that firms engaged in IPOs are more focused on the long-run performance of the firm than on the short-term gains in the IPO itself. Underpricing is not the outcome of the IPO process, it is a strategic tool used by pre-issue shareholders of high quality firms to signal the future performance. Moreover, the results show that underpricing is used simultaneously with retained equity to signal future performance. We do not find any certification role of underwriter reputation or auditor reputation. We observe a positive relation between underwriter reputation and underpricing. Contrary to the agency theory, this is not problematic as the underwriter's interest is in line with the strategic underpricing of high quality firms.

## **Concurrent Session A2 (continued)**

### **Do Synergies Exist in Related Acquisitions? A Meta-Analysis of Acquisition Studies**

*Fabian Homberg*: IOU Institute for Organization and Administrative Science, University of Zurich, Zurich, Switzerland

*Katja Rost*: IOU Institute for Organization and Administrative Science, University of Zurich, Zurich, Switzerland

*Margit Osterloh*: IOU Institute for Organization and Administrative Science, University of Zurich, Zurich, Switzerland

Mergers and Acquisitions (M&A) aim to increase wealth for shareholders of the acquiring company, in particular by creating synergies. It is often assumed that relatedness is a source of synergies. Our study distinguishes between business, cultural, technological and size relatedness. It discusses the reasons why these different forms of relatedness can lead to an acquisition success and we conduct a meta-analysis of 67 prior M&A studies. Results indicate that positive effects can be expected under specific conditions only and have a limited overall impact on acquisition success. A moderator analysis finds that synergies stemming from relatedness depend on industry-, country-, and investor-characteristics.

### **Business Group Performance, Context, and Strategy: A Meta-Analysis**

*Marc van Essen*: Dept. of Business-Society Management, RSM Erasmus University, Rotterdam, The Netherlands

The past decade has witnessed much theorizing and empirical investigation on the performance of business groups. The purpose of this study is to shed new light on areas of contention and ambiguity with the help of several meta-analytic techniques, which allow us to address the research questions underlying them empirically with data that are closer to definitive than those reported in any single primary study. Our study has four intended contributions. First, we use Hedges and Olkin-type meta-analysis to assess the balance of evidence on issues such as the performance implications of group affiliation and group owner identity, on which there are currently conflicting theories and mixed results. Second, we employ meta-analytic regression analyses to model the previously unknown moderating effects of a broad range of institution-level variables on the affiliation – performance relationship, in order to answer the question in which contexts BG affiliation matters most. Third, we make use of meta-analytic structural equation modeling to go beyond the conventional meta-analytic objective of aggregating primary research findings and set out to test several hypotheses that have previously gone untested. Specifically, we explore previously overlooked mediating roles that strategy variables play in the affiliation – performance relationship. Fourth, we produce and present an additional set of HOMA results to evaluate the performance implications of BG-level properties such as group scale and scope. To realize these four ambitions, we created a database comprising the findings and characteristics of some 89 published studies, 35 working papers, and one dissertation on business groups, which collectively draw upon samples from 28 countries.

## Concurrent Session B1

### **Natural Born Funnel Asymmetries: A Simulation Analysis of the Basic Graph of Meta-Analysis**

*Laurent Callot*: School of Economics and Management, Aarhus University, Aarhus, Denmark

*Bent Jesper Christensen*: School of Economics and Management, Aarhus University, Aarhus, Denmark

*Martin Paldam*: School of Economics and Management, Aarhus University, Aarhus, Denmark

The basic graph in meta-analysis is the funnel plot that depicts a set of estimates of one parameter over their precision. The reference form is a symmetric funnel with the narrow end at high precision. Funnels published are often asymmetric. This is normally explained by censoring caused by priors. The meta-average corrects the funnel for censoring asymmetries. We use a simple set-up which contains uncertainty of data and models. The latter is caused by stochastic omission of control variables. With this set-up it is easy to simulate funnels. Many are symmetric, but conditions are found that cause asymmetries. If the asymmetry is natural the meta-average is a bad estimate of the true average. Thus, it is important to distinguish between censoring and natural asymmetries. The technique of meta-regression analysis may reveal natural asymmetries, and the form of censoring biases can be predicted if the generating prior is made explicit. Thus, it should be possible to distinguish.

### **Capital Structure Choice and Company Taxation: A Meta Study**

*Lars P. Feld*: Alfred Weber Institute for Economics, University of Heidelberg, Heidelberg, Germany

*Jost H. Heckemeyer*: Centre for European Economic Research (ZEW), Mannheim, Germany

*Michael Overesch*: Centre for European Economic Research (ZEW), Mannheim, Germany

Since the seminal work by Modigliani and Miller (1963) the value of the corporate tax shield generated by debt financing has been seen as an additive component of firm value. From this perspective, debt would be the preferred source of funds. De Angelo and Masulis (1980), however, have argued that an interior capital structure optimum exists if non-debt tax shields and the privileged treatment of equity at the personal level are taken into account. After MacKie-Mason (1990) provided empirical backing for this hypothesis, the empirical literature focusing on the impact of taxation on capital structure choice has rapidly increased. In accordance with recent surveys on the effects of company taxation on corporate finance, our meta-analysis first provides a comprehensive qualitative survey of the empirical evidence about the tax effect on capital structure choices gathered to date. In particular, we take into account recent studies based on firm-level data sets of multinational firms. Subsequently, more than 40 studies with up to 900 effect size estimates form the basis of a quantitative meta-analysis examining the influence of primary study and model characteristics on the respective estimation results. We determine whether - inter alia - different types of debt (internal vs. external; long-term vs. short-term), different measures of debt (debt-to-value ratio vs. debt over total assets), different types of firms (domestic vs. international firms), different tax burden measures (simulated tax rates vs. average tax rates; personal taxation) and different non-tax control variables employed in primary analyses lead to varying tax effect estimates.

## **Concurrent Session B1 (continued)**

### **Is Health Care a Luxury? Regions, Aggregation, Publication Bias and the Winner's Curse**

*Ellie Wheeler*: Dept. of Economics and Business, Hendrix College, Conway, AR, USA

*Joan Costa-Font*: LSE Health, London School of Economics and Political Science, London, UK

*T.D. Stanley*: Dept. of Economics and Business, Hendrix College, Conway, AR, USA

While a growing literature examining the relationship between income and health expenditures suggests that health care is a luxury good, this conclusion is contentiously debated due to heterogeneity of the existing results. This presentation tests the luxury good hypothesis using meta-regression analysis on 164 estimated elasticities from 48 different studies, taking into consideration publication selection and aggregation bias. The findings suggest that publication bias exists, a result that is robust to the meta-regression model employed. Publication selection and aggregation bias also appear to play a role in the generation of estimates. Filtering likely publication selection bias reveals clear evidence that health care is in fact a 'necessity.'

## **Concurrent Session B2**

### **Military Expenditure and Economic Growth: A Meta-Analysis**

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*Paul Levine*: Dept. of Economics, University of Surrey, Surrey, UK

Over the last three decades the effect of military expenditure on economic growth has been widely analysed and discussed, but it has not been possible to draw firm conclusions. The studies that have found a positive relationship have been under much criticism for reasons such as the view that scarce resources are more productive in civilian economy and there exists a trade-off between government productive and unproductive spending. In effect, subsequent studies have emerged to explain the possible methodological problems and suggested that once these are overcome the impact of military expenditure on economic growth is negative. However the tendency among researchers to look more favorably on findings with a negative effect of military expenditure on economic growth could lead to partial conclusions. Hence, this paper discusses and systematically evaluates the diverse empirical findings of the military expenditure-economic growth literature by employing meta-analysis techniques. This meta study uses fixed and random effects and meta regression analysis to assess the military expenditure-growth literature. Our results show that there are serious shortcomings in the military expenditure and economic growth literature. Also we are able to show that there exists a 'genuine' net effect, which is very small and positive.



## **Concurrent Session B2 (continued)**

### **An Examination of Technical Efficiency and Its Drivers in Nigerian Agriculture using Meta-Analysis**

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The present study is designed to provide the basis for understanding the distribution of mean technical efficiency and its drivers in Nigerian agriculture. Specifically, we use econometric model to explain the variation in mean technical efficiency (MTE) in Nigeria agriculture conditioned on series of variables that account for the study attributes based on the theoretical framework and past studies. A meta-dataset generated from the literature includes 117 observations from 85 studies conducted from 1999-2009. We employed meta-regression using more efficient quasi-maximum likelihood estimation (QMLE). The estimated coefficient of the QMLE revealed that MTE in Nigerian agriculture increased significantly over the years. Study specific-characteristics such as sample size, number of inputs used as well as studies with focus on crop and livestock production were found to significantly impact MTE. The results on whether there exist any differences with respect to technical efficiency among food crops, cash crop and livestock productions in Nigeria, shows that studies on food crops and livestock produce higher MTE estimates while cash crops produce lower MTE estimates. The results of the regional effects on the MTE estimates using regional dummies indicate a mixed pattern. The implication of this heterogeneity across regions might imply that improving efficiency and productivity in Nigerian agriculture requires regional-specific policy responses.

### **Renminbi's Misalignment: A Meta-Analysis**

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This paper presents results of a meta-regression analysis on empirical estimates of Renminbi misalignments. Seventeen articles and 130 observations dealing with empirical measures of misalignment of Chinese currency are collected. Data characteristics, dissemination procedures as well as real exchange rate measures and theoretical models that are adopted have significant impacts on measures of misalignment of Chinese Yuan. However, more than the theoretical model of real equilibrium exchange rate, the choice of the empirical methodology exerts a major part in the supposed misalignment of Chinese currency. It is not possible to be satisfied with only one empirical estimate to have a significant understanding of the misalignment of the Renminbi. It should be useful to cross at the same time all the theoretical models of real equilibrium exchange rates with various econometric methods to assess misalignment of the Chinese currency.