

MAER-Net Colloquium
University of Cambridge, UK
Wolfson College
September 16-18, 2011



Friday, September 16, 2011 {Participants arrive}

1800-2000—**Opening Reception-- Wolfson College**

Saturday, September 17th (continued)

1545-1600

Break

1600-17:30

Concurrent Session I-A, *MRA of Fundamental Economic Issues* (Lee Hall) (Chair: J.Heckemeyer)

Kerry Clayton — A Meta-Analysis of Price and Income Elasticities of Residential Water Demand

Jarko Fidrmuc & Katarína Danišková — Meta Analysis of the New Keynesian Phillips Curve

Mohammed Aminu Aliyu — A Meta-Regression Analysis of the Independence of Irrelevant Alternatives (IIA)

Concurrent Session I-B: *International Development* (Seminar Room) (Chair: Martin Paldam)

Niels Hermes, Silke Bumann & Robert Lensink — Financial Liberalization and Economic Growth: A Meta-Analysis

Andrés Rius, Diego Aboal & Nelson Noya — Contract enforcement and rates of investment: A systematic review

Sasi Iamsiraroj, Chris Doucouliagos & Mehmet Ali Ulubasoglu — Foreign Direct Investment and Economic Growth: A real relationship or wishful thinking

1900-2100

Dinner: Wolfson College

Sunday, September 18th, 2011

0930-1000 **Open Forum about MAER-Net** (Tom Stanley)

1000-11:45

Plenary Session IV: *Standards and Bias* (Lee Hall) (Chair: Margaret Giles)

Randall Rosenberger and Robert Johnston — Meta-Analysis for Environmental Policy: Establishing Minimum Standards

Gerta Rucker, James Carpenter, Guido Schwarze— Treatment Effect Estimates Adjusted for Small-Study Effects Via a Limit Meta-Analysis

T.D. Stanley and Chris Doucouliagos — MRA Methods to Accommodate, Identify and Reduce Publication Selection Bias _____

11:45-12:45

Lunch

1245-1445

Concurrent Session II-A: *Business, Finance, and Philanthropy?*(Lee Hall)(Chair: R.Rosenberger)

Marc van Essen— Antecedents of CEO pay: A Meta-Regression Analysis

Katja Rost & Thomas Ehrmann — Win-Win Philanthropy Research: The Endless Search for a Luminiferous Aether

Deirdre Reilly, Brian Lucey & Constantin Gurdgiev— Real Estate and the Stock Market – A Meta-Regression Analysis

Michael Hunoldt — Factors Influencing International Equity Joint Venture Performance: A Meta-Analysis.

Concurrent Session II-B: *Institutions and Government* (Seminar Room) (Chair: Geoff Pugh)

Jost Heckemeyer & Ruud De Mooij —Blending Meta-Analysis with Primary Research: Using Mixed Estimation to Explain the Tax Effect on the Financial Policy of Banks

Marek Rusnaky — Why Do Government Spending Multipliers Differ? A Meta-Analysis

Adnan Efendic and Geoff Pugh — A Meta-Regression Guide to Modelling Institutional Effects on Economic Performance

Mekbib Gebretsadik Haile and Geoff Pugh — What Does Meta-Regression Analysis Tell Us About The Effect of Exchange Rate Variability on International Trade?

Sunday, September 18th (continued)

1445-1500

Break

1500-1630

Concurrent Session III-A: *International Development II* (Lee Hall) (Chair: Rob Johnston)

Edgar Cooke — American Trade Policy Towards Sub Saharan Africa—A Meta-Analysis of AGOA

Kilama Eric Gabin—Remittances and Economic Growth: A Meta-Analysis Benefit

Kolawole Ogundari —The Calorie-Income Elasticity: A Meta-Regression Analysis

Concurrent Session III-B: *Demographics and Economics* (Seminar Room)(Chair: Doucouliagos)
1500-1700

Jacques Poot, A. Osman Hussein & Stephen Keef — Assessing Impact of Age Composition on Aggregate Saving Rates: A Meta-Analytical Approach

Joan Costa Font, Cristina Hernandez and T.D. Stanley — Is there a Health Kuznets curve? A Meta-regression Analysis of Income related Health Inequalities

Katherine Hunter, T.D. Stanley and Megan Leonard — Is there a Differential Marriage-Wage Premium? A Meta-Analysis

Abdul Jabbar Abdullah, Chris Doucouliagos & Elizabeth Manning— Education and Inequality: A Meta-Regression Analysis

17:45-19:00 A Walk around Cambridge

Dinner: Doubletree Hotel, Cambridge –19:30.

ABSTRACTS

Plenary Session I: *Fundamental Dimensions of Meta-Analysis*, 0915-1100, Sat. 17th (Lee Hall)

What Makes for a Good Meta-Analysis?

Julian Higgins, Medical Research Council Biostatistics Unit, Cambridge, UK

I will draw on my experiences of meta-analysis in the healthcare field to discuss what I believe are the key attributes of a methodologically sound meta-analysis, covering issues such as study limitations, uncertainty, inter-study variation, missing data and reporting biases. I will mention some existing tools for assessing the quality of a meta-analysis, and of its reporting, and will overview two projects I have recently co-led. The first is being undertaken by an Expert Group of the organization PSI (Statisticians in the Pharmaceutical Industry), and seeks to compare the quality of meta-analyses from the pharmaceutical industry with those from academia. We developed our own quality assessment tool for this, noting that none of the existing tools met our needs. The second is an initiative within The Cochrane Collaboration to develop methodological standards for all Cochrane reviews on the effects of interventions. We have recently completed a Collaboration-wide consultation on a draft proposal of 100 such standards, and I will share some of the findings of that exercise.

Unraveling the Nature and Causes of Publication Bias

Daniele Fanelli, Institute for the Study of Science, University of Edinburgh, UK

A scarcity of null and negative results has been noticed in most disciplines, and this raises concerns for the integrity of the scientific literature and the research system in general. Reviews and meta-analyses might report inflated effect sizes, thus exaggerating the importance of phenomena. Studies that are not published keep being replicated, causing a waste of resources. A system that disfavors negative results might also discourage high-risk/high-gain projects and/or pressure scientists to fabricate and falsify their data. Analyses on a sample spanning the years 2000-2007 (N=2,434) found that papers were more likely to report a positive result in disciplines and methodologies believed to be “softer” (e.g. Psychology vs. Space Science, behavioural vs. chemical analyses). Positive results were reported more frequently by corresponding authors based in states of the USA where academics publish more papers per capita, suggesting a link with pressure to publish. Positive results were cited more frequently, which points to a citation bias that varied significantly between disciplines.

Heterogeneity

Ingram Olkin, Stanford University, USA; Issa Dahabreh and Thomas Trikalinos, Tufts, USA

Meta-analysis consists of a set of statistical procedures for combining and interpreting the results of independent trials. However, there are a variety of issues that have to be solved before producing a summary estimate—for example: various forms of bias and heterogeneity. It has been customary to obtain an overall estimate by combining, in some way, the results of the individual studies and then providing an analysis of potential biases. Here, we start from first principles. We propose a combinatorial method in which each possible subset of the studies provides a summary estimate. There are $2^k - 1$ the power of k such subsets, minus one, but who’s counting? For 10 studies, the number of subsets is 1023, over a million for 20 studies, and for 100 it’s ginormous $> 1 \times 10^{30}$. By looking at the number of separate concentrations, we can identify the heterogeneity that truly matters and provide a summary estimate for each group, naturally defined.

Plenary Session II: *Meta-Analysis of International Development, 1115-1300, Sat. 17th* (Lee Hall)

A Sketch of Meta-Regression Analysis in Economics

Randall S. Rosenberger, Oregon State University, USA

Meta-regression analysis (MRA) has been developed for and applied to economics for over 20 years. Its growth has been exponential; each year dozens of economics meta-analyses are conducted, with a total nearing 1,000 papers. This talk will introduce MRA methods to summarize, explain and correct economic, social and medical research. Recently, a consensus has formed about what methods are required to adequately meta-analyze econometric studies. Meta-analysts need to:

- Model heterogeneity using MRA with many coded moderator variables.
- Model and accommodate likely publication bias using MRA.
- Adjust for heteroscedasticity (WLS).
- Allow for within-study dependence by using unbalanced panel (or multilevel) methods.

. Applications include the value of a statistical life and the employment effect of minimum wages.

Foreign Direct Investment and Economic Performance:

A Systematic Review of the Evidence Uncovers a New Paradox

Randolph Bruno; University of Birmingham, UK

Nauro Campos; Brunel University, UK

How effective is foreign direct investment in supporting economic performance in low-income countries? This paper assesses this question using meta-regression-analysis techniques on a set of 550 and 554 estimates of the impact of FDI on economic performance from 103 micro and 72 macro-studies, respectively. The results suggest that (a) the estimated effects tend to be larger in the macro/country than in the micro/firm studies, (b) the effect is significantly greater in low- than in middle-income countries, and (c) econometric method and specification choice seem central to understand the observed variation in the estimates. The paradox this study raises is how to reconcile the main lesson from the literature (that the effect emerges only for countries that have reached certain thresholds, mainly with respect to human capital and financial development) with the finding that the effects are larger for counties that are typically far from reaching such critical thresholds. We argue that considerations of the gap between private and social returns, albeit missing in most of the current academic and policy discussions, may provide the key.

Impacts of Corruption on Economic Growth in Low-Income Countries:

A Systematic Review and Meta-Analysis

Mehmet Ugur and Nandini Dasgupta, University of Greenwich, UK

We combined the narrative synthesis method for theoretical/analytical studies with the meta-analysis method for empirical investigations. We utilized the narrative synthesis to uncover the mechanisms and country-specific factors through which the growth-impact of corruption is mediated. The method of meta-analysis, on the other hand, is used to derive synthesized estimates of the direct and indirect effects of corruption on growth. The total number of studies included for narrative synthesis and meta-analysis was 115. We report that corruption does have a negative and genuine effect on growth in low-income countries. This aggregate result is obtained after controlling for growth measures, corruption data sources and country types. The direct effect of corruption on growth in LICs is -0.07%. The net indirect effect through the public finance and human capital channels is -0.52%. Hence the total impact of corruption on per-capita GDP growth in LICs is -0.59%.

Plenary Session III: *Systematic Reviews of Econometric Analyses 1400-1545*, Sat. 17th (Lee Hall)

Systematic Reviews of Econometric Analyses:

Ian Shemilt, Chair, University of Cambridge, UK

Systematic reviews of evidence for public health, education and international development interventions and policies increasingly encounter evidence from many econometric studies. Statistical methods for synthesizing such evidence are relatively well developed (Stanley 2010, Shemilt 2010). However, preceding stages in the systematic review process that has become the established 'standard' in these applied fields (Higgins 2011) - such as translating research questions into eligibility criteria, locating and selecting studies, extracting data, and assessment of risk of bias/methodological quality - may need to be adapted to accommodate such evidence. This plenary session will present protocol design and methods challenges encountered in the conduct of recent systematic reviews involving econometric analyses.

Childhood Obesity and Educational Attainment: A Systematic Review

Alison O'Mara, EPPI-Centre, UK

Experiences from 3ie Systematic Reviews of Evidence from Econometric Analyses

Hugh Waddington, 3ie, UK

This presentation covers some of the issues faced when applying systematic review of effectiveness to the economic development literature, in particular how to identify and synthesise results of studies that use credible methods to attribute impact in the absence of experimental study design (RCTs). Drawing on our experiences from 3ie's reviews programme, the paper overviews causal methods typically used in the econometrics literature, and discusses some of the challenges involved in assessing risk of bias and extracting comparable estimates of effect.

Impact of Changes in the Transparency on Infrastructure Quality, Costs, and Access

Thillai Rajan A., ITT, Madras, India

Out of a total of 863 observations, 456 (53%) indicated that the interventions did not have any significant impact on outcome, either positive or negative. Out of the remaining 407 observations which indicated a significant impact on outcomes, the number of positive evidences was more than negative evidences. Positive evidence was found in 33% of the total observations and negative evidence was found in 14% of the total observations. On the access outcome, out of 264 observations, 40% indicated an increase in access as a result of increase in transparency levels whereas only 13% indicated a decrease in access. The proportion of observations that did not show any impact was 47%, which was lower than that of the results of the overall sample. On costs, 45% of the observations indicated a decrease in costs as a result of increase in transparency levels. Only 4% of the observations indicated a negative impact on costs (i.e., costs increased) and about half of the observations did not show any significant impact on costs.

Discussants: Merete Konnerup (Konnerup Consult, Denmark) and Tom Stanley (Hendrix)

Concurrent Session I-A, *MRA of Fundamental Economic Issues, 1600-1730, Sat. 17th* (Lee Hall)

A Meta-Analysis of Price and Income Elasticities of Residential Water Demand

Kerry Clayton, University of East Anglia, UK

The variation in estimated price and income elasticities for residential water demand is large – from -7.47 to 3.5 for the price elasticity and -7.45 to 7.83 for the income elasticity. This large range might be driven by genuine differences in elasticities across geographical location and time and/or could be driven by the wide variety of methodological approaches to modelling water demand. This paper quantifies these impacts using meta-analysis, drawing on a database of price and income elasticity estimates which is four times larger than that previously available, and with an expanded set of explanatory variables. Developing countries are included for the first time. Key methodological issues of publication bias, dependence between observations and heteroskedasticity of known form are addressed. Publication bias tests set out in Stanley (2005) are applied to the dataset and publication bias is not identified. Genuine empirical effects of price and income on residential water demand are identified. Dependence between observations is identified and rectified using panel data estimation. Weighting is used to control for heteroskedasticity. Meta-results show that empirical differences and methodological differences arise in elasticity estimates. The scope for ‘meta-analysis results transfer’ is explored (drawing on benefit transfer techniques from the environmental valuation literature).

Meta-Analysis of the New Keynesian Phillips Curve

Jarko Fidrmuc, Zeppelin University Friedrichshafen, Germany and

Katarína Danišková, Comenius University Bratislava

The New Keynesian Phillips Curve (NKPC) is one of the key elements of New Keynesian economics. Given its economic interpretation, we concentrate on the forward looking parameter in the inflation equation. The range of estimated forward looking parameters is quite wide. The lowest available estimate is only -2.699 for the UK, whilst the highest value is reported at 1.700 for the USA. Moreover, the literature is featured by various approaches for its estimation. Indeed, the meta-regression reveals important role for variable definition (including the proxy for marginal costs), estimation method (GMM, two-stage LS, maximum likelihood), closed or open economy version of the NKPC, number of inflation lags, and restriction of the sum of coefficients. Moreover, funnel graphs show that the literature may be characterized by asymmetries in the publication process (e.g., publication bias).

A Meta-Regression Analysis of the Independence of Irrelevant Alternatives (IIA)

Mohammed Aminu Aliyu, Bayero University, Kano-Nigeria and

Peter Grant Moffatt, University of East Anglia, UK

The primary objective of this study is to answer the question: for what sort of study is IIA most likely to be accepted? This question is answered using meta-analysis. The key findings from this research are that: studies of employment choice, health care choice, and environmental and natural resource valuation choice are the most likely to result in acceptance of IIA; the probability of detecting IIA violation rises with the sample size; the Hausman McFadden test is less likely to detect IIA violation (*ceteris paribus*) than its principal competitor, the Small-Hsiao test. A probit model of publication is also estimated, which yields the interesting conclusion that the probability of a paper being accepted for publication is maximised when a choice set consisting of exactly three alternatives is modelled, when the Hausman-McFadden test is used to test IIA, and when estimates from a multinomial probit model are reported.

Concurrent Session I-B: *International Development, 1600-1730, Sat. 17th* (Seminar Room)

Financial Liberalization and Economic Growth: A Meta-Analysis

Niels Hermes, Université Libre de Bruxelles, Belgium; Silke Bumann, University of Groningen;
and Robert Lensink, Wageningen University

In the meta-analysis, we specifically take into account the following issues. First, we analyze whether studies suffer from a potential publication bias (also sometimes referred to as the file drawer problem), i.e. whether results published provide a biased distribution of effects found, because there may be a tendency not to publish results that show no significant results. Next, we analyze the potential impact of study design on results reported. In particular, we focus on the impact of differences between studies regarding country samples, time periods, and estimation methods. Moreover, we investigate whether the choice of financial liberalization measure has an impact on the results reported in different studies. Finally, we explicitly focus on indirect effects of financial liberalization on economic growth.

Contract enforcement and rates of investment: A systematic review

Andrés Rius, Universidad de la República, Uruguay;
Diego Aboal and Nelson Noya, CINVE, Uruguay

This systematic review focuses on the causal link from quality of contract enforcement to rates of investment. Inclusion and exclusion criteria were based on a conceptual framework that borrows from New Institutional Economics and growth empirics. These were applied to search bibliographic data bases, grey literature repositories, and references identified through “snowballing”. The initial set of 2546 primary studies found was brought down to 175, after double screening of titles and abstracts. Their full text screening resulted in a final set of 22 relevant primary studies. These were critically appraised and rated using “strength of evidence” coding tools. The quality-weighted results provide some, but weak, support for the claim that more effective contract enforcement promotes higher levels of investment. Inadequate or lacking robustness checks and tests of competing explanations account for most of the low quality ratings.

Foreign Direct Investment and Economic Growth: A real relationship or wishful thinking?

Sasi Iamsiraroj, Hristos Doucouliagos, and Mehmet Ali Ulubasoglu
Deakin University, Melbourne Australia

The impact of FDI on economic growth has been of significant interest for decades. FDI is said to be an important source of savings and capital accumulation for the host economy, creating positive spillovers, facilitating labor training and backward and forward linkages across sectors, as well as being a conduit for the transfer of technology and organizational know-how. However, mixed empirical findings have resulted in a longstanding debate. Do theoretical predictions point towards a real relationship, or are the perceived effects of FDI only wishful thinking? This paper provides a comprehensive assessment of the empirical evidence accumulated over the past three decades on the macroeconomic effects of FDI on economic growth. Meta-regression analysis is applied to 880 FDI-growth estimates reported in 108 empirical studies.

Plenary Session IV: *Standards and Bias*, 1000-11:45, Sun.18th (Lee Hall)

Meta-Analysis for Environmental Policy: Establishing Minimum Standards

Randall S. Rosenberger, Oregon State University, USA and
Robert J. Johnston, Clark University, USA

When and how are meta-analyses suitable for direct policy applications, and what might be a reasonable set of minimum criteria for empirical metadata and models? Nelson and Kennedy (2009) propose a set of best practice guidelines to close this gap in future meta-analyses, but do not address additional minimum standards that might be applied for meta-analyses used for policy-relevant value prediction, e.g., for use within benefit transfer. This paper seeks to address this void in the literature, providing guidance for policymakers who use meta-analysis for the prediction of policy relevant values. We first evaluate the state of the art of meta-analyses in environmental valuation for use in applied policy assessments following a set of specific criteria for policy applicability, including types of value estimates, welfare and commodity consistency, and inclusion of market, resource, and contextual information. This set of criteria is applied to a sample of meta-analyses published in the past 10 years.

Treatment Effect Estimates Adjusted for Small-Study Effects via a Limit Meta-Analysis

Gerta Rücker, James Carpenter and Guido Schwarzer,
University Medical Center Freiburg, Germany

‘Small-study effects’ (small studies showing larger treatment effects than large studies) can lead to bias in systematic reviews, particularly if caused by reporting bias. We introduce the concept of a limit meta-analysis, which yields shrunken estimates of study effects, based on an extended random effects model including a parameter representing small-study effects. This leads to pooled treatment effect estimates adjusted for small-study effects (Rücker et al. 2010). We illustrate the method using a meta-analysis of binary data. Further, we compare it in a comprehensive simulation study to established adjusted and unadjusted estimates, such as Trim-and-Fill, the Copas selection model, and Moreno’s regression-based method. The limit meta-analysis yields treatment effect estimates that are more robust against both heterogeneity and small-study effects than established estimates,

MRA Methods to Accommodate, Identify and Reduce Publication Selection Bias

T.D. Stanley, Hendrix College, USA and Chris Doucouliagos, Deakin University, Australia

Publication selection bias represents a serious challenge to the integrity of all empirical sciences. We develop meta-regression approximations that are shown to reduce this bias and outperform conventional meta-analytic methods. Our approach is derived from Taylor polynomial approximations to the conditional mean of a truncated distribution. Monte Carlo simulations demonstrate how a new hybrid estimator provides a practical solution. These meta-regression methods are applied to several policy-relevant areas of research including: antidepressant effectiveness, the value of a statistical life and the employment effect of minimum wages and alter what we think we know.

Antecedents of CEO pay: A Meta-Regression Analysis

Marc van Essen, Utrecht University, School of Economics, Netherlands

Although studies about the influence of CEOs on compensation practices are ubiquitous, the balance of evidence for managerial power theory remains inconclusive. We provide a meta-analysis of 219 U.S.-based studies, focusing on the relationships between indicators of managerial power, and levels of compensation and pay-performance sensitivities. Managerial power theory turns out to be well-equipped for predicting core compensation variables like total cash and total compensation, but less so for predicting the sensitivity of pay to performance. In most situations where CEOs are expected to have power over the pay setting process, they receive significantly higher levels of total cash and total compensation. In contrast, where boards are expected to have more power, CEOs receive lower total cash and total compensation. Powerful directors also appear to be able to establish tighter links between CEO compensation and firm performance, and can accomplish this even in the face of powerful CEOs. We discuss implications for theory and research regarding the determinants of executive compensation.

Win-Win Philanthropy Research: The Endless Search for a Luminiferous Aether

Katja Rost, University Mannheim and Thomas Ehrmann, University Münster, Germany

The conventional view expects a positive association between corporate social performance (CSP) and corporate financial performance (CFP). We argue that only under very restrictive conditions can a genuine effect between CSP and CFP be expected. The CSP-CFP literature, nevertheless, generally does find positive effects. We explain how this pattern reflects publication bias in the CSP-CFP literature. We describe coercive, mimetic, and normative mechanisms by which the homogenization of research findings occurs. Empirical evidence from the CSP-CFP literature does not support a positive CSP-CFP association, suggesting that for win-win philanthropy the 40-year search for the “luminiferous aether” remains a myth. Our results in particular show that file-drawer problems can foil empirical results. Although these problems are well known among meta-analysts, they are not often discussed in management research and are rarely systematically analyzed.

Real Estate and the Stock Market: A Meta-Regression Analysis

Deirdre Reilly, B. Lucey, and C. Gurdgiev, Trinity College, Ireland

The real estate finance literature provides diverse and contradictory findings regarding the distribution of real estate returns and the linkage between these returns and stock market returns. Using meta-regression analysis the sensitivity of the overall estimate to variations in the underlying studies is investigated within a systematic, objective and quantitative framework. It is clear that the specific property type has an important effect on the distribution of the real estate asset and its relationship with stock market. While not as significant, the frequency of data and region of analysis also influence the observed characteristics of the real estate asset. The stock type is also very important in the nature of the relationship observed between the stock market and real estate assets.

Factors Influencing International Equity Joint Venture Performance: A Meta-Analysis

Michael Hunoldt, Friedrich Schiller University, Jena, Germany

We use meta-regression analysis which has so far has not been applied within this literature. Meta-regression analysis allows for a systematic evaluation of significant performance factors by

simultaneously controlling for other drivers of effect size (e.g., method, publication outlet, theory) and for publication bias. In particular publication biases are expected to alter the results on IJV performance since studies using performance as a dependent variable are often characterized by expressive research traps (March & Sutton, 1997). Our preliminary results based on 58 studies (N=10,882) show that interpartner trust is the most critical factor for IJV performance. Furthermore, the two levels of cultural distance, i.e., the national and organizational level, have a differential effect on IJV performance. Whereas national cultural distance has no impact on IJV performance the effect of organizational cultural distance significantly decreases the performance.

Concurrent Session II-B: *Institutions and Government* 1245-1445, Sun.(Seminar Room)

Blending Meta-Analysis with Primary Research: Using Mixed Estimation to Explain the Tax Effect on the Financial Policy of Banks

Jost H. Heckemeyer, Centre for European Economic Research, Mannheim, Germany and
Ruud A. De Mooij, International Monetary Fund (IMF), USA

Empirical researchers often have a fairly strong prior concerning the sign and general magnitude of the relationship they are trying to estimate. If the researcher's prior is sufficiently strong, inconsistent estimates may not be accepted. *Mixed estimation* makes the incorporation of prior knowledge into the empirical analysis explicit. We apply the mixed estimation technique to assess the tax effect ("debt bias") on the capital structure of banks. Prior information is obtained from a comprehensive meta-analysis of capital structure regressions presented by Feld, Heckemeyer, and Overesch (2011). First results show that using extraneous information can indeed improve the identification and understanding of the relationship between taxes and the debt ratio of banks, whereas empirical identification based exclusively on the sample data turns out to be a challenge.

Why Do Government Spending Multipliers Differ? A Meta-Analysis

Marek Rusnaky, CERGE-EI, Prague

The vast literature that estimates the effects of government spending on output has not come to consensus yet. The relatively big multiplier estimated for the US is not found for other countries: a much lower or no effect is usually reported. We collect more than 800 estimates of the dynamic effects of government spending shocks from a sample of published and unpublished studies and provide the average effect implied by the literature. Next, we exploit the differences between estimates by relating them to the two sources of heterogeneity. First, we test whether there is a systematic influence of different study characteristics such as the type of identification or data characteristics. Second, we investigate how the estimates vary with differences in structural characteristics such as the level of government debt, the openness and the size of the economy, or the level of financial development. Our results suggest that the spending multipliers systematically depend on the characteristics of the economy, while the differences in study design play a less important role.

A Meta-Regression Guide to Modelling Institutional Effects on Economic Performance

Adnan Efendic, University of Sarajevo, Bosnia; Geoff Pugh, Staffordshire University, UK

This paper applies meta-regression analysis to the empirical literature that investigates the effect of institutions on economic performance. Although studies with growth-theoretic foundations do not yield robust evidence for an authentic empirical effect, we find more robust evidence of positive and large institutional effects on output levels. The partial correlations between institutional and economic performance variables are also influenced by model specification choices and, in particular, (non)treatment of the potential endogeneity of institutions. A corollary of such pronounced heterogeneities is that we cannot report a representative estimated effect size, although the evidence overwhelmingly suggests a positive influence of institutional quality on economic outcomes.

Meta-Regression Analysis of the Effect of Exchange Rate Variability on Trade

Mekbib Gebretsadik Haile, Ethiopian Economics Association and

Geoff Pugh, Staffordshire University, UK

Since the breakdown of the Bretton Woods agreement, the trade effect of exchange rate variability (ERV) has been contentious. However, neither the theoretical nor the empirical literature provides unambiguous guidance on the trade effect of ERV. This article applies metaregression analysis to the empirical literature and finds evidence of: modest publication bias; a range of authentic empirical effects that are highly conditional, even with respect to sign and, correspondingly, pronounced heterogeneity in the reported results. Investigation of this heterogeneity reveals that the results are significantly influenced both by authors' modelling strategies and by the contexts of their investigations. In particular, researchers are most likely to find an adverse trade effect by investigating low-frequency real exchange variability and trade between less developed economies, hence, beyond the reach of hedging opportunities (as suggested by previous studies). In general, our most important advice for policy makers is that economic research does not reveal a single representative effect size.

Concurrent Session III-A: *International Development II*, 1500-16:30, Sun. (Lee Hall)

American Trade Policy towards Sub Saharan Africa—A Meta-Analysis of AGOA

Edgar F. A. Cooke, University of Sussex, UK

Twelve econometric studies investigating the impact of *AGOA* presented in this paper have reported 174 different estimates. In testing for publication bias and whether there is a genuine empirical impact of *AGOA* we resort to a meta-analysis. The meta-analysis provides us with a formal means of testing for publication bias and an empirical effect. The result shows significant publication bias in the selected studies. However, in a few cases the test for a genuine effect is passed successfully. The results of the meta-analysis indicate that *AGOA* increased the trade of beneficiaries by 13.2%.

Remittances and economic growth: A meta-analysis

Kilama Eric Gabin, CERDI, Université d'Auvergne, France

The aim of this paper is to find what we really learn from the research on immigrant remittances and describe with meta-analysis the prominent characteristics of research on remittances. We also describe in this paper an empirical strategy to control for the internal quality of the model or

framework used by authors in the meta-regression (probit model). We measure the sensitivity of the estimates to changes and inclusion of the additional explanatory variables. Our preliminary results suggest that authors affiliated to IMF find negative impact of remittances when those of the World Bank are optimists on the growth effect of remittances. We also find that institutional factors as well as financial development are determinants of economic growth effect of remittances. Our proxy for internal quality of a paper is one of the most significant variables of our probit model, illustrating the fact that the best papers (in term of model specification and stability of estimates) find a significant effect of remittances on growth.

The calorie-income elasticity: a meta-regression analysis

Kolawole Ogundari, University of Kiel, Germany

The response of nutrition intake to rising incomes has been quite diverse, depending on many research and economic dimensions. The present paper employed meta-analysis as a tool which allows researchers to combine results of several homogenous studies into a unified analysis that provide an overall estimate. A total of 100 observations from 42 studies were considered for meta-analysis. Our findings revealed that publication bias is not a severe problem by the FAT-MRA model. Furthermore, FAT-PET-MRA reveals a genuine positive and significant effect of income on calorie intake. Other factors found important in this income-calorie relation are: whether a study is published, what type of data is used, region, and sample size.

Concurrent Session III-B: *Demographics and Economics, 1500-1700, Sun.18th* (Seminar Room)

Assessing Impact of Age Composition on Aggregate Saving Rates: A Meta-Analysis.

Jacques Poot, University of Waikato, New Zealand; A. Osman Hussein, Applied Analysis; and
Stephen Keef, Victoria University, New Zealand

For a long time economists have held different views on the effect of age composition of the population on saving rates. The life cycle hypothesis predicts that people will save when young workers and spend their savings when old. Other economists argue that the retired group in the population might not dissave at the rate predicted by the life cycle hypothesis. In this paper we attempt to reconcile these conflicting views, which both have found some empirical support. We use meta-analysis to determine whether age composition of the population, measured as dependency ratios, has an adverse effect on saving rates. We synthesise 34 studies on saving rates and dependency ratios. We find that dependency ratios do adversely affect the saving rate, which validates the life cycle hypothesis. However, it is not clear whether or not the magnitude of the effect should be of concern.

Is there a Health Kuznets curve? A Meta-regression Analysis of Health Inequalities

Joan Costa Font, LSE, UK; Cristina Hernandez, LSE, UK, and T.D. Stanley, Hendrix College
Health inequalities are taken as an important dimension with which to evaluate health care systems. Recently, the WHO set out a ranking of countries depending on a set of performance indicators where the degree of inequality is given an important role. In western countries, a well-known paradox shows that despite significant government interventions, inequalities in health remain constant. In measuring inequalities, significant heterogeneity is found. Often, different inequality indicators are employed although most of them are comparable after being suitably transformed. This paper undertakes an examination of the extent to which inequalities in health are affected by precision and publication biases. Indeed, health inequality may be affected by an ideological component thereby explaining the existence of empirical bias in the reported estimates. A second

objective lies in explaining the determinants of health inequalities, particularly institutional and study specific determinants.

Is there a Differential Marriage-Wage Premium? A Meta-Analysis

Katherine Hunter, T.D. Stanley and Megan Leonard—Hendrix College, USA

Leonard and Stanley (2010) presented a meta-analysis of the male marriage wage premium literature at the 2010 MAER-Net Colloquium and found that there is no instantaneous marriage-wage premium. However, the inclusion of a years married variable is the largest single determinant of the size of the estimated premium. The purpose of this paper is to identify whether there is a male marriage wage premium that accrues with each year of marriage. Simple FAT-PET-PEESE-MRAs indicate that there may indeed be an annual premium. However, the small number of models with strictly linear “years married” terms necessitates further investigation. After transforming quadratic estimates into marginal annual estimates, a multivariate MRA model can be estimated. Using this model to correct for misspecifications, there appears to be no remaining differential wage premium for married males, either.

Education and Inequality: A Meta-Regression Analysis

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This paper provides a comprehensive review of the extant econometrics literature through a meta-regression analysis (MRA) of 60 empirical studies that collectively report over 600 estimates of the effects of education on inequality. The aims of our MRA are to:

- (1) Assess the effect of education on inequality. Does education increase or decrease inequality, or does it have no effect at all? Under what conditions does education shape inequality?
- (2) Model the heterogeneity in the empirical estimates. What factors explain the wide variation in the estimates of the effect of education on inequality?
- (3) Test for publication selection bias and model misspecification bias.

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