Newsletter
International Input-Output Association (IIOA)
Number 35, February 2018

Welcome from the Editor

Dear IIOA member,

I am happy to bring you the latest issue of the *International Input-Output Newsletter*. I thank all contributors and anyone else who sent us items.

This issue brings some information about the upcoming IIOA Conference in Juiz de Fora, Brazil. We hope to see all of you there. Check inside this issue for important dates and Keynote Speakers!

Further, you can find abstracts for the latest *ESR* articles, Highlights of Other Journals and Books, Tables from the I-O World (The Industrial Ecology Virtual Laboratory), Next Courses and Events (9th Input-Output-Workshop; The 2nd International Conference on Economic Structures; 12th World Congress of the RSAI; 21st Annual Conference on Global Economic Analysis; Asian Studies Association of Australia Conference 2018; and ERSA).

There is also a overview of the Latin American Regional Input-Output Matrix Economic Commission for Latin America and the Caribbean (ECLAC) Sub-Regional Headquarters in Mexico.

Any feedback, comments or suggestions are greatly appreciated.

I hope you enjoy the issue!

Vinicius de Almeida Vale
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26th INTERNATIONAL INPUT-OUTPUT CONFERENCE
JUNE 2018, BRAZIL, JUIZ DE FORA
25 - 29 JUNE 2018

Would you like to contribute to the IIOA newsletter?
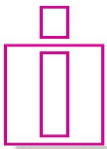Contact us newsletter@iioa.org

In this issue

Next IIOA Conference

26th INTERNATIONAL INPUT-OUTPUT CONFERENCE

JUNE 2018, BRAZIL, JUIZ DE FORA

25 - 29 JUNE 2018

You are cordially invited to participate in the 26th International Input-Output Conference & 8th Edition of the International School of I-O Analysis which is the most important congress in the area and will count with respected researchers from all over the world. The main objective is to share the progresses made in this field of analysis - input-output, including basic data improvement, theoretical insights, modeling, traditional and new applications on input-output techniques.

The conference environment was taught to allow and favor the exchange of ideas, the interaction among established researchers as well as the insertion of young researchers in the field.

Chair of the Local Organizing Committee:
Fernando PEROBELLI
Federal University of Juiz de Fora (UFJF)
iioajf2018@gmail.com

Important Dates

Abstract submission through COPASS begins	December 5, 2017
Hotel registration opens	January 1, 2018
Last date for submission of organized session proposals	January 31, 2018
Last date for submission for abstracts	January 31, 2018
Conference Registration opens	February 1, 2018
Last date for submission for travel grants/Leontief Prize	February 28, 2018
Final date for notification of acceptance	April 1, 2018
Early registration ends	May 12, 2018
Last date for submission of full papers	May 16, 2018
Online registration ends	June 9, 2018
International School of Input-Output Analysis	June 25, 2018
Conference	June 25-29, 2018

More Information

The Conference

Important Dates

Juiz de Fora

Accommodation

Transportation

Bars and Restaurants

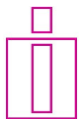Weather

Federal University of Juiz de Fora

Organizers

Tourism Information

Visa Information

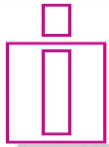Paper submission using COPASS

Register here

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Keynote Speakers

Narasimha Rao

Dr. Narasimha D. Rao is a Research Scholar and Project Leader in the Energy systems group at IIASA, where he has worked for the last six years. His research examines the relationship between energy systems, human wellbeing and climate change. He is the recipient of the European Research Council (ERC) Starting Grant for his ongoing project entitled Decent Living Energy - energy and emissions thresholds for providing decent living standards for all. His research interests also include investigating income inequality, and distributional issues in energy and climate policy at a national and global level. Dr. Rao is also an Adjunct Fellow at the Ashoka Trust for Research in Ecology and Environment in Bangalore, India. Dr. Narasimha D. Rao obtained his Ph.D. from Stanford University, California in Environment and Resources, and has Master's degrees in Electrical Engineering and Technology Policy from the Massachusetts Institute of Technology.

Roberto Luis Olinto Ramos

Dr. Roberto Olinto is currently the President of the Brazilian Institute of Geography and Statistics – IBGE in charge of National Statistical System and of statistical cooperation. He received his M.Sc. in Systems Engineering and D.Sc. in Production Engineering from Federal University of Rio de Janeiro. He has spent almost 38 years in the Government Statistical Service, mainly in the field of input-output tables compilation, national accounts and economic statistics. Dr. Olinto was formerly the Director of Surveys area in charge of all official statistics - production, planning and analysis. He was the Coordinator of National Accounts, for ten years, and responsible for the planning and implementation of the System of National Accounts 2008. As a member of IBGE, he also worked on several projects in the economic statistics area, such as compilation of input-output tables, and managing the implementation of Brazilian Quarterly National Accounts. Dr. Olinto represents the National Statistics Office in the United Nations Inter-agency Expert Group on SDGs Indicators and in the International Comparison Program–ICP Governing Board. He is advisor of the Statistics Department of the International Monetary Fund on National Accounts, and, since 2002, a member of the United Nations' Advisory Expert Group on National Accounts.

Carmem Aparecida Feijo

Carmem Aparecida Feijo received her Ph.D. in Economics from University College London. She is currently full professor of the Fluminense Federal University (UFF) and researcher of the National Research Council (CNPq). For over twenty years, Carmem Feijo pursued an active career at the Brazilian Statistical Office (IBGE), and had the opportunity to be a member of the panel of international consultants for the Human Development Report of UNDP (2000-2003). Also she was one of the international consultants for the statistics of the Millennium Declaration/UN in 2002. Furthermore, she is an elected member at the International Statistical Institute since 1998. Her research works are mainly in areas of economic growth, official statistics and Brazilian economy.

Sponsor
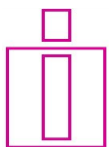
Appointments

IIOA COUNCIL MEMBERS

The following members of the IIOA were elected to council:

Rossella BARDAZZI

Faculty of Political Sciences
Department of Economics and Management
University of Florence, Italy
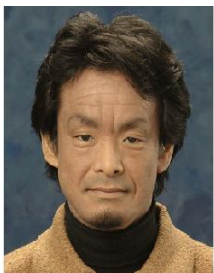
Satoshi INOMATA

Senior Chief Economist
Institute of Developing Economies, JETRO

Sanjiv MAHAJAN

Head of International Strategy and Coordination
Office for National Statistics (ONS)
United Kingdom

List of Council Members

Elected Members

Erik Dietzenbacher
Cuihong Yang
Klaus Hubacek
Sanjiv Mahajan
Kirsten Wiebe
Alejandro Cardenete
Thommy Wiedmann
Rossella Bardazzi
Satoshi Inomata

Appointed Members

Oliver Fritz
Christof Paparella
Manfred Lenzen
Bart Los
Fernando Perobelli

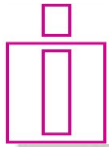# Published papers and books in IOA and related methods

Latest ESR articles

Economic Systems Research

Journal of the IIOA

Volume 30, Issue 1, 2018

Vale, V.A., Perobelli, F.S., and Chimeli, A.B. International trade, pollution, and economic structure: evidence on CO_2 emissions for the North and the South. *Economic Systems Research*, 30(1): 1-17.

This study investigates the mechanics of international trade and CO_2 emissions in two blocs of countries ('North' and 'South') by analyzing data from the World Input–Output Database. We adapt the Miyazawa technique to estimate the linkages between international trade and the environment at a global scale. Therefore, this study is in line with the idea of highlighting the role of feedback effects as well as the nature and extent of extra-regional influences on an economy in response to an additional stimulus. This is a contribution that, to our best knowledge, has not yet appeared in the literature. Our results suggest that both the North and the South have become less pollution-intensive (technique effect) over the years.

Interestingly and in contrast to much of the literature, we also find support to the hypothesis that the South has specialized in relatively more pollution-intensive activities (composition effect).

Liang, S., Y. Wang, C. Zhang, M. Xu, Z. Yang, W. Liu, H. Liu, and A.S.F. Chiu. Final production-based emissions of regions in China. *Economic Systems Research*, 30(1): 18-36.

Existing studies focus on either direct emissions of each province in China using production-based accounting (i.e. direct emitters) or emissions caused by the final consumption of each province using consumption-based accounting (i.e., final consumers), but overlook provinces whose final sales drive large amounts of upstream emissions (i.e., final producers). Improving the production efficiency of the latter can help to reduce national emissions. Here we use a final production-based accounting framework to identify critical final producers. Results show that the major final producers leading to China's emissions are Hebei, Shandong, Jiangsu, Zhejiang, and Guangdong, which are the major manufacturing centers in China. China should encourage the production efficiency improvement of dominant firms in industries of these provinces. The final production-based accounting framework can also help to define and allocate emission responsibilities of Chinese provinces. It can complement production-based and consumption-based accounting frameworks to guide environmental policy-making in China.

Román, M. V., I. Arto, and A. Ansuategi. Why do some economies benefit more from climate finance than others? A case study on North-to-South financial flows. *Economic Systems Research*, 30(1): 37-60.

The Copenhagen and Paris Agreements, in which developed countries committed to mobilise US$100 billion a year by 2020, indicate that climate finance will continue to grow. Even though economic development is not the aim of climate finance, climate-related disbursements will generate an economic impact on recipient countries' economies. This impact will also reach other countries (including climate finance donors) through induced international trade. In this paper, we apply a structural decomposition analysis to study why the economic impact of climate finance varies between countries. We focus on specific climate actions and quantify the contribution of four drivers: value-added intensity, domestic multiplier, foreign multiplier and trade structure. The paper helps identifying the factors with the greatest potential to enhance the economic gains of climate finance in each country. This information can be useful for policy-makers trying to design national strategies that exploit the synergies between climate action and economic development.
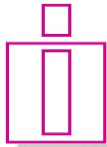
Wieland, H., Giljum, S., Bruckner, M., Owen, A., and Wood, R. Structural production layer decomposition: a new method to measure differences between MRIO databases for footprint assessments. *Economic Systems Research*, 30(1): 61-84.

Recent empirical assessments revealed that footprint indicators calculated with various multiregional input–output (MRIO) databases deliver deviating results. In this paper, we propose a new method, called structural production layer decomposition (SPLD), which complements existing structural decomposition approaches. SPLD enables differentiating between effects stemming from specific parts in the technology matrix, e.g. trade blocks vs. domestic blocks, while still allowing to link the various effects to the total region footprint. Using the carbon footprint of the EU-28 in 2011 as an example, we analyse the differences between EXIOBASE, Eora, GTAP and WIOD. Identical environmental data are used across all MRIO databases. In all model comparisons, variations in domestic blocks have a more significant impact on the carbon footprint than variations in trade blocks. The results provide a wealth of information for MRIO developers and are relevant for policy makers designing climate policy measures targeted to specific stages along product supply chains.

Peneder, M. and G. Streicher. De-industrialization and comparative advantage in the global value chain. *Economic Systems Research*, 30(1): 85-104.

We investigate the causes of de-industrialization and potential for re-industrialization using trade-linked input–output data from WIOD. By introducing a new global value chain measure of comparative advantage, we relate a sector's share in domestic final demand to that in production and separate the direct effect of trade on its income share. This method identifies the declining share of manufacturing value added in domestic final expenditures to be the main cause of de-industrialization. Differences in comparative advantage between countries do matter, especially in the case of employment shares, but have a limited impact via the direct trade effect on value added. The findings point to a peculiar paradox of industrial policy: precisely when it is successful in raising competitiveness and hence productivity growth of manufacturing, it also furthers the global decline of relative prices in manufacturing. In contrast to the national objectives of re-industrialization, effective industrial policies accelerate de-industrialization in the global economy.
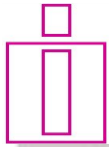
Ferreira, J.P., Ramos, P., Cruz, L., and Barata, E. The opportunity costs of commuting: the value of a commuting satellite account framework with an example from Lisbon Metropolitan Area. *Economic Systems Research*, 30(11): 105-119.

Commuting affects regional and urban economies. It shapes urban areas, defines their relationships with neighboring regions, intensifies economic flows and exacerbates energy consumption and greenhouse gas emissions. This paper sets out a proposal for an innovative commuting satellite account (CSA), integrated in a multiregional input–output model. This framework combines commuting activities with regional distribution of income, distinct household consumption structures, real estate renting activities and the energy consumption and environmental flows incorporated in the different industries. To assess the opportunity costs of commuting, the CSA framework is applied to the Lisbon Metropolitan Area. The socio-economic-environmental impacts of a scenario in which commuters become non-commuters by moving their residence to the municipality in which they work are estimated. The analysis indicates that: commuting, in general, induces significant economic and environmental opportunity costs. Finally, the adoption of policy-oriented recommendations contributing to limit sprawling in metropolitan regions is discussed.

Gurgul, H. and Lach, Ł.. Some remarks on a social network approach to identifying key sectors. *Economic Systems Research*, 30(11): 120-135.

Ostensibly, certain adaptations of social network theory extend and improve the traditional key-sector approaches. Our analysis of the underlying algebraic properties shows that a social-network-based approach proposed by García Muñiz et al. [(2008) Key Sectors: A New Proposal from Network Theory. Regional Studies, 42, 1013–1030] does not relate final demand and output in ways comparable to key-sector measures that are based on the static Leontief input–output model. Using the most recent IO table for Poland we show that the modified approach can lead to spurious empirical results and, as a consequence, to false policy implications.

Economic Systems Research

Journal of the IIOA

Latest articles (up to 14-Feb.)

Reich, U.P. Who pays for whom? Elements of a macroeconomic approach to income inequality. *Economic Systems Research.*

National income is generated through national production in the form of 'value added'; it is expended on goods and services in the form of 'disposable' or 'net' income. In this paper, I investigate what happens in between. The circuit of income flows generated in this way is comparable to the circuit of product flows, in its complexity. It can be analysed, so the tenet of the paper, in a similar way, by means of well-known tools of input–output (IO) analysis; this on the pre-condition, however, that you draw out the institutional framework of an economy in similar detail as is now customarily done for production units in IO analysis. Existing data do not suffice for the purpose, at present; this paper shows, by way of some exemplary calculations, what insight into the mechanism of national income distribution is gained if the necessary data, normally in the form of a large social accounting matrix, are provided.

Guerra, A.I. and Sancho, F. On the need to compensate the compensating variation in CGE modeling. *Economic Systems Research.*

The message of this research is that in the standard calibrated setting of Computational General Equilibrium (CGE) models, the welfare measures typically used to compare benchmark with counterfactuals are numéraire dependent. This evaluation bias affects the compensating variation and the Konüs index of cost of living. We show that the equivalent variation is neutral regarding the choice of value units in calibrated models but would be affected as well in uncalibrated CGE models. We illustrate with a simple example and propose an even simpler theoretical solution to overcome these biases; all that is required to have correct welfare estimates is to compensate normalizing with a suitable price index. This type of correction is necessary to overcome the sometimes blind implementation of welfare measures in numerical general equilibrium analysis. We show that the induced quantitative errors may be substantial providing biased welfare estimates and misleading results.

Aydoğuş, O., Değer, Ç., Çalışkan, E.T., and Günal, G.G.. An input–output model of exchange-rate pass-through. *Economic Systems Research.*

The impact of the exchange rate on price formation is often debated through a mechanism called the exchange-rate pass-through. Studies of the pass-through generally rely on econometric analysis implemented on time series data. This study examines pass-through to the domestic price level through an input–output model. The proposed model is implemented on a sample of countries, and a number of different variables connected to the pass-through are examined. A comparison across countries and sectors highlights the importance of the construction sector in price formation. National income is negatively related to the pass-through. A high dependence on intermediate imports implies higher pass-through. Price level volatility and pass-through are positively related; whereas a country's monetary policy stance has no apparent effect. The effect of exchange-rate volatility is unclear; it is negative for the real effective exchange rate, the connection is very weak in the case of the nominal exchange rate.

Rueda-Cantuche, J.M., Amores, A.F., Beutel, J., and & Remond-Tiedrez, I. Assessment of European Use tables at basic prices and valuation matrices in the absence of official data. *Economic Systems Research.*

Input–Output modellers are often faced with the task of estimating missing Use tables at basic prices and also valuation matrices of the individual countries. This paper examines a selection of estimation methods applied to the European context where the analysts are not in possession of superior data. The estimation methods are restricted to the use of automated methods that would require more than just the row and column sums of the tables (as in projections) but less than a combination of various conflicting information (as in compilation). The results are assessed against the official Supply, Use and Input–Output tables of Belgium, Germany, Italy, Netherlands, Finland, Austria and Slovakia by using matrix difference metrics. The main conclusion is that using the structures of previous years usually performs better than any other approach.
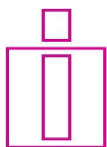
Kajitani, Y. and Tatano, H. Applicability of a spatial computable general equilibrium model to assess the short-term economic impact of natural disasters. *Economic Systems Research.*

Computable general equilibrium (CGE) models have been widely used to assess the economic impact of natural disasters, but the models have not been fully validated by applying them to real disasters. This study focuses on validating a model for use in a short-run case in which the functional recovery of infrastructure and businesses occurred on a time scale of a few months. A special attempt is made to determine the parameter values of elasticity of substitutions, which play an important role in the effect on supply chains. In this study, a spatial CGE model, in which Japan is divided into nine regions, is constructed and applied to the case of the 2011 Great East Japan Earthquake and Tsunami. Through this application, the best estimates of the elasticity parameters generated relatively consistent estimates of production change compared with the observed change, both in severely affected regions and in other regions.

Jiang, X., Lu , X., and Xu, J. How do interregional spillovers influence the distribution of technology? The case of Chinese manufacturing. *Economic Systems Research.*

The Chinese economy displays considerable inequality across regions. In this paper, we analyzed the distribution of intermediate input shares in China. We use regional input–output

tables from 2007 and find that regions with higher GDP per capita generally had higher input shares, regardless of sector. Then, using intermediate input shares as a proxy of technology, we analyzed the pattern of regional technology distributions across manufacturing sectors as well as the extent of interregional technology spillovers. Our results indicate that interregional backward spillovers have significantly positive impacts on the shape of the technology distributions in eastern (coastal) regions. By contrast, the vertical spillovers of the central and western regions are largely dominated by intra-regional forward effects. Our results suggest that the shift of Chinese manufacturing from coastal to inland regions with lower production costs cannot reduce the imbalance among regions unless the technology gap is narrowed.

Serpell, M.C. Incorporating data quality improvement into supply–use table balancing. *Economic Systems Research.*

This paper investigates the benefits of using a boundary tightening algorithm to improve the quality of the data used in supply and use table (SUT) balancing, building on similarities with certain approaches to statistical disclosure control. Boundary tightening was shown to significantly improve the quality of the finally balanced SUTs well beyond that of existing techniques. Most notably, improvements occurred when boundary tightening was applied prior to the balancing process – showing that it can be used as a valuable preliminary to other approaches. It also multiplied the improvement in SUTs quality when more accurate updated information was added to
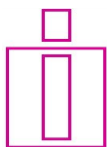
the SUTs. The findings of this paper strongly suggest that this boundary tightening algorithm will improve the quality of the output of the balancing process and it is equally likely to be useful when applied to other processes that handle uncertain data.

Temursho, U. Intercountry feedback and spillover effects within the international supply and use framework: a Bayesian perspective. *Economic Systems Research.*

This paper proposes a new framework for the estimation of product-level global and interregional feedback and spillover (FS) factor multipliers. The framework is directly based on interregional supply and use tables (SUTs) that could be rectangular and gives a possibility of taking account of the inherent input–output data uncertainty problems. A Bayesian econometric approach is applied to the framework using the first version of international SUTs in the World Input–Output Database. The obtained estimates of the global and intercountry FS output effects are discussed and presented at the world, country and product levels for the period of 1995–2009.

Thomas, D.S. and Kandaswamy, A.M. An examination of national supply-chain flow time. *Economic Systems Research.*

The US and other national governments invest in research and development to spur competitiveness in their domestic

manufacturing industries. However, there are limited studies on identifying the research efforts that will have the largest possible return on investment, resulting in suboptimal returns. Manufacturers commonly measure production time in order to identify areas for efficiency improvement, but this is typically not applied at the national level where efficiency issues may cross between enterprises and industries. Such methods and results can be used to prioritize efficiency improvement efforts at an industry supply-chain level. This paper utilizes data on manufacturing inventory along with data on inter-industry interactions to develop a method for tracking industry-level flow time and identifying bottlenecks in US manufacturing. As a proof of concept, this method is applied to the production of three commodities: aircraft, automobiles/trucks, and computers. The robustness of bottleneck identification is tested utilizing Monte Carlo techniques.

Harada, T. A model of intersectoral flow of technology using technology and innovation flow matrices. *Economic Systems Research.*

This paper builds a simple general equilibrium model that sheds new light on the mechanism of intersectoral flows of technology. It explicitly models the production of technology using innovation while technology shocks as deviations from a balanced growth path induce asymmetric productivity changes across sectors. We also conduct a simple quantitative analysis using recent Japanese R&D data, which shows that most productivity effects remain within the bounds of the sector. We find some important

exceptions to this rule, however, in particular for shocks occurring in information technology and precision instruments.

Duan, y., Dietzenbacher, E., Jiang, X. And Chen, X. Why has China's vertical specialization declined?. *Economic Systems Research.*

Vertical specialization (VS) is quantified by the VS share, which measures the average import content per dollar of exports. A characteristic of China's export trade is its strong dependence on assembly and processing activities. To take proper account of this, China's VS shares should explicitly distinguish processing export production from other production. We estimate China's annual VS shares from 2000 to 2012—the latest year for which a special input–output table is available that makes such an explicit distinction. We find that VS shares increased from 2000 to 2004 and subsequently started to decrease. To explore why it has declined, we introduce a new structural decomposition approach. We find that the decrease of the VS share appears to have been driven mainly by the substitution of imported intermediates by domestic products. This occurred in particular in the production of exports, which implies an upgrading of China's position in global value chains.

Raa, T. The use–make framework and the derivation of functional forms in production theory. *Economic Systems Research.*

The use–make framework is employed to explain functional forms in production theory, including Cobb–Douglas and Leontief. Productivity and efficiency are interrelated by augmenting the framework with a linear program that determines the frontier output.

Cadarso, M., Monsalve, F. and Arce G. Emissions burden shifting in global value chains – winners and losers under multiregional versus bilateral accounting. *Economic Systems Research.*

International trade leads to emissions burden shifting and threatens mitigation targets. Multiregional input–output (MRIO) and bilateral trade input–output (BTIO) models are widely used to analyse emissions embodied in trade and global value chains. Especially, the last one is used in analysing border tax adjustment (BTA) on the carbon content of imports. The model choice is not trivial. The analysis shows BTIO's inability to capture the consumer-principle throughout the production chain and its inadequacy as an option for consumption-based accounting, because it allocates emissions to the first importing country and to the sector of production, instead to the consumer (both country and region). Regarding the BTA assessment, BTIO tax domestic carbon content of direct imports, but not indirect imported carbon content. MRIO does provide incentives for mitigation in third countries. The differences in allocation of emissions and taxes' burden of both models have different consequences for developed and undeveloped regions.
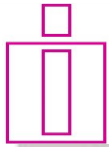
Severini, F., Felici, F., Ferracuti, N., Pretaroli, R. and Socci, C. Gender policy and female employment: a CGE model for Italy. *Economic Systems Research.*

The gender integration in all areas of policy choices and at all stages of the decision-making process is strongly recommended by the European Union and represents an achievement that the Member States should accomplish when implementing policy measures. In a country like Italy, where the level of female labour participation is among the lowest in Europe, policy maker decisions should encourage and stimulate the demand for female labour without neglecting the global employment rate and income growth. The multisectoral analysis offers the possibility to bridge gender disaggregation within income formation and distribution from the production phase to the demand formation. In this perspective, this paper develops a gender-aware CGE model based on the gender-aware SAM for the Italian economy to evaluate the impact of different fiscal policies aimed to reduce female labour cost and trigger woman hiring in those sectors with high gender disparity.

Kim, K. and Hewings, G. Bayesian estimation of labor demand by age: theoretical consistency and an application to an input–output model. *Economic Systems Research.*

Extended input–output models require careful estimation of disaggregated consumption by households and comparable sources of labor income by sector. The latter components most often have to be estimated. The primary focus of this paper is to produce labor demand disaggregated by workers' age. The results are evaluated through considerations of its consistency with a static labor demand model restricted with theoretical requirements. A Bayesian approach is used for more straightforward imposition of regularity conditions. The Bayesian model confirms elastic labor demand for youth workers, which is consistent with what past studies find. Additionally, to explore the effects of changes in age structure on a regional economy, the estimated age-group-specific labor demand model is integrated into a regional input–output model. The integrated model suggests that ceteris paribus ageing population contributes to lowering aggregate economic multipliers due to the rapidly growing number of elderly workers who earn less than younger workers.

Pereda, P., Lucchesi, A., Garcia, C. and Palialol, B. Neutral carbon tax and environmental targets in Brazil. *Economic Systems Research.*

We evaluate the effects of a carbon tax in the Brazilian economy using an input–output framework. First, we consider the impacts of a carbon tax of US\$ 10 and US\$ 50/metric ton of CO_2 equivalent. As usual, the adoption of the carbon tax generates adverse effects on GDP, wages and jobs in the short term, but reduces emissions and generates new government revenues, especially in the case of the greater tax. Second, we consider a broader tax system reform. In this reform, we replace distortionary taxes by a tax on value added. To compensate for the loss of government revenue, we assume a carbon tax with equivalent revenue. We find that the net effect is a GDP increase of 0.47%, the creation of 533 thousand jobs and reduction of 1.6 million tons of CO_2 emissions. Both scenarios exempt exports and levy imports to correct adverse effects on the country's competitiveness.

Reich, U-P. Accounting for international trade in value added: a comment on the OECD–WTO project. *Economic Systems Research.*

In the global economy of today, global value-added chains allow firms and countries to take apart the production process and do the part they are best at. In response to this new reality, OECD and WTO have launched a common statistics project of the 'OECD–WTO Trade in Value-Added (TiVA) Database'. The database links national input–output tables with bilateral trade data to develop inter-country input–output tables that allow compiling, and revealing such chains. Its data are actual nominal values compiled at current exchange rates. The paper takes issue with that choice. Recalling that elsewhere in the United Nations national accounting figures are transformed to purchasing power parity before being compared internationally the paper suggests to follow suit and compile international value-added chains at real exchange rates, as well, and it sketches an introductory outline of how to do so.
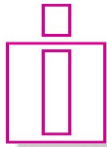
See all volumes and issues

Highlights in journals

Behrens, P., Jong, J., Bosker, T., Rodrigues, J., Koning, A. and Tukker, A. (2017) Evaluating the environmental impacts of dietary recommendations. *PNAS.*

Nationally recommended diets are a prominent method for informing the public on dietary choices. Although dietary choices drive both health and environmental outcomes, these diets make almost no reference to environmental impacts. Our study provides a comparison between the environmental impacts of average dietary intakes and a nation-specific recommended diet across 37 middle- and high-income nations. We find that following a nationally recommended diet in high-income nations results in a reduction in greenhouse gases, eutrophication, and land use. In upper-middle–income nations, we find a smaller reduction in impacts, and in lower-middle–income nations we find a substantial increase. The net result from large-scale adoption of nationally recommended diets for countries studied here results in a reduction in environmental impacts.

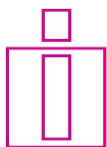**Sharify, N.** (2017) A Nonlinear Supply-Driven Input-Output Model. *Prague Economic Papers.*

One of the major limitations of the supply-driven input-output (I-O) Ghosh model concerns its linear production function. Using the I-O table, this paper replaces the linear production function with the Cobb-Douglas (CD) production function within the supply-driven model. The two models are compared both theoretically and empirically. Nonlinear production function, relative substitutability of primary factors, and variability of the proportion of intermediate inputs over product levels are the characteristics of the proposed model. The consideration of sectors' Solow residual as Total Factor Productivity (TFP) of sectors is yet another characteristics of the proposed model. The model is also plausible in value added and supply shock computations.

Xiao, Y., Norris, C., Lenzen, M., Norris, G. and Murray, J. (2017) How Social Footprints of Nations Can Assist in Achieving the Sustainable Development Goals. *Ecological Economics.*

Our study illustrates how consumer social risk footprints can assist in achieving the Sustainable Development Goals (SDGs). Combining the Social Hotspots Database (SHDB) and the Eora global multiregional input-output table, we use input-output analysis to calculate a consumer social risk footprint (SF) of nations' imports. For our SFs, we select four indicators related to five of the UN's SDGs: gender equality (SDG 5 also 8.5 & 8.8); mother and child health (SDG 3, especially 3.1 & 3.2); governance (SDG 16, especially 16.5 & 16.6); and access to clean water (SDG 6, especially 6.1 & 6.2). After examining results for all four indicators we focus on gender equality to fully convey the value and limitations of using this method of analysis.

Our study compares producer (domestic) social risk and consumer social risk footprints

resulting from international trade patterns. Generally, developed countries show higher social risk footprints while developing countries show higher domestic social risks with the exceptions of UK and Ireland in the developed-world, and China and India in the developing-world. Details of the SFs associated with exported products worldwide reveal that Pakistan, Yemen and Iran have some of the highest SF risk, while Australia, Canada and Denmark are among the lowest. These results are important for the UN in developing partnerships to address the Sustainable Development Goals and for organisations such as the World Bank, Trade Unions and NGOs' work towards a fairer world.

Xiao, Y., Murray, J. and Lenzen, M. (2018) International trade linked with disease burden from airborne particulate pollution. *Resources, Conservation and Recycling.*

The importance of mitigating air pollution is well understood, while the role of trade on health burden induced by air pollution is not. A comparison between the geographic locations of PM emissions and those of airborne diseases shows large discrepancy. The incidence of PM emissions is dominated by countries outside of Asia, while half of the airborne disease burden occurs in China and India. Dealing with the air pollution issue from the endpoint (i.e. PM emissions-caused disease) is more relevant to health. Though there are many influential factors that cause high health burden of air pollution in developing countries, the high airborne disease burden caused by production

in developing countries for fulfilling the demand for goods in developed countries cannot be ignored. We calculate the airborne disease footprints of 189 countries, and link the workers who are suffering from severe airborne disease with the consumers who are enjoying the goods without suffering the health risks of workers. China and India are the top two net exporters of both PM emissions and PM-caused airborne disease, but the net exports are much larger in terms of disease. The USA is the top net importer of airborne disease, followed by other developed nations such as Japan, Hong Kong, the UAE, and many wealthy European nations. These results can be helpful for international organizations and policy-makers to guide joint global efforts for combatting airborne diseases.
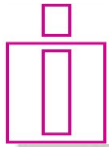
Fry, J., Lenzen, M., Jin, Y., Wakiyama, T., Baynes, T., Wiedmann, T., Malik, A., Chen, G., Wang, Y., Geschke, A. and Schandl, H. (2018) Assessing carbon footprints of cities under limited information. *Journal of Cleaner Production.*

City carbon footprints have become an important tool for monitoring the progress of cities towards lowering their greenhouse gas emissions and contribution to climate change. Cities usually source a major part of their natural resource demand from their local, national and global hinterland, and cause emissions across the whole global supply chain of a city's final demand. It is important that the data underlying carbon footprint assessments of cities capture these supply chains adequately and comprehensively. In this research, we determine the carbon footprints of four Chinese cities, Beijing, Shanghai, Chongqing and Tianjin based on different levels of data availability. Using these case studies, we show conclusively that

city carbon footprint analyses must include input-output databases and associated calculus in order to avoid severe errors that arise from unacceptable scope limitations caused by the truncation of the footprint assessment boundary. We also show that city input-output databases must fulfil a number of requirements for city comparisons and for informed decision-making to be feasible. Our findings suggest that investment into multi-layered national input-output tables and datasets will be necessary to monitor progress of cities reducing their greenhouse emissions across the whole supply chain and to inform evidence based policy making that guides greenhouse abatement.

Duchin, F. (2017) Resources for Sustainable Economic Development: A Framework for Evaluating Infrastructure System Alternatives. *Sustainability.*

We are at an early stage of a massive global build-up of public infrastructure. Long lifetimes, high money costs and resource-intensity, and the rippling effects of the built environment on all aspects of daily life call for informed public conversation about the available choices before they become a fait accompli. Substantial literatures address the phenomenon in terms of economic development, resource scarcities, impacts on climate and ecosystems, technological options, human rights, funding sources, system governance, inter-governmental agreements. This paper describes a modeling framework that

integrates some of these concerns about the differential impacts of large-scale centralized infrastructure systems, smaller-scale decentralized systems, and hybrid combinations. Building on existing collaborations between economists and engineers, the paper proposes a case-study research strategy to organize new types of technical information to supplement existing databases of the world economy. The paper describes needed model extensions to estimate money costs, resource requirements, resource recovery potential, and jobs and livelihoods under alternative infrastructure assumptions. The agenda supports the Sustainable Development Goals (SDGs) by identifying and evaluating globally relevant alternative infrastructure designs. The SDG process, in turn, provides both the global network and the concern to promote local development to which the proposed effort aims to contribute.

Thomas, D. And Kandaswamy, A. (2017) Identifying high resource consumption areas of assembly-centric manufacturing in the United States. *The Journal of Technology Transfer.*

This paper examines supply chain value added in the US for producing assembly-centric products, which includes machinery, computers, electronics, and transportation equipment, and determines whether costs are disproportionally distributed. The implication being that reductions in resource consumption in some cost areas can disproportionally reduce total resource consumption. Efforts to develop and disseminate innovative solutions to improve efficiency can, therefore, be targeted to these high cost areas, resulting in larger efficiency improvements than might otherwise be achieved. An input–output model is used for this examination and is combined with labor data and data on assets. The top 20 industries, occupations, and industry occupation combinations contributing to production are identified. A sensitivity analysis is conducted on the model using Monte Carlo simulation. The results confirm that costs are disproportionally distributed, having a Gini coefficient of 0.75 for value added and for compensation it is 0.86. Wholesale trade, aircraft manufacturing, and the management of companies and enterprises were the industries with the largest contribution to assembly-centric manufacturing, even when including imports. Energy in the form of electricity and natural gas were discussed separately, but would rank 8th if compared to the industry rankings. In terms of occupation activities, team assemblers, general and operations managers, and sales representatives were the largest occupations. Public entities might use this model and results to identify efficiency improvement efforts that will have the largest impact on industry per dollar of expenditure.

Malik, A., Lenzen, M., McAlister, S. and McGain, F. (2018) The carbon footprint of Australian health care. *The Lancet Planetary Health.*

Carbon footprints stemming from health care have been found to be variable, from 3% of the total national CO2 equivalent (CO2e) emissions in England to 10% of the national CO2e emissions in the USA. We aimed to measure the carbon footprint of Australia's health-care system. We did an economic input–output lifecycle assessment of Australia's health-care system. All expenditure data were obtained from the 15 sectors of the Australian Institute of Health and Welfare for the financial year 2014–15. The Australian Industrial Ecology Virtual Laboratory (IELab) data were used to obtain CO2e emissions per AUS$ spent on health care.

In 2014–15 Australia spent $161·6 billion on health care that led to CO2e emissions of about 35 772 (68% CI 25 398–46 146) kilotonnes. Australia's total CO2e emissions in 2014–15 were 494 930 kilotonnes, thus health care represented 35 772 (7%) of 494 930 kilotonnes total CO2e emissions in Australia. The five most important sectors within health care in decreasing order of total CO2e emissions were: public hospitals (12 295 [34%] of 35 772 kilotonnes CO2e), private hospitals (3635 kilotonnes [10%]), other medications (3347 kilotonnes [9%]), benefit-paid drugs (3257 kilotonnes [9%]), and capital expenditure for buildings (2776 kilotonnes [8%]).
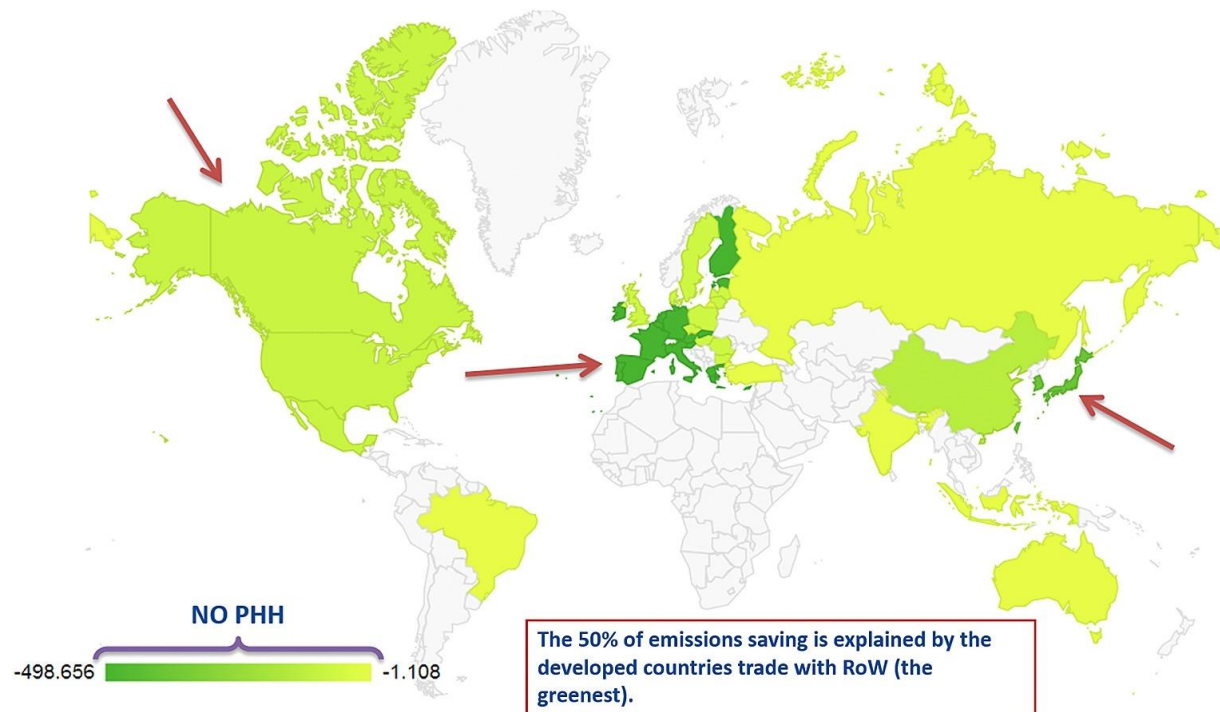
The carbon footprint attributed to health care was 7% of Australia's total; with hospitals and pharmaceuticals the major contributors. We quantified Australian carbon footprint attributed to health care and identified health-care sectors that could be ameliorated. Our results suggest the need for carbon-efficient procedures, including greater public health measures, to lower the impact of health-care services on the environment.
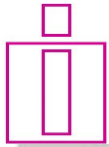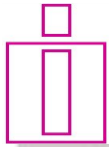
López, L., Arce, G., Kronenberg, T. and Rodrigues, J. (2018) Trade from resource-rich countries avoids the existence of a global pollution haven hypothesis. *Journal of Cleaner Production.*

Free trade agreements are currently receiving much attention in the media and politics. One important question concerning free trade is its effect on the environment, for example in carbon dioxide emissions. The goal of this paper is to provide evidence on the validity of the pollution haven hypothesis using a multiregional input-output approach for six regions and the rest of the world as a whole. Our findings indicate that in the period from 1995 to 2009, international trade has allowed the global economy to reduce its overall CO_2 emissions, compared to a hypothetical situation without international trade. The total amount of emissions saved was 15.06 Gt in the period under consideration. However, not all of the seven regions in our model have been able to reduce their CO_2 emissions through trade. Global value chains have led to China becoming a pollution haven for other regions and its exports have increased world emissions to 1.28 Gt CO_2 in 2008. However, what allows a net saving of emissions on a global scale is the supply of energy and natural resources from a set of peripheral economies, which in our geographical categorization are mostly integrated in the region of the rest of the world.

Graphical abstract

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The 50% of emissions saving is explained by the developed countries trade with RoW (the greenest).

14

López, L., Arce, G., Morenate, M. and Zafrilla, J. (2018) How does income redistribution affect households' material footprint?. *Journal of Cleaner Production.*

This paper presents a study of the evolution of Spanish households' material footprint for the period 2006 to 2013. The method proposed combines the multiregional input-output model with Spanish national data on household consumption according to social group. Material footprint has been affected by the 2008 economic crisis. In relative terms, the share of Spanish households' material footprint, with respect to total material footprint, decreased drastically from 70.7% in 2006 to 50.8% in 2011. This reduction can be mainly attributed to the construction sector crash (34.4% of the reduction is due to construction materials), followed by biomass (29%), metals (27.1%) and fossil fuels (26.1%). By type of household, the material footprint exhibits a scale effect while consumption and income levels grow; and this is accompanied by a global teleconnection effect, which varies from 62% for biomass, to 64% for metals, to 82% for construction materials, to 95% for fossil fuels. Given the context of increasing income inequality, we perform one redistribution simulation from high to middle- and low-income households, finding a material footprint increase in all cases. The most materialized consumer basket is that corresponding to households with incomes between 1500 and 1999 euros. Above that income level, the growing weight of expenditures

on services reduces the use of materials. Importantly, social (income redistribution) and environmental (material footprint) sustainability will become incompatible if responsibility is transferred only to households.

Highlights in Books
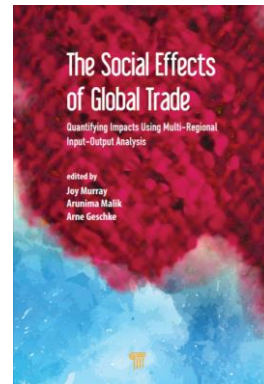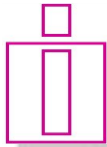
Edited by: Joy Murray, Arunima Malik, Arne Geschke. The Social Effects of Global Trade: Quantifying impacts using multiregional input-output anlaysis. Published by Pan Stanford Publishing Pte Ltd, SIngapore

This book provides a compilation of work on social indicators from IO research groups around the world. It frames this work in the real world of politics, human rights and business, bringing together a multidisciplinary team to demonstrate the power of IO to illuminate problems such as corruption, poverty, pollution and inequality. The book is designed to appeal to a broad academic and business audience. While many chapters include technical detail and references for follow-up reading, it is possible to omit those sections and still gain an appreciation of the power of IO to address seemingly intractable problems.
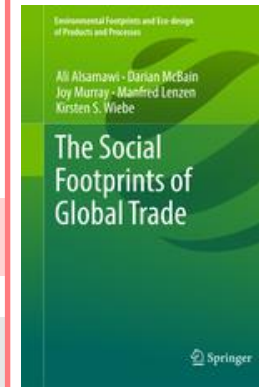
Alsamawi, A., McBain, D., Murray, J., Lenzen, M. and Wiebe, K.S. The Social Footprints of Global Trade. Published by Pan Stanford Published by: Springer Singapore

In this book the authors discuss Social Life Cycle Assessment (SLCA) of the global economy using the multiregional Input-Output (MRIO) technique. The content is presented in two parts, the first of which offers an introduction to social accounting and how it has been developed over the past few years with details on the methodologies and databases used. The second part of the book describes the footprints of the social accounts that have the highest impact on people's well-being (employment, income, working conditions and inequality) and how they are linked to international trade. The need for reporting on such indicators falls within the purview of corporate/national social responsibility (part of the Triple Bottom Line). The book offers a contribution to the literature for researchers and students engaged in the social sciences, human rights and the implications of international trade for labour in developing countries.

Edited by: Luis Antonio López Santiago, Jorge Enrique Zafrilla Rodríguez, Sergio Álvarez Gallego. Carbon Footprint Series. Volume 6: The carbon footprint and the input-output analysis. Published by AENOR

This new publication is the sixth in a series and it is focused in the quantification of carbon footprint using input-output analysis techniques.

This easy wording book clarifies the understanding of the input-output model and develops numerous applications that allow the reader to understand all the potentialities. Besides, some useful tools, software and databases, for the implementation of the model are presented, in this book.

The carbon footprint transfers the environmental responsibility to consumers, which allow us to study environmental impact mitigation measures throughout changes in consumption patterns. The design of regulatory measures and market tools can also be developed within framework of the input-output models to mitigate the carbon footprint of different economic agents.

This is a key publication leading the sixth step in the Carbon Footprint Series.

Book Review

Duchin, F. (2017) "Climate optimism gets a road map." Book review of P. Hawken, Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming, Penguin Books. *Science..*

In Drawdown, entrepreneur Paul Hawken and colleagues introduce an ambitious project to build a social movement around a science-based plan to reduce the concentration of greenhouse gases in the atmosphere. The new volume is a handsome collection of short essays identifying what Hawken and his collaborators believe to be the 80 most effective actions that can jointly reduce emissions and sequester atmospheric carbon in soils and vegetation.

Tables from the I-O world

(IELab) The Industrial Ecology Virtual Laboratory

Within four months of the release of official national statistics, IELab researchers in Australia have produced a time-series (2008-2015) of balanced sub-national, multiregional supply-and-use tables (MR-SUTs), integrated with a set of socio-economic and environmental accounts. In the accompanying publication, the researchers demonstrate the relevance of such purpose-built information to government and corporate decision-makers by analysing the indirect economic and employment consequences of a slowdown of the mining boom in Western Australia.

The MR-SUTs are freely available for download from the IELab Hub - a collaborative platform to generate and share MRIO data (see https://ielab.info).

The novel MR-SUTs provide a great deal of new and timely information for decision-makers with an interest in integrated analysis of socio-economic and environmental factors. In particular, the data fill two major gaps – missing years in the time-series of national SUT published by the ABS; and sub-national SUT suitable for regional analysis, accompanied by inter-regional trade matrices. The demonstrated innovations in flexibility and timeliness will help move past some of the limitations that have historically hindered the uptake and utility of applied input-output analysis.

The link to the data download is provided in this publication: Lenzen, M., Geschke, A., Malik, A., Fry, J., Lane, J., Wiedmann, T., Kenway, S., Hoang, K. and Cadogan-Cowper, A. (2017) New multiregional input–output databases for Australia – enabling timely and flexible regional analysis. Economic Systems Research, 29(2), 275-295.

Industrial Ecology Virtual Laboratory
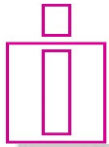
Teaching materials and related courses

PHYS5033 Environmental Footprinting and Input-Output Analysis

Unit of Study coordinator:
Arunima Malik and Manfred Lenzen

This unit of study provides students with both the theoretical understanding and the practical skills needed to carry out their own environmental footprint and impact analyses. This unit uses state of the art economic input-output theory and input-output analysis, and focuses on contemporary environmental applications such as carbon footprints and life-cycle assessment. The unit first explores national and global economic and environmental accounting systems and their relationships to organisational accounting, and also presents cutting-edge techniques enabling the global analysis of environmental impacts of international trade.

PHYS4801 Industrial Ecology

Unit of Study coordinator:
Arne Geschke

The unit explores the goals and methods of Industrial Ecology, with an emphasis on concrete applications, such as renewable energy systems, waste generation, recycling and industrial symbiosis, urban sustainability, and many more. Through these examples students gain a thorough understanding of the usefulness of Industrial Ecology principles and approaches, for example in quantitative assessments of environmental impact and social risk, design of environmental economic policy and energy systems, and urban sustainability planning. In this unit, students use the Industrial Ecology Virtual Laboratory technology newly developed at the School of Physics to undertake their own environmental, social and economic Industrial Ecology projects.

PHYS5034 Life Cycle Analysis

Unit of Study coordinator:
Arunima Malik

This unit of study covers philosophy, techniques, applications and standards of Life-Cycle Assessment (LCA). It introduces methods from engineering (Process Analysis) and economics (Input-Output Analysis), and discusses current popular LCA tools. The unit places importance on practical relevance by including real-world case studies and business applications as well as global standards such as the GHG Protocol for accounting for scopes -1, -2 and -3 emissions and ISO standards. Students learn the techniques for hybrid life cycle assessment, and apply this thinking to real-world problems.

PHYS4802 Quantitative Disaster Analysis

Unit of Study coordinator:
Arunima Malik

Disaster analysis has become a powerful tool for assessing potential economic losses, and in particular for preparing recovery plans and developing scenarios for building resilience into the economy. This unit provides an introduction to the field of disaster analysis, with particular emphasis on simulating and quantifying the effects of a disaster on an economy, both directly and indirectly as a result of cascading disruptions of supply chains. In this unit, students study the technique of disaster input-output analysis and undertake hands-on exercises, modeling disasters and shocks at regional, national and global scales. This unit of study explores the many applications of disaster modelling in assessing the impacts of floods, droughts, diseases, and a collapse of animal and plant populations.

THE UNIVERSITY OF
SYDNEY
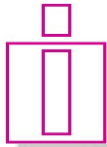
Events

Recent Conferences

Latin American Regional Input-Output Matrix
Economic Commission for Latin America and the Caribbean (ECLAC) Sub Regional Headquarters in Mexico

Introduction

On November 24, 2017, the first meeting for the construction of a Latin American input-output matrix was held in the City of San José, Costa Rica. This meeting was organized by the Economic Development Unit of the Subregional Headquarters of ECLAC in Mexico and the Central Bank of Costa Rica and its purpose was the presentation of the objectives, scope and execution periods of the project "Tables of Input-Output for the design of Industrial and Commercial Policies in Central and South America".

The project for the construction of the Latin American input-output matrix is an initiative financed by the Secretary General of the United Nations and is part of the Development Account Program. Its general objective is to strengthen the statistical and analytical capacities of Latin American countries in the analysis, design and monitoring of industrial and commercial policies, through the construction of national, sub-regional and regional input-output matrices and their use in various economic, social and environmental areas.

Attendees and main themes of the meeting

The meeting was attended by representatives of the Central Banks and Statistical Institutes of the Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), Mexico and Dominican Republic, as well as representatives of the Central American Monetary Council, the Secretary of Central American Economic Integration (SIECA) and ECLAC.

The agenda of the meeting included presentations by the participants on methodological aspects of the construction of a regional matrix, international trade of the service sectors, examples of national matrices and, finally, the state of progress of the development of input-output matrices of the countries of Central America, Mexico and Dominican Republic.

Specific objectives

The specific objectives of the project are, first, to strengthen the technical capacities of the national and subregional statistical systems of the countries of the region to allow them to design and build input-output matrices at a national, subregional and regional level. Second, to elaborate in the analytical capacities of those responsible for the formulation of public policies. Lastly, disseminate the use of national, subregional and regional input-output matrices as an analytical instrument for the design of policies that promote complementarities of production at a sub-regional level, among those responsible for formulating public policies and representatives or delegates to the regional integration schemes (Central American Common Market, Andean Community and MERCOSUR).

Stages

The project is planned to be executed in three stages during the years 2018 and 2019. In the first stage, the construction of the regional Central American input-output matrices (IOM) is planned, whose base year is 2011, for this is necessary to harmonize the supply-use (COU) tables and/or the national IOM of each
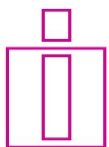
country, in order to obtain a regional input-output matrix conformed by forty homogeneous economic sectors for all the countries. In addition, it´s necessary to build a trade matrix that describes the flows of international trade (imports and exports) among the selected countries. Once the homogenous national matrices in forty economic sectors and the international trade matrices are available, the ECLAC team will build a regional Central American IOM.

The second stage will focus on the design and proposal of national public policies, based on the analysis of indicators obtained from the regional IOM. Finally, the third stage of the project will be dedicated to the analysis, design and proposal of sub-regional policies in the areas of trade, employment and added value.

Attendees of the first meeting of the construction of the Latin American input-output matrix, San José - Costa Rica, November 24, 2017
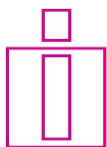

Photo: Astrid Rojas ECLAC- Mexico.

Next courses

2018-1 GTAP 101 Course: "Introduction to CGE Modeling"
April 23 - June 10, 2018

The objective of the GTAP 101 course is to engage participants in an active, team-based process of learning about the GTAP computable general equilibrium (CGE) model and its use in applied economic policy analysis. The curriculum emphasizes an intuitive and graphical treatment of economic theory in the CGE model, and provides structured experiences in manipulating and running the standard GTAP Model within the RunGTAP software environment. RunGTAP is an intuitive, menu-driven CGE model that minimizes technological hurdles and allows students to quickly begin to focus on their economic thinking and experimentation. The curriculum is geared to advanced undergraduates, graduates and professionals. At the end of the course, participants will be entry-level modelers and more informed consumers of CGE-based analyses. The course also serves as an entry point for developing the technical skills required for the GTAP Short Course.

26th Annual Short Course in Global Trade Analysis: "Introduction to Applied General Equilibrium Analysis in a Multi-Region Framework"
July 28 - August 2, 2018

The short course consists of two parts. The online phase is an eight-week sequence where students get in-depth training about the microeconomic underpinnings of applied general equilibrium (AGE) models. The online course allows for self-paced learning on a modular basis. Each weekly module requires an end of week submission that triggers feedback from the instruction team. The onsite course is a mix of lecture and lab sessions designed to develop the economic intuition required to perform high-level policy analysis using the GTAP Model and Data Base. These activities culminate in a major application undertaken by small groups and presented on the final day of the course.

NEW — COURSE CONTENT UPDATED TO REFLECT GTAP MODEL v7

Purdue University
West Lafayette, IN, USA

Next conferences

9th Input-Output-Workshop
15 – 16 March, 2018

University of Bremen University Boulevard
13, Building GW 2
28359 Bremen

The aim of the workshop is to bring together scientists and practitioners in the field of input-output research and to provide a platform for sharing experiences and research methods in the area of input-output analysis.

Topics to be discussed during the workshop could encompass the production of (inter)national and regional input-output tables, the development of input-output models or applications of input-output analysis to specific fields of interest.

We welcome contributions in the following exemplary research fields:

- Database creation
- Structural analysis
- Scenario analysis
- Evaluation

Further topics are highly welcome.

Participation

Please hand in your extended abstract (1-2 pages in pdf format) before December 31st, 2017 to io-workshop@uni-bremen.de.

Important dates

- Submission of extended abstract until December 31st, 2017
- Confirmation of participation until February 1st, 2018
- Workshop programme February 10th, 2018

Conference language will be German and English.

Workshop contribution: €65 p.p.

For questions please refer to organizers:
Email: office-guenther@uni-bremen.de
Phone: +49 (0)421 218 66632

Scientific Committee

Prof. Dr. Udo Ludwig (IWH)
Prof. Dr. Bernd Meyer (GWS)
Prof. Dr. Utz Reich (Mainz University of Applied Sciences)
Prof. Dr. Erik Dietzenbacher (University of Groningen)
Prof. Dr. Josef Richter (University of Innsbruck)
Prof. Dr. Reiner Stäglin (DIW)
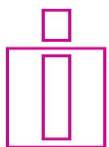
Organizers

Prof. Dr. Jutta Günther (University of Bremen)
Maria Kristalova (University of Bremen)
Anke Mönnig (GWS)
Prof. Dr. Tobias Kronenberg (Bochum University of Applied Sciences)

Guest Speakers

Prof. Dr. Erik Dietzenbacher (University of Groningen, President of the International Input-Output Association)
Dr. Douglas Meade (University of Maryland)

Hochschule Bochum
Bochum University of Applied Sciences
BO

Universität Bremen

GWS
SPECIALISTS IN EMPIRICAL ECONOMIC RESEARCH

The 2nd International Conference on Economic Structures
28-29 March 2018

Nagoya, Japan

Pan Pacific Association of Input-Output Studies (PAPAIOS)

The 2nd International Conference on Economic Structures 2018 (ICES 2018) will be held on 28-29 March, 2018 at Nagoya University, Japan. The Pan Pacific Association of Input-Output Studies (PAPAIOS) invites your participation and contribution to ICES 2018. ICES 2018 focuses on the topics below. Although all contributions that address the topics with an input-output analysis are very welcomed, we also welcome your proposal for organized sessions. The deadline of abstracts submission is 31 December 2017. If you have session proposals, please email to our program committee, ICES_PAPAIOS@yahoo.co.jp by 31 December 2017.

(1) Environment, Resource and Energy

(2) International Economy and International Development

(3) Telecommunication and Information Technology

(4) Productivity

(5) Computable General Equilibrium Mode

(6) Regional Input-Output Analysis

(7) Theory of Input-Output Techniques

(8) Compilation of Input-Output Table, SNA, or SAM

(9) Disaster and the Economy/Society

(10) Others

Further information will be announced in the following website:

http://www.gakkai.ne.jp/papaios/en/index.html

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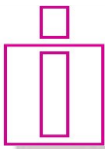
12th World Congress of the RSAI

May 29 - June 1, 2018

Goa, India

The Regional Science Association International (RSAI) and the Regional Science Association of India invite regional scientists, economists, economic geographers, urban planners, policy makers, and researchers of related disciplines to participate in the 12th World Congress of the Regional Science Association International, with the main theme "Spatial Systems: Social Integration, Regional Development and Sustainability". The Congress will be hosted by the Regional Science Association of India.

About the Focal Theme

Across the world, communities are striving to achieve an ecologically and socially secure future. The intricately linked ideas of sustainability and integration are the key to achieving our development goals. As regional scientists, our common pursuit of a sustainable future may be attained with more efficient understanding of the 'region' as a spatial unit. Keeping this objective in mind, the theme of the 2018 Congress highlights the importance of analyzing spatial systems as not just physical space or social space, but shared space. The sub-themes will be aimed at providing a platform for debates and discussions around the key issues of contemporary regional science and carve out the way to future research agenda.
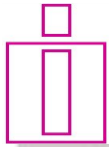
Sub themes

- Big Data for Regional Science
- Cooperation & Development
- Environmental Issues
- Infrastructure, Transportation & Accessibility
- Innovation & Entrepreneurship
- Location of Economic Activity
- Methods in Regional Science & Urban Economics
- Migration & Labor Markets
- Real Estate & Housing
- Regional and Urban Policy & Governance
- Regional Finance, Investment or Capital Markets
- Rural Development
- Social Integration
- Spatial Planning
- Spatial Systems in Transitional economies
- Tourism

Important dates

August 1, 2017 - Pre-Registration Open
August 30, 2017 - Deadline for Special Session Proposals
November 30, 2017- Deadline for Submission of Abstracts for Special Sessions and General Program
November 30, 2017 - Deadline for Congress Scholarship Applications
January 12, 2018- Notification of Congress Scholarship Awards
January 12, 2018 - Notification of Acceptance of Abstracts for Special Sessions and General Program
March 2, 2018 - Pre-Registration Due
April 27, 2018 - Presenters Must Register
April 27, 2018 - Advance Registration Due
May 1, 2018 - Deadline for Submission of Papers
May 29 to June 1, 2018 - Congress dates

21st Annual Conference on Global Economic Analysis
"Framing the future through the Sustainable Development Goals"
June 13-15, 2018

Cartagena de Indias Convention Center
Cartagena, Colombia

The goal of the conference is to promote the exchange of ideas among economists conducting quantitative analysis of global economic issues. Particular emphasis will be placed on applied general equilibrium methods, data, and application. Related theoretical and applied work is also welcome.

A global network of individuals and institutions conducting economy-wide analysis of trade, resource, and environmental policy issues has emerged. Thousands of these researchers now use a common data base, supplied by the Global Trade Analysis Project (GTAP). The project is coordinated by the Center for Global Trade Analysis at Purdue University with the support of a consortium of national and international agencies. The GTAP Data Base is a key input into most of the contemporary applied general equilibrium (AGE) analysis of global economic issues. Participants are given the opportunity to present their work, interact with other professionals in the field, and learn about the most recent developments in global economic analysis.

The overall theme of the conference is "Framing the future through the Sustainable Development Goals" with subthemes on:

• Technology, wages and growth;
• The changing architecture of trade policies;
• Energy transformation—winners and losers
• Challenges to achieving the sustainable development goals

Dates/Deadlines (Eastern Time Zone)

Abstracts	Nov 6 - Jan 15
Organized Session Proposals	Nov 6 - Jan 15
Travel Funding Opportunities	Nov 6 - Jan 15
Abstract Review	Jan 19 - Feb 11
Acceptance Notifications	late Feb
Final Papers	Apr 15
Early Registration	mid Jan - Apr 15
Late Registration (Late fee incurred)	Apr 16-30
Lodging Reservations	dates vary
Registration Payment	May 7
Post-Conference Event	June 16

26th International Input-Output Conference

June 25-29, 2018 - Juiz de Fora (Brazil)

Asian Studies Association of Australia Conference 2018
July 3-5, 2018

Co-organised by the Sydney Southeast Asia Centre, the China Studies Centre and the School of Languages and Cultures, the 2018 biennial conference of the Asian Studies Association of Australia will bring together almost 1,000 academics with a shared interest in Asia.

The conference theme, Area Studies and Beyond, builds upon traditional interdisciplinary fields of research within Asian Studies and seeks to move beyond them, to celebrate the full breadth and depth of scholarly interest in Asia.

Special panel discussion on undertaking sustainability assessments in collaborative virtual labs

Panel members:
Dr. Arunima Malik, Dr. Kunta Nugraha and Dr. Ferry Hadiyanto

58th ERSA Congress
August 28-31, 2018

Cork, Ireland

Places matter for economic and social development. In an increasingly globalized world, people are looking to local and regional factors to optimize competitive advantage, inclusivity, and well-being. The ERSA congress "Places for People: Innovative, Inclusive and Liveable Regions" puts people back at the heart of regional and urban development to examine how spatial and regional analysis can work to improve people's lives. The Congress will host a large variety of themes in spatial, regional, and urban economics, economic geography, and regional policy topics like local governance and institutions.

The Congress is co-organised with the Regional Science Association International – British and Irish Section and will take place at the University College Cork.

Call for Abstracts!
Deadline is February 28th 2018 (GMT+1)