Newsletter
International Input-Output Association (IIOA)
Number 34, November 2017

# Welcome from the Editor

Dear IIOA member,

I am pleased to release to you the latest issue of the *International Input-Output Newsletter*.

I thank all the piece writers and anyone else who has sent us contributions.

This issue features a cordial call for papers to the next IIOA Conference in Juiz de Fora, Brazil. We hope to see all of you there. Check the important dates!

You can also find abstracts for the latest ESR articles, Highlights of Other Journals and Books, Tables from the I-O World (FIGARO tables), Call for Nominations for IIOA Fellows, Next Courses and Events (IELab Conference 2017 in conjunction with ALCAS Symposium 2017; 9th Input-Output-Workshop; The 2nd International Conference on Economic Structures; 12th World Congress of the RSAI; and 21st Annual Conference on Global Economic Analysis).

There are also a Call for papers of Virtual Special Issue on Economy-wide Prospects for Material Recovery and Waste Recycling: Advances in Integrating Input-Output Economics and Industrial Ecology.

Any feedback, comments or suggestions are greatly appreciated.

I hope you enjoy it!

***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

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# 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 |

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## More Information



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# Call for Nominations for IIOA Fellows

Nomination of IIOA Fellows is open for new Fellows to be announced at the 26th IIOA conference scheduled to take place June 24-29, 2018 in Juiz de Fora, Minas Gerais, Brazil. IIOA members may nominate any members of the association according to the guidelines described below. For consideration during this year's nomination process, the current Secretary of the Fellows, Geoffrey Hewings, must receive all nomination materials (at hewings@illinois.edu) no later than **January 31, 2018**. Selection of up to two additional Fellows will be made by vote of the current Fellows.

Fellows of the IIOA are elected to honor them for their scientific contributions to the field of input-output analysis broadly defined. Members of the IIOA, not themselves Fellows, are invited to nominate other members. A nominee must have been a member of the IIOA for at least six years. Each nomination should include: name, current address, current email, current institution, brief curriculum vitae, list of up to ten key publications, and a description of the candidate's contribution to input-output analysis of no more than 100-200 words. Two additional IIOA members, excluding the nominee and the Fellows, must provide letters of support for each nomination. Nominations from previous years are not carried over; in this case re-nominations will be required.

All Fellows are eligible to vote on the nominees. Up to two new Fellows of the IIOA may be elected, and any newly elected Fellows will be installed as such during a plenary event at the conference. Fellows may call themselves Fellows of the IIOA and have the right to free membership in the IIOA. Fellows have the obligation to further promote the development and to advocate suitable application of input-output analysis, broadly defined.

Thank you for your active participation.

Geoffrey Hewings (hewings@illinois.edu)

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# Published papers and books in IOA and related methods

## Latest ESR articles


**Economic Systems Research**
**Journal of the IIOA**
**Volume 29, Issue 4, 2017**

**Carrascal Incera, A.** Drivers of change in the European youth employment: a comparative structural decomposition analysis. *Economic Systems Research,* 29(4): 463-485.

This paper uses a structural decomposition approach to examine the proximate causes of change in the EU15 youth workforce from 1995 to 2011. Besides the traditional sources considered by the literature, I include age-specific factors: a labor utilization index that accounts for the hours that employed youth work by showing the extent of part-time contracts; an age-mix factor that indicates the share that youth comprise of total employment and, finally, changes in the inverse of the overall sectoral labor productivity, which describes variations in total labor demand. By applying this approach, I identify the core drivers behind the recent changes in the evolution of youth employment in each of the 15 countries; this is crucial for tailoring policy strategies. Results suggest that to foster youth employment, most Mediterranean countries should implement youth-specific measures while other EU15 countries could do so by enhancing overall employment.

**Aray, H., Pedauga, L., and Velázquez, A.** Financial Social Accounting Matrix: a useful tool for understanding the macro-financial linkages of an economy *Economic Systems Research,* 29(4): 486-508.

This article extends the traditional methodology of social accounting by building a Financial Social Accounting Matrix (FSAM) and a corresponding Satellite Asset–Liability Matrix for Spain. In so doing, the difficulties that typically arise in consolidating data from the National Bureau of Statistics (INE) and the Bank of Spain (BdE) were overcome. This is the first FSAM for the Spanish economy and might provide new tools to deepen the analysis of the financial sector and of the determinants of financial vulnerability associated with interactions with other sectors of the economy. As a novel contribution to the literature, this paper incorporated a structural path analysis grounded in the FSAM multiplier to identify the principal paths through which financial shocks are transmitted

**Phimister, E. and D. Roberts.** Allowing for uncertainty in exogenous shocks to CGE models: the case of a new renewable energy sector. *Economic Systems Research,* 29(4): 509-527.

The paper explores the importance of allowing for uncertainty in the magnitude of exogenous shocks in Computable General Equilibrium (CGE) models. The shock examined is the introduction of a new onshore wind sector in North East Scotland. A simple analytical model is developed to show how, a priori, the size of the new sector (the model shock) is uncertain and asymmetrically distributed as a result of spatial correlation in costs and returns across potential development locations. The importance of allowing for this uncertainty is tested by comparing the results from a CGE model where the sector size is assumed known with certainty to those from a model where the sector size is a random variable with an asymmetric distribution. The results show the extent to which allowing for uncertainty can influence the magnitude of estimated impacts with some variables more sensitive to the uncertainty than others.

**Fujii-Gambero, G., and R. Cervantes-Martínez**. The weak linkages between processing exports and the internal economy. The Mexican case. *Economic Systems Research,* 29(3): 528-540.

The aim of this paper is to show the internal linkages of manufacturing exports and the rest of the economy. We take the Mexican economy as the case of study. Manufacturing exports constitute the most of exports and processing exports (maquiladora) represent an important part of them. We consider the indirect domestic value added contained in Mexican manufacturing exports, dividing them into exports from the internal economy and the maquiladora industry. We show that the internal backward linkages of exports are weak, that only a few sectors produce inputs for exports, and that the forward linkages are weak too because the Mexican maquiladora industry assembles imported parts and components into final goods for export. The actual picture is quite different from that presented by Hirschman [(1958) The Strategy of Economic Development. New Haven, Yale University Press], who argued that the manufacturing sector plays a key role to promote economic growth because of its dense forward and backward internal linkages.

**Duchin, F. and S.H. Levine.** Choosing among alternative technologies: conditions for assuring the feasibility of an input–output database or scenario. *Economic Systems Research,* 29(4): 541-556.

The conceptual reach of the basic input–output modeling framework is substantially extended by new models that incorporate the economic logic of comparative advantage as the basis for the endogenous choice among alternative production technologies. This paper establishes procedures that define the conditions under which the database used for scenario analysis in this extended framework assures the existence of an economically feasible solution. We provide a criterion for structural feasibility, the property established by the Hawkins–Simon condition for the basic input–output model, and introduce a criterion for scale feasibility. The logic underlying the tests is illustrated by numerical examples based on the Rectangular Choice-of-Technology model and database. These procedures can be particularly useful for incorporating engineering and other technical sources of information into multi-regional input–output databases; they can also provide substantial underlying detail about individual technologies, sectors, and factors of production for both feasible and infeasible scenarios.

**Poissonnier, A.** A general weighted least squares approach for the projection of input–output tables. *Economic Systems Research,* 29(4): 557-565.

In the context of input–output analysis, it is often necessary to update a matrix for a date when only the sum of its columns and rows are known. This projection problem is quite similar to temporal disaggregation. I borrow from this literature a class of solutions for which the exact result can be implemented without iteration. These solutions minimize the adjustment made to the out-of-date matrix and as such can be said optimal according to a chosen criteria. The framework I expose is flexible enough to encompass many of the existing methods and develop new ones. I propose one of such methods to project a matrix between two given benchmarks. I exemplify the technique on 35 years of input–output tables for France and show in particular that the issue of negative cells can be avoided.

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**Economic Systems Research**

**Journal of the IIOA**

**Latest articles** (up to 15-Nov.)

**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.*

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.

**Peneder, M. and G. Streicher.** De-industrialization and comparative advantage in the global value chain. *Economic Systems Research.*

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.

**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.*

The Copenhagen and Paris Agreements, in which developed countries committed to mobilise USD 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.*

Recent empirical assessments revealed that footprint indicators calculated with various multi-regional 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.

**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.*

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 multi-regional 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.

**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.*

This study investigates the mechanics of international trade and CO2 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).

**Gurgul, H. and Lach, Ł..** Some remarks on a social network approach to identifying key sectors. *Economic Systems Research.*

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.

**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.

**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.

**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.

See all volumes and issues

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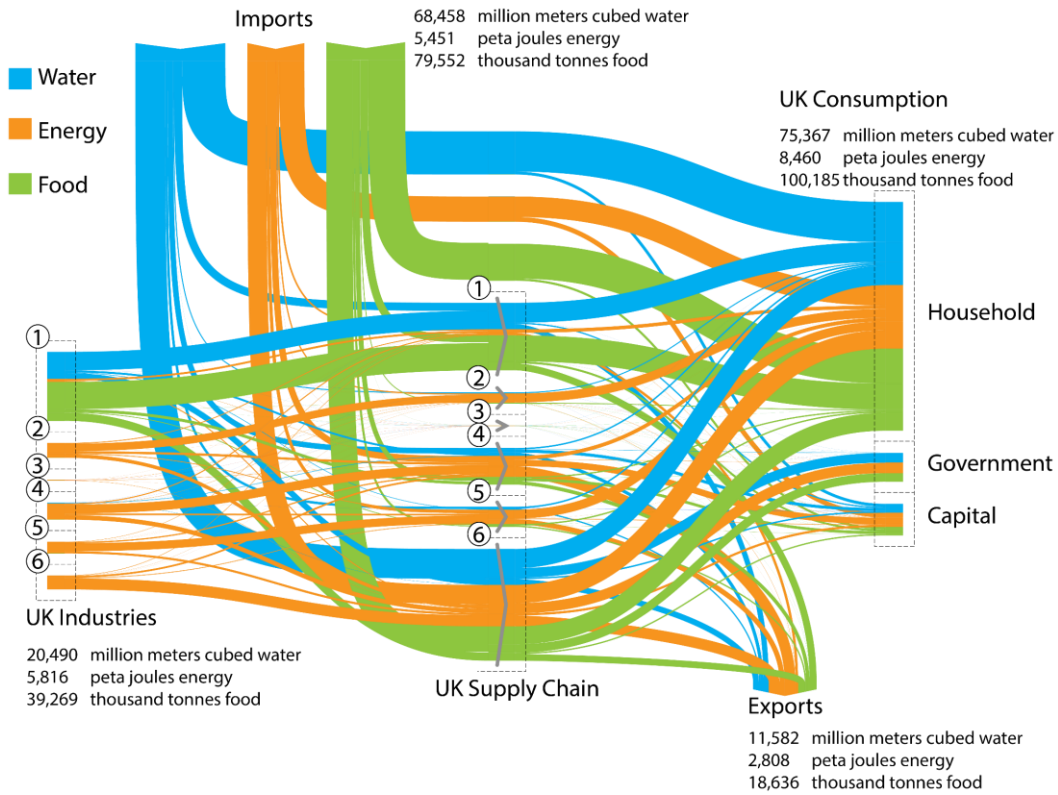
# Highlights in journals

**Owen, A., Scott, K., and Barrett, J.** (2017) Identifying critical supply chains and final products: An input-output approach to exploring the energy-water-food nexus. *Applied Energy*.

Recent advances in detailed multiregional input-output databases offers new opportunities to use these environmental accounting tools to explore the interrelationships between energy, water and food–the energy-water-food nexus. This paper takes the UK as a case study and calculates energy, water and food consumption-based accounts for 1997–2013. Policies, designed to reduce the environmental impact of consumption of products, can intervene at many stages in a product's whole life-time from 'cradle to gate'. We use input-output analysis techniques to investigate the interaction between the energy, water and food impacts of products at different points along their supply chains, from the extraction of material and burning of energy, to the point of final consumption. We identify the twenty most important final products whose large energy, water and food impacts could be captured by various demand-side strategies such as reducing food waste or dietary changes. We then use structural-path analysis to calculate the twenty most important supply chains whose impact could be captured by resource efficiency policies which act at the point of extraction and during the manufacturing process. Finally, we recognise that strategies that aim to reduce environmental impacts should not harm the socioeconomic well-being of the UK and her trade partners and suggest that pathways should be targeted where the employment and value added dependencies are relatively low.

**Graphical abstract**



**Miller, R.E., and Temurshoev, U.** (2017) Output upstreamness and input downstreamness of industries/countries in world production. *International Regional Science Review*, 40(3), pp. 443-475; First published: 2015.

Using the world input–output tables available from the World Input–Output Database project, we quantify production line positions of thirty-five industries for forty countries and the rest of the world region over 1995 to 2011. In contrast to the previous related literature, we do not focus only on the output supply chain but also consider sectors' input demand chains. This distinction is important because both these chains jointly constitute the entire production process, and the output sales structure of each sector is generally different from the structure of its inputs purchases. We use the output upstreamness (OU) measure of Antràs et al. and our proposed input downstreamness (ID) measure to quantify industry relative position, respectively, along the global output supply chain and the global input demand chain. Focusing on time variation, we find that potential input–output data uncertainties do not affect the observed patterns of the average OU and ID changes for the vast majority of countries and sectors. Further, for most countries the increase in OUs/IDs over time is found to be driven by a rise in cross-border intermediates sales/ purchases.

**Campos, R.B.A., and Guilhoto, J.J.M.** (2017) The socioeconomic impact of low-income housing programs: An interregional input-output model for the state of Sao Paulo and the rest of Brazil. *Habitat International*, (65) 59-69.

The public policies programs for low-income housing in Brazil started in the 1930s. The most recent well-advertised program Minha Casa, Minha Vida (MCMV) by the Federal government has the goals to improve the quality of life of poor people, to reduce the housing deficit, and to foster the economy. The objective in this research is to evaluate socioeconomics impacts of low-income housing on regional economic system, highlighting housing public policies developed by the state and the federal government. Under an emerging low-income housing policy, the state of Sao Paulo created the so-called CDHU. The question raised by this paper is how important was the contribution of these programs to the economic growth in the state of São Paulo and in the rest of Brazilian economy in previous years? Thus, a specific interregional input-output model is estimated for two regions, state of São Paulo and rest of Brazil, with the usage of six different typologies of low income housing ranging from a single families housing to gated community housing. The impacts are measured in terms of GDP, tax collection, production, and employment in the State of São Paulo and in the rest of Brazil. The results show that the effect in the economy is different depending on the chosen housing typology investment; in other words, the estimated model provide tools to decide about the best housing type for promoting economic growth. The MCMV program and the CDHU's program affect the state economy system by expanding the demand for inputs for the construction of new buildings (direct effect); by expanding the demand in other sectors due to the feedback effect (indirect effect), and by expanding the income of families - it also increases the demand for goods and services in the economy (induced effect).

**Mesnard, L.** (2016) Price consistency in the Leontief model. *Cahiers d'économie Politique / Papers in Political Economy*, 2016/2 (71): 181-201.

The Leontief value model uses two periods, the base and current periods. The model is solved with current price indexes and base technical coefficients. The corresponding physical model is monoperiodic: it is solved with the current prices and the current coefficients. The Leontief model is not coherent—both monetary and physical models diverge generally—unless the interindustry matrix of direct and indirect quantities of labor is stable over time. This implies that the vertically integrated labor coefficients are stable. This assumption is satisfied when the physical production coefficients and the physical labor coefficients are stable over time. This is a very strong assumption.

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# Highlights in Books

W. Leontief (1928) ***La economía como flujo circular***, México D.F., Facultad de Economía, UNAM, 2017.

**Original title: Wirtschaft als Kreislauf, *Archiv für Sozialwissenschaft und Sozialpolitik; Bd. 60, H. 3 1928* pp. 577-623.**

(W. Leontief The Economy as a Circular Flow) translated from German into Spanish by Félix Arias Schreiber Barba, Cynthia Gómez Sosa and Fidel Aroche Reyes. The latter has also coordinated the works, revised the translation and written the presentation (in Spanish as well).

W. Leontief submitted his Ph.D. thesis to the Friedrich Wilhelm University in Berlin in 1927, he would finally get his degree the following year. The thesis would be also published as a journal article in 1928; the present translation is based upon the later edition. Despite the existence of those two publications, this is not the best-known work by the prolific author; despite an abridged translation into English that appeared in 1991 as "The Economy as a Circular Flow" in *Structural Change and Economic Dynamics* Vol. 2, No, 2 pp. 177-212. The first complete translation is now available.

Fidel Aroche underlines the interest to present this text, where Leontief discusses important aspects of his methodology and theoretical approach. Indeed, rather than searching for the construction of pure economic theory our author is concerned with, finding useful theoretical elements in various environments that allow him to explain economic phenomena rigorously. As we know, his approach to economic theory is quite original and heterogeneous. Besides, Leontief presents the economy as a system of producers that revolts around the circular flow, just as he would assume in the Input-Output model. Both models are of course quite similar to one another. In a word, it is worth revisiting Leontief's early work, and this publication makes its access easier to a broader group of readers.

# Call for papers

## Call for Papers of Virtual Special Issue on Economy-wide Prospects for Material Recovery and Waste Recycling: Advances in Integrating Input-Output Economics and Industrial Ecology

Carlos A. López-Morales a, Nathaniel P. Springer b(*), Faye Duchin c

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The goals of reducing waste and promoting the recycling of materials have defined industrial ecology ever since its dawn as a field for scholarly research in the late 1980s. Its current agenda is arguably motivated by two general objectives: (i) understanding the material aspects of production processes and (ii) assessing interventions to make these processes sustainable. In pursuing these goals, the industrial ecology community has entered a fruitful relationship with the community of input-output (IO) economists, primarily by using the basic Leontief model as the center of collaboration. The features of the database utilized by this basic model (namely the comprehensive and consistent description of industrial interdependence at a meso-economic level) and the basic solution concept (namely matrix inversion) have proved very useful in the context of both life cycle and material flow analyses, both representing core approaches within industrial ecology (see Suh and Kagawa, 2002).

The contribution of Nakamura and Kondo (2002) of the Waste Input Output (WIO) model is explicitly described as a link between IO and both LCA and MFA, and this contribution has proven important both conceptually and in a number of empirical studies. However, a fuller integration between LCA and MFA through the economic links joining product and infrastructure life cycles with the associated resource inputs

and outputs remains to be explored, including a dynamic framework that can explain the links between various kinds of stocks and the associated flows. The WIO model and other extensions of the basic IO model (see Duchin 2015), which have also been identified explicitly with the concerns of industrial ecology, can be fruitful for integrating the analysis of waste generation, material recovery, and recycling with the economics of production, choice of technologies, dynamics, and inter-regional trade.

The main objective of this Virtual Special Issue (VSI) is to collate original papers from sustainability researchers exploring the integration of waste generation, recovery, and/or recycling from MFA or LCA perspectives with a broadened framework of IO models of the economy. This collaboration would enhance the ability to examine not only future money costs but also future technological changes associated with different resource sources and associated implications for international trade and the global economy. Authors are encouraged either to build upon existing approaches, such as the WIO or other input-output models, or to propose new methodologies for scenario development, the representation of alternative technologies, data requirements and sources, dynamics, or assessing the economic aspects of waste generation, recovery, and recycling in the future. Industrial ecologists offering reflections on the relationships between LCA, MFA, or other modeling approaches to scenario analysis in an input-output context are also encouraged to submit a paper for this Special Issue.

**Potential topics for this VSI include but not limited to:**

- Identifying the strategic questions to be addressed regarding the management of waste
- Methodological extensions to the WIO model, including possibly for strategic empirical applications
- Analysis of resource recovery and re-use in IO economics
- Waste analysis in the context of other IO model extensions: the dynamic input-output model, the World Trade Model (WTM) or the Rectangular Choice-of-Technology (RCOT) model
- Reflections on the conceptual and empirical relevance of LCA and MFA for IO economics (in particular forward-looking MFA and consequential LCA).

A Virtual Special Issue (VSI) is an online-only grouping of Special Issue articles traditionally assigned to a single Special Issue. Each article in a VSI is assigned a unique identifier and then published in a regular journal issue as soon as available. The unique identifier allows us to simultaneously add the article to a VSI on ScienceDirect which is gradually built up as individual articles are published online. Articles grouped together in a VSI retain their original citation details. A VSI speeds up the publication of individual articles as, unlike the publication process for conventional Special Issue articles, a VSI does not need to wait for the final article to be ready before publication.

Please follow the "Guide for Authors" of RCR to prepare your manuscripts. Please submit your manuscripts via Elsevier Editorial System at http://ees.elsevier.com/recyl and select "VSI: IO" when asked to indicate the "Article Type."

**Important dates:**

- Manuscript submission deadline: February 28, 2018 (early submissions are welcome)
- Deadline for final decision notification: normally 5-6 months after the submission deadline
- Publication: As soon as accepted (VSI)

**Managing Guest Editor**

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Literature references can be check here.

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# Tables from the I-O world

## FIGARO tables to come: a new EU statistical tool for input-output analysis

The statistical office of the European Union (EUROSTAT) in collaboration with the Joint Research Centre (JRC) of the European Commission will finish compiling by end of 2017 the European Inter-Country Supply, Use and Input-Output Tables (EU IC-SUIOTs). The tables are experimental and provide the European Inter-Country Supply, Use and Input-Output tables (IC-SUIOTs) for the year 2010 at current prices based on the latest System of National Accounts (SNA2008) and its European version (ESA2010).

The EU-IC-SUIOTs serve to support the analyses of the economic, social and environmental consequences of globalisation in the EU by means of studies on competitiveness, growth, productivity, employment, environmental footprints and international trade (e.g., global value chains).

FIGARO (Full International and Global Accounts for Research in Input-Output Analysis) tables are compiled re-using Eurostat data. Main inputs are the National Accounts benchmark macro aggregates, the national Supply, Use and Input-Output tables of the EU Member States , trade in goods statistics, trade in services statistics, tourism statistics, and trade by enterprise characteristics statistics. OECD Data on International Transport and Insurance Costs of Merchandise Trade (ITIC) are used for the estimation of imports valued in fob.

FIGARO tables are expressed in basic prices and in FOB (Free on board) valuation for the import part. The different treatment of goods sent abroad for processing and merchanting in the ESA2010/SNA 2008 requires alignment of trade statistics to the national Supply and Use Tables values expressed in purchasers' prices. The full process is made as transparent as possible to be able to measure and follow each transformation to the original data.

Since columns and rows of discrepancies are unavoidable provided the difference in concepts and valuation between trade statistics and national accounts, the FIGARO tables provide statistical inter-country use Tables (with explicit discrepancies) and analytical inter-country use tables (without discrepancies and fully balanced).

The intercountry input-output tables are derived from the national supply tables and the analytical intercountry use tables by using available national input-output tables and standard technology or fixed sales structure assumptions for product-by-product and industry-by-industry tables, respectively.

The experimental EU-IC-SUIOTs provide an industry breakdown of at least 10 activities, being the ultimate goal to be in line with the 64 activities breakdown available at national level.

From the experience gained in the project, a work plan will be developed concerning the yearly production of EU-IC-SUIOTs and the production of a time series of EU-IC-SUIOTs from 2010 to 2018 (Input-Output tables – IOTs – 2010-2018; Supply and Use tables – SUTs – 2010 and 2015). The EU-IC-SUIOTs constitute a further development of the current regularly published EU and Euro area consolidated SUIOTs (see data here).

The latest developments of FIGARO project (objectives, organisation and methodology) are available on Eurostat Economic globalisation page. The FIGARO tables will be available on the Experimental statistics of Eurostat website. Be ready to visit it here.

For any comments please contact the FIGARO team (Isabelle.remond-tiedrez@ec.europa.eu and josem.rcantuche@ec.europa.eu ).

The FIGARO team from JRC, Eurostat with OECD colleagues, Sevilla, September 2017

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# Events

## 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.

Purdue University
West Lafayette, IN, USA

# Next conferences

## IELab Conference 2017
## in conjunction with
## ALCAS Symposium 2017

**26-28 November 2017**

The University of Queensland, Moreton Bay Research Station, 37 Fraser St, Dunwich (off Brisbane)

You are cordially invited to participate in the 2017 joint IELab-ALCAS conference on Stradbroke Island! Developers and users of the Industrial Ecology Lab will meet for two days to:

- widen community awareness and usage of the IELab,
- showcase the diverse applications of the IELab
- connect in particular to the LCA community for applications
- create an environment for building and initiating collaborations
- support and train the next generation of IELab users and developers
- discuss new collaboration and project ideas

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Join us for the two-day conference on beautiful Stradbroke Island. There will be plenty of opportunity to get to know the project, meet researchers and initiate new collaborations amongst a growing community.

For further details and program please visit

https://ielab.info/discover/events/ielab-conference-2017

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iel Industrial Ecology Virtual Laboratory

ALCAS AUSTRALIAN LIFE CYCLE ASSESSMENT SOCIETY

# 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)
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**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

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

PAPAIOS

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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 and Development
- Environmental Issues
- Infrastructure, Transportation and Accessibility
- Innovation and Entrepreneurship
- Location of Economic Activity
- Methods in Regional Science and Urban Economics
- Migration and Labor Markets
- Real Estate and Housing
- Regional and Urban Policy and 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*

RSAI

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# 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 |

GTAP

## 26th International Input-Output Conference

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


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