Newsletter

Number 5; February, 2009

International Input-Output Association (IIOA)

Special issue in memory of W. W. Leontief on occasion of the 10th anniversary of his death

Editorial

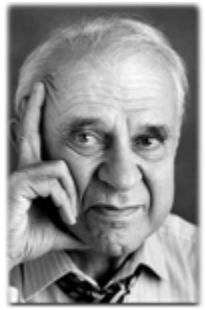
Leontief's legacy

Wassily Leontief, lived the good, old-fashioned, life—impeccably dressed and with a keen eye for beauty in all domains. In economic science he was the general. The Bolsheviks did not know how to handle him, threw him in and out of jail. The U.S. was not amused by his progressive political leanings, but Leontief silenced the administration in court.

As any general Leontief believed in planning. At the beginning of World War II the U.S. economy had to be redirected, to produce military hardware instead of household consumption goods, and Leontief's input-output model was used to guide the transition. In theory the Americans could have relied on the market mechanism, with excess demand for aircraft and other military equipment driving up their prices and making large-scale production profitable, but they did not and for good reasons, according to Leontief.

Firms which do not operate at or near minimal average cost are competed out of the market and as a result the economy features constant returns to the scale. The rate of profit is equalized irrespective the level of output and, therefore, market prices do not suffice to determine the quantities that must be supplied to fulfill demand. Planning is a useful supplement.

Leontief regretted that his ideas became out of fashion during the Cold War, when input-output analysis was perceived as a Soviet tool, as well as during the more recent transition to a market economy in Russia in the 1990s, perhaps for the same reason. However, the first decade after his death we witness a remarkable resurgence of input-output analysis.



I discern at least three developments. First, in the theory of international trade the neoclassical paradigm—with relative factor abundance explaining the comparative advantages—is augmented. Technology differences are factored in and input-output analysis is needed for the modeling. Second, and related, technology spillovers and patents top the world trade negotiations agenda and are analyzed with the same tool. Last but not least, global warming—the most pressing political issue—brought Leontief's environmental model back in action.

Our last conference, in Seville, relaunched the environmental issue and the theme of our next conference, 11-17 July 2009 in Sao Paulo, is "The World in an Ever Changing Environment." Many young scientists—economists and others—contribute to these events and other activities of the IIOA.

Leontief would have loved the liveliness of these meetings. At an NYU seminar a distinguished MIT Professor once asked trivial questions for the sake of a pedagogic presentation. Leontief would answer them quickly, not once but each time. The situation became embarrassing and Professor Bever said: "Of course your answer is right, Professor, but the question was meant for the students." Leontief rebuked: "Here we are all students."

Thijs ten Raa
Tilburg University
Netherlands

In this issue:

Know more about W. W. Leontief here!!

His legacy, personal features and thoughts told by some of his closest colleagues!!

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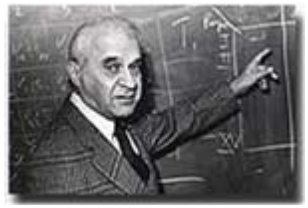
Remembering Wassily Leontief

If Professor Leontief is observing the input-output economics scene from his current resting place, he surely has a smile on his face. The approach to theorizing and modeling that he championed are enjoying a surge in popularity, and for just the reason he anticipated: their ability to help us understand and respond to the major problems of our times. He held two basic convictions about theorizing. First, new theory has to be developed iteratively with its application to empirical questions that guide its priorities and test its soundness and usefulness. Second, economic theory is expressed in equations, so extending the theory of input-output economics requires extending the basic equations to represent more interrelationships among more variables.

But to extend theory on a consistently multisectoral basis is slow and patient work: his advice for making progress was to think through the operations of an expanded economic system, first and foremost, in terms of physical stocks and flows – that is the hard part: the representation of prices and money flows would then follow more readily. He reasoned that thinking in terms of physical stocks and flows is also the fundamental requirement for collaboration at a profound level with those from other disciplinary backgrounds who focus, according to their own interests, on selected physical inputs and outputs. Key examples are engineers, interested in the input requirements corresponding to different technologies for, say, generating electric power or environmental scientists concerned with the associated carbon emissions, and he actively cultivated such collaborations.



His main societal concern during the decades of his active research life was the plight of workers, especially less educated and less skilled ones, in both industrialized and developing countries, who risked being displaced by automation and thereby losing their livelihoods.

Today, it is the compelling crisis surrounding the use of fresh water, land, fuels and materials, and the corresponding discharges and disturbances to the environment, which has drawn interdisciplinary researchers' attention decisively to input-output economics. And dealing with the global economic crisis still taking shape around us is likely to provide the stimulus for incorporating the origins and destinations of foreign direct investment and other money flows, and their consequences for different sectors and categories of workers in all economies, in input-output models of the world economy. These are challenges that he would have savored.

Professor Leontief's counsel to aspiring researchers was: "Study the economy, not economics." He believed that researchers work most productively in teams, where learning takes place "by osmosis." While he always operated with implicit hypotheses, his attitude toward empirical analysis that suggested the need to reject them was: "Let the chips fall where they will." His advice was to value quality over quantity in publication, meaning never to rush to present or send out work that was not ready.

Professor Leontief's worldview was informed by many influences, starting from the eventful historical setting in his native Russia at the time of his youth, his lively intellectual and cultural family milieu, and his residence in several countries still as a young man. He read widely in fiction and non-fiction alike, and he and his wife took not one but two different subscriptions every season to the New York City Ballet under Balanchine.

He enjoyed quiet time at his country home, first in Vermont and then in Connecticut, where he passed many hours fly-fishing for trout. While he clearly achieved uncommon professional success as well as personal fulfillment in his lifetime, he was patiently confident that the full potential of input-output economics would be realized but take time to come to maturity.

Ten years after his death, as we take initial stock, his remarkably rich legacy indeed continues to increase the scope and depth of its influence. The rest is, in large measure, up to all of us.

Faye Duchin
Rensselaer Polytechnic Institute
Troy, New York, US

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In memory of Wassily Leontief

Late Professor Wassily Leontief was the external examiner of my PH.D. Dissertation "Some Applications of Input-Output Techniques to the Analysis and Development of ECAFE Countries", which was carried out under the supervision of Professor Ambica Prasad Ghosh (famous for the Supply-driven Input-output model or simply the Ghosh-Model in the input-output literature), Economics Department, Jadavpur University, Calcutta, India. Professor Ghosh has worked with late Professor Richard Stone at Cambridge University, U.K., and with late Professor Wassily Leontief at Harvard University, U.S.A.

After obtaining the PH.D Degree in 1973, I was exploring the possibilities of going abroad and made correspondences with many universities, institutes and academicians. At last, my efforts were successful with kind co-operation of Professor Ghosh and I could get an opportunity to be at New York University U.S.A. and spend two years there, from 1977 to 1979. I was associated with late Professor Leontief when he was the Director of the Institute for Economic Analysis (IEA), New York University, U.S.A.

Institute for Economic Analysis (IEA) during that time was fortunate to have a group of excellent researchers – to name a few – Faye Duchin, Ira Sohn, Sylz Daniel, Sylvia Naser, Thijs Ten Raa, Vu Viet, Tony Small, and Pierre Mohnen. We had a good opportunity for exchange of ideas (theoretical as well as empirical) on input-output and related topics in connection with the research projects.

Among the memorable moments, I mention only a few. I still remember the day I met Professor Leontief. I had to make an appointment with his secretary. When I visited Professor Leontief, he opened the door to his study and greeted me with a smiling face. I entered and took a seat. We had a very fruitful discussion. On another occasion, I had prepared a note on partially closed input-output model and submitted it to him for his comments.

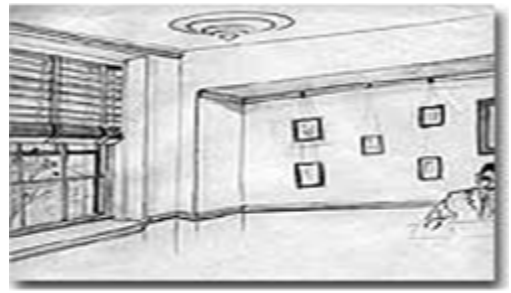
He read it and gave suggestions. I still remember what he said to me – "Debesh, you can work on it and publish a paper. But this is the high time for you to get deeply involved in the unresolved problems of economics and try to solve them" – how serious was he about addressing the unresolved issues rather than publishing an article!

I was, at that time, also working on the aggregation problem of input-output analysis. I met Professor Leontief and told him about this. He asked, "Are you interested in theoretical or empirical work?" I replied as an ordinary researcher, "Empirical". He immediately suggested, "You must understand the theory first, and then do the empirical work". He advised us to combine a theory with the empirical works. I was very fortunate to give a seminar on the aggregation problem of input-output analysis and Wassily was present at that seminar.

I used to attend Professor Leontief's classes too. I still remember one lecture where he beautifully explained the "Dynamic Inverse". I was very much keen to attend the International Input-Output Conference held in Innsbruck, Austria, in 1979.

I could participate in the Conference, as Wassily was kind enough to permit me and instructed the office of IEA to bear a part of my expenses. Last but not the least, Wassily invited me for a lunch when I was about to leave New York University and return to India.

During the lunch, he was keen to know about my future activities. I met him last at the International Input-Output Conference held in New York University, in 1998, where he delivered a thought-provoking lecture even at the age of ninety-three.



Wassily is no more with us. I still cherish in my pensive mood, the treasured memory of the marvelous moments I had with late Professor Wassily Leontief and the other colleagues during my days at the Institute for Economic Analysis (IEA), New York University, U.S.A.

Debesh Chakraborty
Jadavpur University
Calcutta, India

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Leontief stories

From 1959 to 1966, I was with the Harvard Economic Research Project, first as a graduate assistant programmer and then working on my own input-output related research. Since Leontief has been somehow identified with the computer in economics, it should perhaps be mentioned that he knew nothing of programming. Decades later, he called me and, laughing, said that the time had come for him to learn to use a computer for writing and asked my advice on what notebook to buy.

His great interest in those years was the dynamic model. He had me computing characteristic values. They always came out complex and wildly explosive, so that it was clear that sensible solutions could not be obtained as easily as he had once supposed. The "switching problem," as he had called it, proved to be quite intractable. My thesis showed how to avoid the problem and get sensible growth paths that "almost" satisfied the equations of the dynamic model. He wrote in the margin, "This is cutting the Gordian knot, not untying it." Whether he was ever convinced that the problem had been laid to rest, I am not sure. I am sure, however, that we have solved over and over models that are very close to the Leontief dynamic model.

At about this time, he returned to Russia to give a number of lectures. Questions were written and selected by the chairman. The last question at one lecture came, the chairman stressed, from the students. It read, "When you refer to Americans you say 'we' and when you refer to Russians you say 'you.' Why is that, since you were born Russian?"

To understand the answer, one must recall that Stalin had strongly backed Trofim Lysenko's rejection of Mendelian genetics and espousal of environmentally acquired inheritance. By the time of Leontief's visit, however, no one took Lysenko seriously. So Wassily said, "As you know, there are two theories in biology. The Mendelian view says that we are determined by our genes; the Lysenko view says that the environment outweighs the genes. My own experience favors the Lysenko view." The students roared their appreciation.

During those years, our relations were strictly professional, and I have no particular stories to tell. Years later he relaxed and recounted some of his memories. Somehow the topic of religion came up. Estelle, his wife, expressed her determined atheism. Joan, my wife, asked Wassily how he felt on the subject. He replied, "When I was learning to walk, I had a big ball that I could hardly reach half way around. If I carried the ball in front of me, I could walk quite well, but without it, I would fall right over. I think religion may be like that ball."

The conversation then turned to burial, and Wassily recounted how he and Estelle, finding themselves near where Schumpeter and his wife were buried, had gone to visit their graves. They liked the peaceful old New England cemetery and asked the sexton if they might purchase a lot there. The sexton observed that there was plenty of room in the Schumpeter lot for two more graves. Would they like them? Yes, that would be very nice. The sexton marked the grave sites for them. How much would that be? "Oh," said the sexton, "they are already paid for. I couldn't think of charging for the space twice!"

Wassily seemed pleased with the idea of being laid to rest near Schumpeter, but Estelle said to Joan, "I have no idea how the Schumpeters would feel about this." When Joan replied, "You may find out," Estelle's mouth dropped.

Mention of Schumpeter, however, prompted another story. Shortly after Estelle and Wassily were married, they were living on the fourth floor of a walk-up apartment in Cambridge. It was a Sunday morning after a wild Saturday night before. They woke up at about 10 o'clock and looked out of the window to behold, to their horror, Schumpeter and Taussig in morning clothes with top hats getting out of a taxi and heading toward their door with bouquets of flowers in hand. Clearly, in the best of old traditions they were coming to pay a visit to the newly weds. One can only imagine the panic in those next seconds as the newly weds got dressed and the apartment made presentable!

His

Clopper Almon
University of Maryland, US

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The Structure of Leontief's Economics

Like every great scholar, Leontief had a unique focus and style. He worked on a grand scale, encompassing macro and very detailed micro variables in his general equilibrium systems. He believed that economic analysis is worthless unless the variables can be measured. Thus he designed a system that could answer significant questions and still be implemented empirically.

Leontief's focus was radically different from that of his mainstream colleagues. Some even question whether what he did was truly economics or a different discipline entirely. Instead of explaining the market system and its optimizing properties, he simply described the interdependence of sectors in quantitative terms and explored the nature and the consequences of that interdependence. Recording what industries buy from or sell to each other, i.e., making an input-output table, may strike some as simple description. However, viewing interindustry sales and purchases as revealing a structure was a major creative leap. In Leontief's eyes, input-output proportions constituted a "recipe" for each sector's output, and Therefore the matrix of proportions (or input-output coefficients) for all sectors served as a map of the economy's structure.

Neoclassical economists see input-output ratios as the outcome of market processes, where prices mediate choice among a series of "given" technological options, sometimes represented by isoquants. Leontief recognized that economists had little or no systematic information on those "given" technological options, which limited the discipline to theoretical speculation.

In this sense, Leontief and the Econometric movement in the thirties and forties were wrestling with the same difficulties. The econometricians focused on finding more sophisticated methods of inferring parameters from scant data. Since data on actual transactions reveal only a portion of technical options, parameters representing some alternatives cannot be observed directly. Leontief's strategy was to redraw the boundaries of the economic problem to exclude unobservable options. He did not try to explain choice of technique. Instead, he considered input-output coefficients to be exogenous, parameters determined by the state of the arts ("technology") or, in the case of households, custom and habit. Needless to say,many economists did not embrace this innovation. I still remember Fritz Machlup's reaction to a paper I (a Leontief student) presented on embodied technological change: "She doesn't know what a production function is!"

Leontief never argued that structure, i.e., technology or taste, was in reality fixed. He expected it to change significantly and even proposed ways of measuring structural change. However, he did not undertake the task of explaining the changes.

Essentially, he narrowed the scope of the economic problem to exclude the process of technological or consumer choice . This brought him closer to his ideal of a more empirically grounded economics. It also produced a framework that was applicable to non-market economies.

If we call particle physics, where research is very costly, "big science", input-output research is "big social science." The work of gathering and manipulating masses of detailed data required many dedicated assistants and technical support staff, elaborate infrastructure and the funding to support them. This work style stood in marked contrast to that of the typical economist or even econometrician of his day, most of whom worked independently or in small groups. Fortunately government agencies have assumed major responsibility for data assembly and made significant analytical contributions.

Over half a century the research afforded professional employment opportunities for many students and particularly for women economists even at times when such jobs were scarce. It also added significant fundraising and administrative responsibilities to Leontief's scholarly agenda.

While Leontief did not represent technical choice in his input-output system, he sought deeper understanding of the nature of technological constraints on economic activity and felt some pressure to justify his research strategy. In its early days, his Harvard Economic Research Project (first called "Project on the Structure of the American Economy") focused directly on the relation of engineering rules of thumb and demographic factors to input-output coefficients. Initially, the Project had three major lines of inquiry: detailed searches of the engineering and industrial literature for the roots of input-output proportions in selected sectors, study of budgets of different consumer groups, and the search for reliable data for "observing" capital coefficients.

Leontief hoped that, given time and resources, economists could some day root their analysis in a vast but transparent and orderly database of engineering information. If HERP had had a t-shirt, the back would have read "Ask an engineer!" These studies, largely reported in Leontief et al., Studies in the Structure of the American Economy, included the work of such later-to-be recognized economists as Chenery, Duesenberry and Solow. Unfortunately the territory proved murky, plagued by professional and terminological barriers. While interesting, these studies give little insight into how realistic it was to specify fixed coefficients. After the publication, these early colleagues and Leontief himself began to reach out in other directions. For Leontief, this meant developing applications and more elaborate extensions of the input-output approach.

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That, more recently, he and Faye Duchin established linkages between the Institute for Economic Analysis at New York University and the Engineering Societies indicates a continued interest in this area.

Leontief developed a very wide range of extensions and applications of input-output analysis. Multiregional models, the dynamic inverse and the intellectual interdependence of disciplines; specialization in international trade, pollution, economic development are only a few of these. Multiregional input-output models add a regional dimension to the 2-way sectoral map; the dynamic inverse adds a time, rather than a regional dimension. Despite the range of subject matter, they all reflect Leontief's distinctive style: simple frameworks, detailed sectoral specification, parameters that can be estimated by direct observation of transactions.

With its emphasis on stocks and flows of material goods, Leontief's work is clearly designed for the economies of the 20th century. Informational transactions, likely to dominate the 21st century, seem harder to measure. But it would be unwise to assume that Leontief's pragmatic approach is obsolete or irrelevant. Always interested in the exchange of ideas among disciplines, vide his exchanges with scholars in many fields and his long term leadership of the elite Society of Fellows at Harvard, he recently recognized the potential of building a matrix of interdependence of ideas among the sciences using a citation index database. The similarity of this conception to that of the original input-output system is striking. The proposed system is simple (perhaps all too simple) and the citation, like the flow of money payments for goods, is a limited, one-dimensional representation of a complex phenomenon. Ironically, while the data were easily accessible in a modern computerized database, the source was a private one and would once again require significant grant money. Does Leontief's research itself have fixed coefficients?

Anne P. Carter
Brandeis University, US
NOTE: Extracted from:
http://www.iioa.org/leontief/links.html

About my father

Last fall, resting on the couch in his apartment in New York, my father was in that suspended state of mind to which he often retreated when thinking about an intellectual problem. Retreating into the mind was a resource for him. It was behind his location his desk in the largest and finest room in our two Cambridge houses –he could work no matter what was going on, though he also wanted to be in the midst of what went on. It allowed him sometimes to drift off at dinner parties (to my mother's exasperation) when he found what was being said less interesting to him than his own thoughts.

At any rate, back to New York a few months ago when he returned from his reverie to remark that it was strange to think that when one dies all of one's memories disappear. He meant, I think, that one's memories are uniquely ones' own---a comment on the nature of the mind. But it was also a thought about his own life. His forced departure, just out of university, from the places he knew, and then the end of that world, meant that there were many things which he alone remembered and moreover which existed only in his memory.

The occasion has stuck with me in expanding ways.

My father and Russia.

I have never seen him in quite the same high spirits he was when he was back in St. Petersburg. I was there with him on three occasions.

He still felt it to be his and he loved to show it off—the great house of the mill-owning grandfather, the site of the architected settlement which included his parents house and where he kept a pet bear, the round building where he went to the circus, the building off the Nevsky Prospect where he was held after his arrest for putting up posters at the army barrack, the long, elegant corridors outside the lecture rooms at the University. And people there reacted to him in kind. One occasion, in June, was a religious holiday, Birth-bough day. By the time we got to the monastery at the end of the subway line, we were trailing a host of people curious about his old-style Russian and amazed at someone who went back further than they could remember in the life of the town.

I never thought of my father as particularly Russian—for one thing, as a child I discovered that his English lacked the characteristic spoken accent of real Russians, like my godfather Pitrim Sorokin. And he also lacked their nostalgia.

Though he had had to leave his country, and his language, and start a life elsewhere, my father never thought of himself as a victim. Despite the hardships of his youth—little food, no fuel, his arrest, serious illness, his hurried departure—he had no regrets. He became a world traveler and a realist.

There were many things with Russian roots in our family life but they were unforced. With more than a little help from my mother, my father simply kept them alive.

I've made a partial list: our serious of dachas or country houses; melancholy gypsy songs on the phonograph; caviar of many kinds; wild mushrooms; tree—birches, of course, but also mountain ash planted for the berries used to flavour home-made vodka; sour prostokvasha (or yoghurt made from unpasteurized milk in bowls that were refilled without washing so as to preserve the culture) to be eaten with sugar sprinkled on top. Without written recipes, but with his encouragement, my mother learned how to make krendel (the name's day cake) and for Easter, kulich and pascha for which my father devised the pyramidal wooden molds.

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So, memory took a practical form. Going out to look for mushrooms, for example. He was confident that, nature being consistent, they were pretty much the same around our country place in northern Vermont as they'd been in Russia. One waited for a day in late summer, after rain, collected the necessary gear of baskets and knives, and pushed thru the branches into the forest to see if any mushrooms had yet emerged. What you wanted was a crowd of yellow chanterelles or, better than that, the boletus, with their brown tops pushing up thru the damp ground. A bit like fly fishing, at which he was so skilled, mushrooming was adventurous and basically a loner's enterprise. You started out together, but the search itself was a kind of parallel play. I think the pattern of the search—knowing when and where to look, which were edible and which not—gave him even more pleasure than the feast at the end.

That was true for the things he did with his hands, and also for those he did with his head. Whether it was picking mushrooms of doing economics, he offered the constant example and value of applying one's mind to making sense of material things in the world.

Despite his early and fabled use of the Mark One computer at Harvard, he was pre-technological in a way. He never typed enough to use his own computer and was put off by such new demands as programming a VCR. But he was wonderful with his hands.

He could really draw—from plans for houses, to political cartoons, to the tree outside his window. He was also a photographer. In the family, we could get impatient with how slow-paced he would be in getting ready to shoot. But he was quick at capturing things that caught his interest –mostly, come to think of it, people in foreign lands—from a group of fisherman pulling in a net in a Mexican lake in 1940, to the Indian woman striding along, pot balanced on her head, beside his train in India, to the man perched in an arch of the Great Wall in China which Galbraith borrowed for the cover of a book. Part of his love for the works of art that he and my mother collected was his interest in the intelligence manifest in the use to hand and eyes.

As an only child himself, and the father of an only child, he took special delight in his two grandsons, my sons Ben and Nick, and then in the women who've become their wives. And they remember their Vermont summers with their grandparents with something of the idyllic pleasure with which he remembered Russia. I think he despaired a bit that none of us took up fishing. But we love wild mushrooms, and follow him in the ceremony of caviar and champagne (French, not Russian) at every celebration.

I do not know how he was with his students- a number of whom are here today. Maybe it was a but as it was with me. He could be impatient when he did not understand something I thought or wrote. It took me some years to feel that it wasn't personally meant. My father really did not enjoy arguing—he wasn't a New Yorker after all. He could listen, and he would respond. It was a matter for him of watching to have things clearly stated and so understood. He believed in reason and further, despite the century in which he lived, in the essential reasonableness of all people. A characteristic gesture of his in thought—carefully matching finger tip to finger tip of two hands—so—was perhaps a configuration of all of this.

My father was by nature a hunter-gatherer, but he also like settling down. If he gave my mother Europe, she gave him America—all the more so when they resettled here in the New York she loves. And together my parents created a series of wonderful houses and nurtured that singular sociability that filled them.

As it happens, I am living just now at their most recent country house, my father's last dacha in a sense. Looking at the great spread of the maple tree just out the window from his desk which has now become mine, I feel that I can still see the world through his eyes. But, I do miss him.

April/May 1999
Svetlana Leontief Alpers
NOTE: Extracted from:
http://www.iioa.org/leontief/links.html

More on Wassily W. Leontief at:

http://www.iioa.org/leontief/index.html

http://www.wassily.leontief.net/index.html

http://www.leontief.ru/eng/

http://www.leontief.net/

Note of the Editor

I would like to thank all invited contributors to this special issue in memory of our beloved colleague Wassily W. Leontief , which is very much appreciated and without whom it would not have been possible to make it. The curious reader may find more detailed information on photos, drawings and many more at the IIOA website (see link above).

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Conferences

3rd Spanish Conference on Input-Output Analysis

III Spanish Conference on
INput OUTput Analysis
STRUCTURAL CHANGE AND SUSTAINABLE DEVELOPMENT
Albacete, 30th Sept. – 2nd Oct. 2009

Abstract submission deadline
February 23, 2009

Somewhere in La Mancha... the Third Spanish Conference of Input-Output Analysis will take place in autumn 2009, under the auspices of the Hispanic-American Input-Output Society (SHAIO), the University of Castilla-La Mancha and the Faculty of Economic and Business Sciences of Albacete.

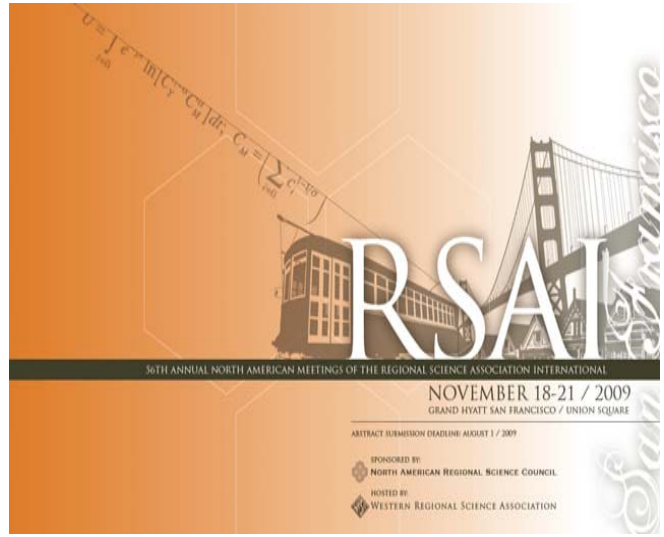
The group of lecturers and researchers in the organizing committee for this conference feel proud to carry on the work from Oviedo and Zaragoza, where the previous conferences were held. We join with enthusiasm SHAIO's initiative that has proved useful to generate synergies among Spanish and Latin American researchers and to discover new vocations for the input-output analysis.

The title for this conference is "Structural Change and Sustainable Development". It tries to join tradition and modernity, both in methodology and topics analysed within the input-output framework, combining classic and new lines of research. It also intends to be in tune with the growing concern for the effects of changes in economic structure on growth potential, environment and quality of life. With everyone's contribution we hope to make this conference as interesting as successful. So that we will all care to remember that place in La Mancha where it took place.

Abstracts are encouraged to be submitted (in English or Spanish) before **February 23, 2009** on the following topics:

1.Methodological issues in input-output analysis
2.Construction and refinement of input-output tables
3.Social Accounting Matrices
4.Computable General Equilibrium Models
5.Sustainable development and input-output models in environmental economics
6.Monetary and physical flows analysis in input-output
7.Input-output analysis in regional economics
8.International trade and input-output analysis
9.Input-output analysis and structural change
10.Other topics related to structural change and sustainable development

More info at: 3rd Spanish Conference on IOA



56th Annual North American Meetings of the Regional Science Association International, 2009

Our annual conference is structured around a number of thematically-focused sessions during which regional scientists present their work. The typical format involves four consecutive 20-minute scholarly presentations, followed by comments and critique offered by the appointed discussant, and questions and answers from the audience. The conference also incorporates discussion panels on timely topics of Regional Science. An abstract must be submitted by the stated deadline for a presentation to be accepted, but a manuscript is not necessary at this time. All conference participants agree to serve as discussants of a conference paper, if appointed to do so by the Conference Program Committee. Some participants will also be invited to serve as session chairs. More information at: http://www.narsc.org/conference.html

Abstract submission deadline August 1, 2009

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The Pacific Regional Science Conference Organization

PRSCO

RSAI The Regional Science Association International

REGIONAL SCIENCE ASSOCIATION INTERNATIONAL AUSTRALIA & NEW ZEALAND SECTION INC.

21st Conference for the Pacific Regional Science Conference Organization "Global challenges, regional responses"

Queensland, Australia, July 19-22, 2009

The programme committee invites contributed papers on topics in regional science for presentation at the conference. The committee will welcome papers on any aspect of regional science, but is particularly interested to receive papers reporting research or case studies on the following themes:

•The Impact of Climate Change on Regional Communities
• Regional Integration around the Pacific Rim
• The Political Economy of Regional Development
• Developing and Marketing Regional Identity
• Advances in Regional Data Analysis
• Regional Labour Market Dynamics
• Knowledge-Based Regional Development
• Regional Issues and Analysis in China
• Social, Economic, Environmental and Cultural Issues in Regions
• Indigenous Contributions to Regional Development
• Urbanisation and Mega-City Regions
• Emergency Relief for Regional Disasters
• Issues in Rural Economic Development
• Infrastructure Issues in Urban/Rural Development

More info at: 21st PRSCO Conference

Abstract submission deadline
March 20, 2009

Third National Conference on Input- Output Economics and its Applications for the Iranian Economy

Tehran, Iran, November, 2009

In a Nutshell

Like many other Developing Countries, in Iran, actual work on construction of Input-Output Tables (IOTS) and related areas began more than four decades ago. The first decade (1980-1970) was an experimental decade wherein only one official comprehensive IOT had been constructed.

The second decade (1970-1980) was more multifaceted. It could justifiably be called the decade of compilation – cum-applications as in this decade, IOTs at national and regional levels, tentative attempts at construction of SAM, and many other non-survey IOTs were attempted. Prof. Graham Pyatt, Prof. Karen Polenske and Prof. Harry William Richardson and Others actively participated in these attempts. On account of the eight year war, the third decade (1980-1990) showed a slump in IO and related activities wherein only two non-survey IOTs had been estimated.

Therefore, this period in fact reveals: "The revival of construction of multifaceted IOTs with multidimensional application". As compared to the three former periods, the volume of work done in this period is considerable. Construction of modern IOTs, construction of SAMs, estimation of capital coefficient matrix, compilation of regional accounts for all 28 provinces, developing SAM, SAM- based CGE, Energy, Single and two RIOT models for the Iranian economy and holding two national conferences on IO Economics and its applications in 1977 and 2002 respectively, among others, are major IO activities in Iran.

In a survey book entitled "Five Decades of Input-Output Tables and Related Works in Iran" (Banouei,et.al.2009, in Persian, forthcoming), the following observations have been made:

•From 1962 to present, 14 IOTs (survey and non-survey) have been constructed by the four official institutions: Former Ministry of Economy, former Plan and Budget Organization, Central Bank of Iran and Statistical Centre of Iran. Out of 14 IOTs, 7 IOTs have been constructed by the two Statistical Institutions during the last period.

•423 references on Input-Output Economics with Applications to the Iranian Economy (English and Persian with abstracts) reveal that the volume of research work during the last decade (1990 to present) constitutes 90% of total references during the half century of IO activities in Iran.

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•Out of 18 Iranian universities which have been surveyed in this book, Faculties of Economics of three universities have been recently working on IO economics (Teaching as well as research).

•Since the 9th Io. International Conference in 1989, Iranian researchers have been actively participating and presenting papers in this area.

•The revival of construction of multifaceted IOTs with multidimensional applications during the last period (1990 to present) in Iran, paved the way to host two national conferences on IO Economics. The First Conference was held in the Faculty of Economics, Allameh Tabatabai University in collaboration with the Statistical Centre of Iran in 1977. More than 200 persons across the country had participated and 18 papers had been presented at the conference. The Second Conference was held in 2002 in the Faculty of Economics Allameh Tabatabai University in collaboration with the Statistical Centre of Iran, Central Bank of Iran and the then Plan and Budget Organization of Iran. We were fortunate to have Prof. Karen Polenske as a keynote speaker in the conference. 28 papers had been presented at the conference with around 300 participants across the country.

The Third National Conference will be held on the last week of November. 2009 in the Faculty of Economics, Allameh Tabatai University, Tehran. The following five themes have been approved by the Conference Council:
1) Methods of Estimation of IOTs in Iran,
2) Methods of Updating and Deflating IOTs,
3) General applications of IO and other Extended Models,
4) Sectoral Applications,
5) Estimation of RIOTS and their Applications.

Besides, it has been decided that four workshops on the following themes will be arranged by the different experts on CGE Modeling, SAM Modeling, IO-LP Modeling and RIOT Modeling. For further in formation, please contact: A. A. Banouei, Head of the Scientific Committee, banouei@atu.ac.ir

New database

Social Accounting Matrix for Namibia, 2004

A SAM has been constructed for Namibia for the year 2004 that incorporates data from the most recent Household Income and Expenditure Survey (2003/2004). Those who work in Africa know that databases such as GTAP do not have a SAM for Namibia; Namibia and several small southern African countries in the southern African Customs Union (SACU) were represented by a single, estimated SAM.

The 2004 Namibian SAM has 30 activities, 32 commodities, 5 factor inputs and 9 institutions. Institution accounts include 6 categories of households distinguished by location (urban/rural) and main source of income. This replaces the preliminary SAM which was constructed for 2002, but based on rather outdated information about households from the 1993/94 HIES. The work was a joint effort of the Earth Institute at Columbia University and the Namibian Economic Policy Research Unit (NEPRU), as well as the Central Bureau of Statistics. A cope of the report describing the Namibian SAM and an excel version of the SAM can be obtained from Dr. Glenn- Marie Lange (GL2134@columbia.edu) and will be available in the future as a download from her website.

Dr. Glenn-Marie Lange
Senior Research Scholar
The Earth Institute at Columbia University

Highlights in books

THE ECONOMICS OF BENCHMARKING. Measuring Performance for Competitive Advantage. Thijs ten Raa, Palgrave-McMillan, Hampshire, UK, 2008. Link to the editorial site: The Economics of Benchmarking

Benchmarking is a process designed to enhance firm or business unit perfomance by evaluating products, processes or functions against industry best practice. But many managers remain sceptical. Does benchmarking really deliver reliable measures of relative performance?

In this compact and self-contained book, Thijs ten Raa demonstrates the power of benchmarking. He presents the tools, theory, and practice of benchmarking, explaining the principles that underlie the most commonly used technique, and shows how useful economic information about efficiency, productivity and profitability can be gleaned from it.

Benchmarking has always been plagued by the problem of assigning weights to different performance scores, but ten Raa solves that problem, providing rational performance indices and rankings.

The book features Excel screenshots to guide the readeer through applications, and real-world case studies are included throughout.

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In the next ESR issue

Economic Systems Research

Journal of the International Input-Output Association

Volume 21 ***Number 1*** ***March 2009***

Manfred Lenzen and Bart Los. Editors

Lining He & Faye Duchin. *Regional development in china: interregional transportation infrastructure and regional comparative advantage*

Significant economic disparities among China's Eastern, Central, and Western regions pose unequivocal challenges to social equality and political stability in the country. A major impediment to economic development, especially in the poor, remote Western region, is the shortage of transportation infrastructure. The Chinese government has committed to substantial investment for improving the accessibility of this vast, land-locked region as a mechanism for promoting its development. The paper examines the impacts of the intended transportation infrastructure build up on the Western region's comparative advantage and its interregional trade. The World Trade Model is extended to represent this investment and applied to determine interregional trade in China based on region-specific technologies, factor endowments and prices, and consumption patterns as well as the capacities and costs of carrying goods among regions using the interregional transportation infrastructure in place in the base year of 1997 and that planned for 2010 and 2020. The model is implemented for 3 regions, 27 sectors, and 7 factors. The results indicate that the planned infrastructure build up will be cost-effective, will increase benefits especially for the Western region, and that it can conserve energy overall at given levels of demand but substitute oil for coal. Based on these and other model results, some recommendations are offered about strategies for regional development in China.

Manfred Lenzen, Blanca Gallego & Richard Wood. *Matrix balancing under conflicting information.*

We have developed a generalised iterative scaling method (CRAS) that is able to balance and reconcile input-output tables and SAMs under conflicting external information and inconsistent constraints. Like earlier RAS variants, CRAS can: a) handle constraints on arbitrarily sized and shaped subsets of matrix elements; b) include reliability of the initial estimate and the external constraints; and c) deal with negative values, and preserve the sign of matrix elements. Applying CRAS in four case studies, we find that, as with constrained optimisation, CRAS is able to find a compromise solution between inconsistent constraints. This feature does not exist in conventional RAS variants such as GRAS. CRAS can constitute a major advance for the practice of balancing input-output tables and Social Accounting Matrices, in that it removes the necessity of manually tracing inconsistencies in external information. This quality does not come at the expense of substantial programming and computational requirements (of conventional constrained optimisation techniques).

Ferran Sancho. *Calibration of CES functions for real-world multisectoral modeling.*

We show how to calibrate CES production and utility functions when indirect taxation affecting inputs and consumption is present. These calibrated functions can then be used in computable general equilibrium models. Taxation modifies the standard calibration procedures since any taxed good has two associated prices and a choice of reference value units has to be made. We also provide an example of computer code to solve the calibration of CES utilities under two alternate normalizations. To our knowledge, this paper fills a methodological gap in the CGE literature.

José M. Rueda-Cantuche, Joerg Beutel, Frederik Neuwahl, Ignazio Mongelli & Andreas Loeschel. *A symmetric input-output table for EU27: latest progress.*

The European Commission is currently establishing an Environmentally Extended Input-Output (EE-IO) Database for the EU27 developed by the Joint Research Centre at the Institute for Prospective Technological Studies (IPTS). This project attempts to generate an analytical dataset comprising all EU countries and yearly time series for the period 1995-2005. Since, for the time being, IO and environmental accounts data are only available with significant gaps part of the dataset will require estimates based on best available proxy data and reasonable assumptions. This paper is focused on the IO database shaped around Eurostat supply and use tables and symmetric IO tables consistent with the NACE classification. The paper describes the procedure by which the latest preliminary results have been obtained for an aggregate EU27 symmetric input-output table for the year 2000.

Anders Hammer Strømman. *A multi-objective assessment of input-output matrix updating methods*

This paper shows that important insights can be lost when assessing the relative performance of balancing methods solely based on individual optima. This is demonstrated through a multi objective assessment. A trade-off curve between RAS and sign preserving absolute differences (SPAD) is obtained based on the 60x60 Norwegian 2001 input-output table. The trade-off curve takes on a form that is close to a step function. This demonstrates that the solution surface around the RAS and SPAD optimums are very flat. Solutions can be identified that improves on the other objective or measure with little or marginal cost to the original objective function. Motivation for the assessment is provided, the technique applied is presented and the implications of the findings are discussed in an input-output and industrial ecology context.

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Highlights in journals

E. Dietzenbacher & U. Temurshoev, "Ownership relations in the presence of cross-shareholding", *Journal of Economics*, 95 (3) 2008, pp. 189-212

The direct ownership structure in a sector can be readily obtained from data on shareholding. Due to cross-shareholding, however, the true ownership structure may be hidden by a complex network of indirect relations. In studying the property structure, two important aspects are the size of the relations between primary owners (e.g. individuals) and secondary owners (e.g. companies), and the distance between them. The distance is obtained from the average number of secondary owners via whom the relation runs. As an empirical application, we study the banking sector in the Czech Republic, where also the relation between distance and separation of dividend and control rights is discussed.

S. Kagawa, K. Nansai & Y. Kudoh, "Does product lifetime extension increase our income at the expense of energy consumption?", *Energy Economics*, 31, 2009, pp. 197-210.

The present paper contributes to modeling a simple social accounting method with cumulative product lifetime distributions and argues how product lifetime extension affects income flow throughout the entire economic system. Empirical analysis focusing on automobile use (ordinary passenger vehicle, small passenger vehicle, and light passenger vehicle) in Japan revealed that if all of the additional income gain from product lifetime extension flows into the investment sector, a one-year lifetime extension during the ten years of the study period (1990–2000) would have led to an increase in income in 2000 amounting to +7 billion yen, as well as contributing to savings in energy amounting to -4×10^6 GJ. That is, longer-term passenger vehicle use increases income and decreases energy consumption under special cases. We also found that in the general case when less than 93% of additional income resulting from vehicle lifetime extension is directed to the investment sector, a +1 year automobile lifetime extension increases income at the expense of energy consumption.

F. J. André, M. A. Cardenete & C. Romero, "Using Compromise Programming for Macroeconomic Policy Making in a General Equilibrium Framework: Theory and Application to the Spanish Economy", *Journal of Operational Research Society, 59(7)*, 2008, pp. 875-884.

This paper aims to show how Compromise Programming, linked with some results connecting this approach with classic utility optimization, can become a useful analytical tool for designing and assessing macroeconomic policies. The functioning of the method is illustrated through an application to the Spanish economy. In this way, starting from a Computable General Equilibrium Model, a frontier of growth–inflation combinations is determined. After that, several Pareto-efficient policies that represent compromises between economic growth and inflation rate are established and interpreted in economic terms.

T. Kronenberg, "Construction of regional input-output tables using nonsurvey methods: The role of cross-hauling", *International Regional Science Review*, 32(1) 2009, pp. 40-64.

Regional input-output tables are usually not constructed from survey data but are estimated using non-survey regionalization methods, which saves time and money. However, traditional regionalization methods ignore cross-hauling (the simultaneous exporting and importing of one and the same type of product). This flaw results in an underestimation of trade and an overestimation of regional output multipliers. This article presents a new approach based on an estimate of product heterogeneity, which addresses the problem of cross-hauling and is applicable to European System of Accounts tables with indirectly allocated imports. Its application is illustrated by the estimation of a regional input-output table for North Rhine-Westphalia, one of Germany's federal states. The results are compared to the traditional commodity balance approach, indicating that the new method suffers far less from the underestimation of trade and the overestimation of multipliers.

S.-H. Yoo & T.-H. Yoo. "The role of the nuclear power generation in the Korean national economy: An input-output analysis", *Progress in Nuclear Energy*, 51(1), 2009, pp. 86-92.

The nuclear power generation has played an important role in the economic development of Korea and electric power has become a critical factor sustaining the well-being of the Korean people. This paper attempts to apply input-output (I-O) analysis to investigate the role of the nuclear power generation in the national economy, with specific application to Korea. A static I-O framework is employed, focusing on three topics in its application: the impact of nuclear power supply investment on the production of other sectors and the inter-industry linkage effect; the nuclear power supply shortage effect; and the impact of the rise in nuclear power rate on prices of other products. This paper pays particular attention to the nuclear power generation sector by taking the sector as exogenous and then investigating its economic impacts. Moreover, potential uses of the results are illustrated from the perspective of policy instruments and some policy implications are discussed.

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