THE REGIONAL SCIENCE ASSOCIATION INTERNATIONAL

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WELCOME

The 2020 RSAI Morocco World Congress is Approaching!

REETINGS REGIONAL SCIENCE Community. I want to alert you I grew up in Toledo, Ohio and attended the ${f J}$ to the upcoming RSAI World Congress and strongly encourage you to University of Toledo (UT) which was located a attend. The conference will be held June 2-5, 2020 in Marrakesh, Morocco. The few miles from where my parents lived. I majored

RSAI World Congress is a biannual gathering of the global regional science community and is an opportunity to interact with like-minded scholars from around the world. More Congress details including information about submission of abstracts and accommodations can be found at http://regionalscience.org/2020worldcongress/ index.html.



The Congress will have a high-level scientific program. Keynote speakers include Alessandra

Faggian of GSSI; Edward Glaeser from Harvard University; Nobel Laureate Eric Maskin from Harvard University; Joaquim Oliveira Martins - Deputy more speakers, one from Belgium (Isabelle Tomas) and the other one from Reed, introduced me to regional science which was a nice outlet for applied days. There will also be OECD special sessions focusing on regional policy in developing countries along with a wide array of sessions that will surely peak your scientific interests.

Marrakesh is one of the world's most fascinating cities and a major tourist destination. The Congress will take place at the Mogador Palace Agdal-Luxury Hotel https://www.mogadorhotels.com/MH/Recherche/Show?hotel=1. If you tire from the hotel's multiple swimming pools and spa it is useful to note that the hotel is within walking distance of the marvelous gardens of Agdal and is only ten minutes away from Marrakesh major attractions. Examples include Marrakesh's world famous Jemaa el-Fnaa square and market place, the spectacular Koutoubia Mosque built in the 12th Century, Bahia Palace, which served as the residence of Sultan Moulay al-Hassan I, and the Bab Agnaou Gate located in the ancient Marrakesh wall. To be sure, there are countless other attractions for all tastes (e.g., see https://www.planetware.com/tourist-attractions-/marrakeshmarrakech-mar-mar-mar.htm. Marrakesh is easily accessible by multiple airlines and Morocco and Marrakesh are generally known as among the safest destinations in the broader region. In sum, not only will this be a rich academic conference but also a potential trip of a lifetime for adventurous travelers and tourists.

So make your plans now for this must do event! For now, I look forward to welcoming you and the world's regional science community to the 2020 RSAI World Congress.

Best wishes,

Mark Partridge

President Regional Science Association International & The Ohio State University

MEET THE FELLOWS: JAMES LESAGE

in economics and after completing an MA degree in 1977, I spent a year teaching as an instructor at Bowling Green State University (BGSU). While teaching at BGSU, I lived in an older mansion in Toledo that had been converted to an apartment house and I met my future wife Mary Ellen who lived in the same apartment house. We moved to



Boston in 1978 where I began work on a PhD in economics at Boston College, with fields in econometrics and industrial organization.

While working on my dissertation, Mary Ellen received a job offer to teach art in Toledo, so we moved back. I ran into a faculty colleague from BGSU while shopping who said BGSU was looking to hire an econometrician, so I applied Director OECD; M. Tawfik Mouline from The Royal Institute for Strategic and landed the job. My work on time-series econometrics led me to discover Studies, Morocco, and Siqi Zheng from Tsinghua University and MIT. Two the wealth of regional labor market data, and a BGSU colleague, J. David Morocco (Chami Ahmed Reda) will confirm their participation in the next econometrics research based on regional data. I attended the Mid-continent Regional Science Association meetings in 1986 and 1987 with David Reed, and we co-authored work that was published in Journal of Regional Science, Regional Science & Urban Economics and International Regional Science Review. Around the same time a former professor of mine from UT, Michael Magura recruited me to work on a payroll tax revenue forecasting model for the City of Toledo as well as a metropolitan area leading indicator model for the Ohio Bureau of Employment Services. Magura was also a graduate of Boston College with a specialization in industrial organization, but I convinced him that regional science was an excellent outlet for our regional labor market forecasting work. We published work in Journal of Regional Science, Growth and Change, and Regional Science Perspectives.

> I attended the Southern Regional Science Association meetings for the first time in 1988 to present work with David Reed, and in this same year, Mike Magura arranged a faculty position in the economics department at UT. After a few years of daily commuting to UT from Maumee, a Toledo suburb, I convinced Mary



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Ellen to move to a house within a few blocks walk of my office at the university. This was no small task as we had spent six years restoring a historic house in Maumee built in 1840, that included an art studio addition. My daughter Rachel was born in 1987, making the location close to my office important for family reasons.

My first attendance at the North American meetings of RSAI was in New Orleans, 1991, where I met Luc Anselin and discovered spatial econometrics. Luc's 1988 book Spatial Econometrics: Methods and Models was very intriguing for someone trained in econometrics, as was his Cornell University dissertation which was available in the UT library. In his dissertation, Luc discussed application of Bayesian methods to spatial regression models. I was working on Bayesian time-series econometric methods at the time and Arnold Zellner assisted me in obtaining a visiting scholar position at the Minneapolis FED bank in 1993 where John Geweke helped me understand new Bayesian Markov Chain Monte Carlo (MCMC) estimation methods. John shared his FORTRAN code which helped greatly in understanding implementation of these relatively new methods first presented in a 1990 article by Alan Gelfand and Adrian Smith. I began working on spatial econometrics in 1992, but my first publication in this area was a 1997 article in International Regional Science Review on MCMC estimation of spatial regression models. Luc Anselin expressed skepticism in 1997 about MCMC estimation because it was computationally much slower than maximum likelihood estimation, but advances in computing technology over time have made MCMC estimation competitive and useful in a great to the toolbox functions. I first met Kelley in person at the Santa Fe NARSC number of spatial regression settings.

The Spatial Econometrics Toolbox

By 1998, I was using MATLAB software for teaching econometrics and used a Sun Microsystems workstation in my office to provide a web site for students to download code and data. The website was publicly accessible, but I did not think anyone but my students would be interested in visiting the site. One day I received an e-mail asking questions about my MATLAB code from someone outside the US, which prompted me to think about the issue of having the code publicly available for a few minutes. Thinking about the generosity of others who shared their code and ideas with me over the years, and Luc Anselin's early attempts to provide spatial regression software, I decided to make my code freely available, which gave rise to the Spatial Econometrics Toolbox. The number of toolbox functions increased over time and the volume of downloads required moving to a professional web hosting service. Paying for a hosting service to give away free code may not seem rational from an economic perspective but having accessible code has popularized the use of spatial regression methods in applied regional science work and increased the speed of diffusion for new modeling methods. By the year 2003 the websites spatial-econometrics.com and spatial-statistics.com (with code by Kelley Pace) were generating visits from over 250 users per day with 300 megabytes of downloads. Sharing code has an added benefit of allowing interaction with practitioners doing applied work which provides valuable insights into problems encountered and the demand for new methods to tackle these problems. I am happy to see that others such as Luc Anselin, , Roger Bivand, Gianfranco Piras and Serge Rey are making spatial regression codes available. In fact, software for spatial regression modeling is now available in Stata and SAS as well as MATLAB, the R-language and GeoDA, bringing these methods into the mainstream of applied econometrics. The new Journal of Spatial Econometrics from Springer will provide a forum for theoretical issues, innovative applications of these methods, as well as discussion of software and computational issues.

Collaboration with R. Kelley Pace

Another benefit of the website was communication with Kelley Pace who generously shared MATLAB code for some of his methods that were added



Left to right: Badi Baltagi (Distinguished Professor, Economics, Syracuse University), Jim LeSage, Kelley Pace, Paul Elhorst and Yuxue Sheng (a professor at the Business School of Guangxi University, in Nanning, China) taken at LSU, Baton Rouge.

Meetings in 1998, having only communicated via e-mail prior to that. One piece of advice I would give to young scholars is to find someone to collaborate with on research as this makes things much more exciting and increases productivity. During the more than 20 years since meeting Kelley we have published more than 25 articles and book chapters, edited two books and wrote our 2009 book Introduction to Spatial Econometrics. Interactions with mathematical statisticians like Julian Besag, Alan Gelfand and Sudipto Banerjee produced criticisms of how practitioners were interpreting estimates from spatial regression models. Kelley and I addressed this issue in our book, proposing scalar summary measures of direct and indirect effects estimates that could be used to properly interpret spatial regression models. One of the motivations for writing the book was that journal editors refused to publish a paper we had written regarding correct interpretation of spatial regression estimates. For more than 20 years since the publication of Anselin's 1988 book, practitioners were misinterpreting spatial regression estimates, so reviewers and editors were reluctant to accept our claim that everyone was wrong. An influential book review: "Applied Spatial Econometrics: Raising the Bar" by J. Paul Elhorst that appeared as the lead article in Spatial Economic Analysis during 2010 called attention to our newly proposed approach to interpreting spatial regression models, and perhaps provided a better explanation of our idea than we did in the book. I first met Paul Elhorst at the 2001 Western Regional Science Association meetings in Palm Springs, CA, and urged him to take a look at MATLAB software for use with his spatial panel data work. Ultimately, the book was a great success and has resulted in a change in applied practice as well as changes in software to adopt our proposed scalar summary estimates. To date, the book has received over 4,500 citations.

OTHER COLLABORATIONS

One advantage of having econometrics expertise is the opportunity to work with researchers who have excellent data and substantive knowledge regarding practical problems in regional science. I have benefited greatly from work with scholars interested in regional innovation such as Manfred Fischer and Corrine Autant-Bernard. I have likely learned more from them about innovation and regional growth than they have from me about spatial econometrics. I have also had the opportunity to work or learn from others that have extensive

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econometric and statistical expertise such as Christine Thomas-Agnan, Harry existing conceptual and applied models should be Kelejian, Olivier Parent and Tony Smith. Technical expertise tends to be very adapted to understand the dynamics of the slums in focused, so opportunities to work and learn from others helped expand the Mumbai; to perceive the behavior of criminals in scope of my knowledge into new realms and greatly influenced my thinking about spatial econometrics.

Participation in RSAI

It would be wrong to leave this account without saying something about my involvement with RSAI activities over the years. It is my view that during my career the discipline of econometrics has become increasingly focused on theoretical and frequently esoteric issues that pay less and less attention to problems confronted by practitioners attempting to use these methods to tackle applied problems. Ultimately, econometricians need practitioners who are interested in applying our methods, and we should make it easy to use our methods by providing code and documentation, applied examples, workshops and helpful advice. Regional scientists have been a wonderful audience for spatial econometric methods and rapid adopters of new methods. In fact, the need for new modeling methods in applied regional science practice probably exceeds the ability of econometrics researchers to provide new approaches required to tackle many important problems. I frequently receive requests for code to implement a spatial regression variant of some established non-spatial econometric estimation procedure. Practitioners do not fully appreciate the University of Cape Town, on "South Africa experiences in the context of complications that arise in extending non-spatial estimation to address spatial dependence, especially in the case of spatial lag models. I would encourage young scholars with econometrics expertise to turn attention to work in spatial econometrics which has a large audience of practitioners interested in new methods.

After spending more than 20 years in Ohio, I received an endowed chair opportunity in Urban and Regional Economics at Texas State University. This 2006 opportunity was made possible with help from people who are leaders in regional science, like Luc Anselin, Manfred Fischer, Geoffrey Hewings, Harry Kelejian and Tony Smith. The additional resources and free time from less teaching activity that came as part of the new position allowed Kelley and I to produce our 2009 book. In looking back, I would never have imagined what a wonderful relationship with regional science would develop over the next 30 plus years when attending the Mid-continent Regional Science Association meetings in 1986 and 1987. Young scholars should appreciate the long run importance of attending scholarly meetings. For many years I self-financed trips to attend regional science meetings, but the payoff in terms of collaborators, stimulating ideas and discussions changed my life. I sincerely hope that participation in RSAI events has an equally beneficial impact on future scholars.

WORKSHOP REPORT: BIG DATA AND METHODS in Regional Science (Mumbai)

HE FIVE DAYS' workshop on methods in regional science took place in Mumbai from October 20 until October 25 organized by Prof. Sumana Bandyopadhyay from the Regional Science Association of India in collaboration with Prof. Abdul Shaban from the Tata Institute of Social Sciences.

The workshop involved more than forty researchers from different parts of India, Morocco, the Netherlands, the United States and Portugal. The event was excellent, enhancing teaching, learning and research experiences and diffusing a knowledge on methods in spatial analysis that are very effective in addressing issues in regional science and development.

Participants learn with each other how advanced methodological techniques apply to South Asia and Africa revealing new evidences and discussing how

prisons; and to grasp the challenges of urban transport and congestion. Adjusted frames of references to create more knowledge on the sustainability and resilience of urban and rural areas in their environmental, social, economic and institutional dimensions, to learn lessons of the circular economy in South Asia; and to find how poverty is evolving. Finally, to understand the technological innovations to improve urban management.

It was a kick off for a renewed regional science in South Asia, combining the science with policy with adequate methods and techniques.

> Sumana Bandyopadhyay, President, Regional Science Association, India; Professor of Geography, University of Calcutta

ERSA CONFERENCE: LYON 2019

AST AUGUST, THE ERSA organized its yearly conference in Lyon. Attendance was very good, and keynotes were delivered by Susan Parnell, urban world challenges", Roberta Capello, Politecnico di Milano on "Regional development theories and formalised economic approaches", as well as by André Torre (Paris) and Yannis Psycharis (Panteion University). ERSA has posted pictures on its Flickr channel, from which we reprint a few, with permission.





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Pictured above: formal dinner in a former sugar factory in the Confluence district. Below: opening reception at the city hall.

Workshop report: Continuing Professional Education (Manila)

Continuing Professional Education on Data Analytics and Spatial Econometrics | July 2019 | De La Salle University – Manila

DE LA SALLE University's School of Economics, co-sponsored by the Regional Science Association International (RSAI) under its Nurturing Talent Programme, conducted a training workshop: Continuing Professional Education on Data Analytics and Spatial Econometrics from 22-25 July 2019 at its Manila campus. It was an introductory training course on spatial data analysis using spatial econometrics, including laboratory sessions, covering data mapping and spatial econometric modelling using R, Stata, and GeoData software.

Participants were mainly PhD students with specific governmental or professional responsibilities in research and academia. The lecturers who handled the sessions were Lawrence Dacuycuy, PhD, Full Professor and Research Fellow at DLSU and President of the Philippine Economic Society and Gianfranco Piras, PhD, Associate Professor at The Catholic University of America and Member of the Editorial Board of Letters in Spatial and Resource Sciences.

> Marites Tiongco, dean of the School of Economics at De La Salle University, Manila, Philippines







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South Asian developments

THE VERY ENHUSIASTIC RSAI community was present in full strength at the 12th World Congress organized by the RSA India at Goa in May 2018. Braving the pre-monsoon heat, delegates from fifty five countries came together to celebrate this academic event. The monsoon came upon us, a few days ahead of schedule, and with it, came the resolve to expand the RSAI network in



the South Asian region. The goals were drawn up at the Council Meeting, whereby, post World Congress, we could start working on strengthening the RSAI network. Contributions from the Asian and South Asian region encouraged us to inspire researchers in this region to start their own sections. Bangladesh and China were very well represented at the World Congress, but everyone felt there are great possibilities here!

Our first stop was Bangladesh, which revived its dormant Regional Science Association, the BRSA, with its second conference at BUET, during 25-26 October 2018. Prof. Andre Torre helped us take the big leap forward - he was the keynote speaker at the BRSA conference which was a first of sorts. His lecture on "Proximity Relation Analysis: History, Concepts and Tools" was perfect for a team of young geographers and regional planners. However, we did not allow Prof. Torre to return to Paris, convincing him to make a detour to deliver an enthralling lecture at the Department of Geography University of Calcutta entitled "Rural-Urban Links: Land Use, Food And Resources For The City" – Prof. Torre's lecture launched the year-long Special Lecture Series to be organized by Regional Science Association, India to commemorate its Golden Jubilee year. This was covered by the Times of India ("French prof push for South Asia network of researchers", and has been published on timesofindia. com. Click here to view it). While in the city, he delivered another lecture at Loreto College, Kolkata, on popular demand, which has one of the best Geography Departments in the country.

The Indian section organized a National Conference at Centre for Excellence at Bhopal in January 2019 and held another Workshop on "Changing Paradigms and Approaches to Rural Development in India" at the Department of Geography, University of Calcutta, July 18–23, 2019. RSAI has granted support under the Nurturing Young Talent Programme for 2019, which helped us organize the Autumn School on Big Data and Methods in Regional Science during October 21–25, 2019, at Tata Institute of Social Sciences, Mumbai. Prof. Elisabete Silva, Prof. Tomaz Dentinho, Prof. Peter Nijkamp, Dr. Karima Kourtit participated. In April 2019, the Chinese Regional Science Association invited me to represent the India section and deliver a key lecture at 9th ACRS at Shanghai University – it was special indeed, as it celebrated Prof. Isards birth centenary.

Alongside, a core group of scientists from Pakistan, Sri Lanka and Nepal joined the PRSCO Summer School organized by the Thailand Section in July 2019, where the teams met our President and Executive Director to chalk out plans for their very own sections – Prof. Torre will surely be proud to see his motivating talk on "proximities" working out in South Asia, as we strengthen research networks in the region.

> Sumana Bandyopadhyay, President, Regional Science Association, India; Professor of Geography, University of Calcutta

Sri Lanka section

THE FIRST INAUGURAL meeting of the Sri Lankan Chapter of Regional Science Association was held on 16th of October 2019 at the Colombo Center of SANASA Campus. Prof. U.A. Chandrasena chaired the panel discussion with a warm welcome of distinguished invitees. The objectives of the association and the rational of the establishment of association were explained by Prof. Chandrasena. Each invitee and representative introduced him or herself. Dr. P.A. Kiriwandeniya, the visionary leader of SANASA Movement, Sri Lanka highlighted success stories of Asian development processes and expressed his objectives related to Regional Science and Planning.



Dr. R.M.K. Rathnayake, Director of SANASA Campus proposed to strengthen the quantitative analysis component of the Regional Science degree programme, to visit other universities such as University of Ruhuna, University of Jaffna and meet academics from those relevant departments and request them to join with this organization. Dr. P. Kuruppuarchchi, Dean of the Faculty of Management and Finance, SANASA Campus illustrated his practical experiences in rural development of different countries in the world, and expressed his pleasure to actively participate in the newly formed association.

Senior Prof. Lal Mervin Dharmasiri, Director of the National Center for Social Sciences and Humanities and affiliated to the University Grants Commission, declared the anticipation of his institute to extend cooperation with the association and pointed out that it is required to make an official request from the association to the center.

Prof. R.M.K.Rathnayake, Head of the Department of Geography, University of Sri Jayawardanapura suggested the need to strengthen field studies related to Regional Science and Rural Development of other universities in the country. Mr. E.N.C. Perera, Senior Lecture of Department of Regional Science and Planning, emphasized the environmental changes and their concerns related to regional development in the country.

Then, appointments were made for the various offices of the association. Dr. Kiriwandeniya, Dr. Rathnayake, Dr. Karunarathne (vice chancellor of SANASA Campus), and Prof. Sumona Banerjee *(Bandyopadhyay)* of the University of Calcutta were appointed as the patrons of the Sri Lankan section of the Regional Science Association. Prof. Chandrasena was selected as the Honourable

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President; Prof. Rathnayake and Senior Prof. Lal Mervin Dharmasiri were made Vice Presidents of the association. Mrs. Kashini Gimhani was named as the Honorable Secretary and Dr. Kuruppuarachchi was proposed to hold the position of treasurer of the association. Mr. Perera was proposed as the Editor of the association.

It is discussed to hold the inauguration ceremony of the Sri Lankan Chapter of the Regional Science Association on the 4th of January 2020 at the Auditorium, on SANASA Campus, along with a dinner and a conference tour to upcountry for foreign delegates. The next meeting of the association will be held in early November.

Prof. U A Chandrasena, University of Kelaniya

INTERVIEW "DYNAMICS IN OUR ORGANIZATIONS"

and prof. André Torre (chair of ERSA, pictured) THE SUPRANATIONAL BODIES in regional scie no dinosaurs. RSAI has grown in memł

A double interview with prof. Mark Partridge (chair of RSAI)

decades, and it has increased the number of supranational

sections - since recently, there is now also a Latin American & Caribbean suprasection. Mark Partridge, president of RSAI, points to the recent addition of China and the successful 2018 Goa World Congress that promoted regional science in India, Pakistan, Thailand, and Sri Lanka. He announces the hope "that the 2020 World Congress in Morocco will lead to further growth in Africa and the Middle East". Yet even compared to that quick growth, the traditional regions of ERSA and NARSC "remain vibrant sections", in his words, where expansion doesn't dominate, but there is no lack of dynamics. André Torre, president of ERSA, points out how professionalization and the establishment of an office in Louvain-la-Neuve have helped both the organisation itself and the local organizers of the yearly congress. He adds: "We have also launched REGION, our online Journal, we have firmly established summer schools every year and then created winter schools, [and] set up in-depth collaboration with the EU with participation in the European Week of Regions and Cities and will hopefully follow in forthcoming issues.

the ERSA-DG Regio lectures series". Good news all around.

Who benefit from this growth?

Partridge: "RSAI and its supranationals are brokers that bring together thousands of regional scientists. By creating critical mass, agglomeration economies, they provide an audience to read and cite our own work and create channels to share ideas. Without these umbrella networks, isolated scholars would have more challenges in becoming known to policymakers and in gaining respect from their colleagues." Torre adds: "In recent years I visited countries such as Armenia, India or Bangladesh for the sake of RSAI to develop relations, strengthen or create new sections: it is an exciting and very important task to enable regional science to spread and contribute to the well-being of people worldwide. [...] I have just returned from the 9th Central European Regional Science Conference in Hungary, which has involved around 200 people coming from Hungary, Poland, Slovakia, Slovenia, Austria, etc. We like these joint initiatives, which are developing, and we encourage them. These horizontal exchanges benefit researchers and strengthen ERSA's network!"

But isn't there a downside too? In an expanding community, it's difficult to know everyone...

Partridge counters: "Organizing large conferences is challenging and costly. However, we strongly believe that the benefit obtained from face-to-face interaction far outweighs the costs. Without such conferences, there would be fewer opportunities for people to meet to share ideas and build collaborations and networks for future success. In particular, conferences provide young scholars the occasions to become visible, without which, their scholarship may never become known."

Larger organisations, bigger networks, and larger conferences will also lead to more airplane travel – is that still defendable in this day and age?

Torre: "We are extremely sensitive to the issues of climate change and their various consequences, and we want to proactively launch reflections related to these issues as well as to the degradation of biodiversity. For example, is it still wise to reason in terms of development when we see the negative impacts of these processes?

With regard to our own activities, I think it is necessary to distinguish between two types of events. The first is in regard to what I would call "current" meetings. Our meetings between board members are already done by Skype, and this is also how I proceed for my weekly exchanges with Maristella Angotzi, our general officer, even though I know that nothing replaces face-to-face relationships, I have done a lot of work on this topic on proximity relationships... Same thing for our lecture series, we develop as much as possible the streaming and podcast and I can assure you that the number of views in podcast is very high.

Our annual Congress takes place among major events such as large fairs, which are growing in size as they allow high-level, specialized, numerous and varied interactions in a very short time. These events strongly contribute to the reduction of the carbon impact, as they allow us to considerably limit the number of small or medium size meetings. During the last congress in Lyon there were 68 special sessions, corresponding to as many seminars, workshops, even small colloquia that could have been held in different places. Economies of scale are very important here and many trips are saved."

Thanks to both presidents for their time. The interview was compiled by Martijn Smit, editor of the newsletter. Interviews with the chairs of NARSC, LARSA, and PRSCO

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THEME: GENDER IN REGIONAL SCIENCE RESEARCH

Gender is not only an issue in our community, but the theme also offers opportunities for research, some of them long overdue. The editors approached several regional scientists to contribute their past or future research on the theme of gender. Two of them contributed a piece. (If reading this you feel inclined to submit something as well, feel free to contact the editors via m.j.smit@uu.nl!)

GENDER GAPS

Ana Maria Barufi, Visiting Professor of the Department of Economics of the Federal University of São Paulo and researcher of NEREUS (The University of São Paulo Regional and Urban Economics Lab)



 $G_{\rm given}$ the notable differences in economic empowerment and opportunities between men and women, as well as access to health, education and

finance. In labor market outcomes, gender gaps are directly linked to income inequality: women are paid less, are more likely to work in the informal sector and thus tend to receive lower earnings and have fewer opportunities to achieve better financial results (Gonzales et al., 2015).

Furthermore, substantial cross-national and regional variations can be observed in gender inequality. Considering that employment provides one of the main sources of income, the gender gap related to participation conditions in labor markets compared to wages is of paramount importance to determine inequality. Also, gender divisions of labor that vary within and between regions has to be taken into account. The historical perspective justifies this on the basis of traditional expectations and behavior patterns arising from previous regional economic structures. On the other hand, the explanation based on gender contracts rests on the idea of a sociocultural consensus about the respective roles of women and men, influencing whether women are seen as paid workers or homemakers. Moreover, regional patterns may arise from different levels of patriarchy among regions (Perrons, 1995).

Empirical studies have explored the association between space and the gender gap in the labor market. For instance, living in larger cities seems to favor more the female population, generating an employment premium for this group in Spain (Alonso-Villar and Del Río, 2006). Apart from this direct relation, there is also gender-related heterogeneity in commuting patterns, which connect housing and labor markets. Many related papers find that women have shorter commute times than men. This may be possibly connected to gender segregation of occupations, which may show a spatial pattern (Osland, 2010). In conjunction to that, marital status and the number of children can reinforce job accessibility for women (Silveira-Neto et al., 2015).

In the aftermath, all of these observations infer back to the reasons for gender inequality persistence. The evolving discussion on the interrelation between gender and space to explain this economic phenomenon is essential to formulate efficient public policies to promote social justice. Only then can historical and cultural taboos be directly addressed to educate existing and future generations for the creation of a fairer world.

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QUO VADETE, LADIES?

Dr. Viktor A. Venhorst, Department of Economic Geography, Faculty of Spatial Sciences, University of Groningen, The Netherlands

THERE IS VERY little about labour markets that is not gendered, I think is safe to say. In what follows, and based on earlier work that attempted to conceptualize how a gendered dimension develops on local labour markets, I summarize some of our recent findings on the gender aspect of labour market outcomes of recent graduates. I argue there is an interesting puzzle that needs more attention.



Hanson and Pratt (1988) built a conceptualization of the gender dimension of local labour markets, focusing on the links between home and work. They argued that the effect of home on work and the effect of work on home, that is, household characteristics that may stimulate or inhibit the opportunities in the local or wider labour market and vice versa, and the inter-relations between these two factors deserves more attention. Clearly, these interrelations are often gendered. Hanson and Pratt (1992) apply such a framework and note men and women differ in their extent and mode of spatial flexibility. Employers consequently recruit locally with a keen eye to the local geography of attractive and not-so-attractive labour pools, but this, as a result, helps shape that local labour-market geography: a geography which as a result is often gendered, and in turn, leads to a greater need for females to engage in spatial job search in order to escape unfavourable circumstances (Faggian et al., 2007).

For the Dutch case, the gender dimension of spatial job search and labour market outcomes has been integral to a wider body of research on the labour market entry of recent higher education graduates. Recent graduates are a particularly interesting group to focus on in investigating these issues. Arguments often build on endogenous growth theory and the importance of a highly skilled local labour force which would either need to be trained and retained in situ, or attracted from elsewhere. This stock of human capital subsequently needs to be matched to suitable jobs where their fresh and up-to-date skills can be unlocked and engaged, for the benefit of all. But secondly, there is a methodological argument that studying this particular section of the labour force, all recently graduated, and all at the start of what will hopefully prove to be a stellar career, provides the researcher with a relatively homogeneous sample of workers which facilitates the identification of the role of gender, among others (Venhorst and Cörvers, 2018).

Within the group of recent graduates from Dutch higher education institutions, we have observed labour market outcomes which diverge strongly between men and women. Based on registry data from Statistics Netherlands, giving us essentially the population, we published a comprehensive report on the spatial

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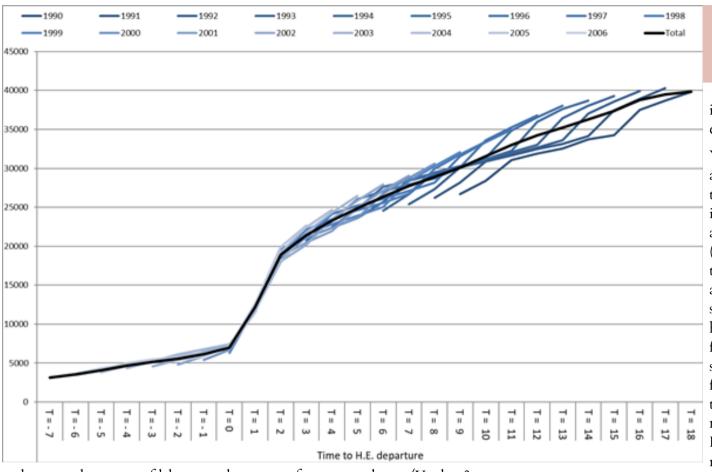


Figure 1: net real total annual income, against time relative to H.E. departure, by graduation cohort, men. Source: Statistics Netherlands, modified by Venhorst et al., (2013)

in particular for the four largest cities (Venhorst et al., 2010).

Yet, this extent of mobility in its own right apparently has not (sufficiently) improved the situation. We looked more specifically into the relationship between spatial mobility and a variety of labour market outcomes (Venhorst and Cörvers, 2018). We found that among recent university graduates, and controlling for a rich set of personal, study, job and regional characteristics, net hourly wages are 3.5% higher for men. We further analyzed the relationship between spatial mobility and wage rate separately for men and women, to take into account the potentially disadvantageous local labour markets that women have to migrate out of. In this light, we would expect to see higher returns on spatial mobility for women

and temporal patterns of labour market entry of recent graduates (Venhorst et al, 2013). We applied a cohort approach, tracking over fifteen cohorts of recent graduates as they made their way into the Dutch labour market, following some cohorts as far as 18 years after graduation. We found minor differences in the patterns in the share of graduates in dependent employment between men and women. There is a consistent increase in the percentage of recent graduates in self-employment: from about 0.5% (women) and 2% (men) during university to around 14% (men) and 11.5% (women) 18 years after graduation.

But arguably more importantly, we found substantial differences in remuneration and profitability. The registers provided us with total annual income, net of taxes. After correcting for inflation we mapped these annual net incomes against time to graduation, for graduation cohorts separately (Figure 1, at the top of this page, and Figure 2, on the next page). For both men and women, annual income increases dramatically in the year following graduation, as students make their way into the labour market. Within each cohort, those with more experience receive higher incomes. Furthermore, recent cohorts receive higher incomes than older cohorts. But, women do not reach the income levels of men one year into the labour market. And, furthermore, even though we find a gradual increase in net real annual total income for men, income development for women basically flat lines relative to the time of graduation. These figures are simple net real annual incomes, and have not been corrected for hours worked, sector of occupation, field of study and other observable and unobservable characteristics, all of which are strongly gendered. But the pattern, in particular amongst cohorts of recent graduates, is striking. Similarly, we reported that average profits for self-employed men are nearly twice the amount for women.

There is a distinct spatial dimension to these patterns. Firstly, in line with the earlier literature on the relation between home and work, and the gendered local labour markets that may ensue, we sought to investigate to what extent women differ in their (re-)location behavior compared to men. Job opportunities are the main driving force of migration among the recently graduated and indeed we found female graduates more likely to engage in long distance migration (Venhorst et al., 2011). Furthermore, we found that female graduates, graduating from universities in non-core areas were more likely to move to the core areas,

than for men. We did find significant effects gained from migration for male university graduates. However, we found no significant effect of migration on wages for women, using the preferred IV specification. There is therefore little support for our earlier conjecture that returns to migration ought to be higher for female graduates.

Results obtained in other studies begin to shed light on the matter. For example, Koster and Venhorst (2014), looking into recent graduates who are self-employed, report that women are more likely to run their business close to home, controlling for family composition and other factors. Furthermore, Venhorst (2017) reports that, for a sample of recently graduated job changers, women are more likely than men to engage in residential mobility, but less likely than men to switch job location. Even though women are more migratory than men, the question remains whether this extent of spatial mobility is effective in negating negative labour market outcomes. Quo vadete, ladies?

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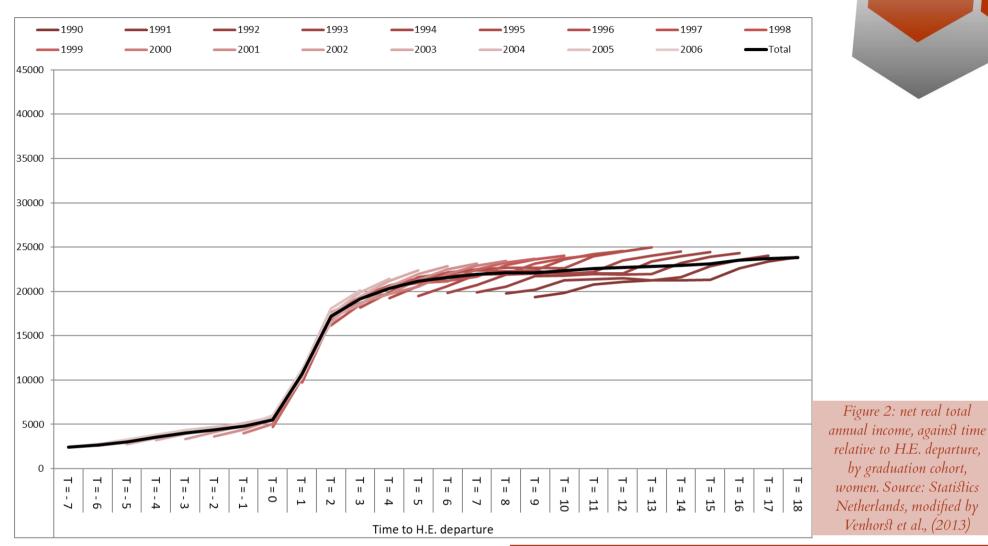
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The newsletter of the Regional Science Association International (RSAI) appears two times a year and contains information about upcoming conferences and meetings, recent events and publications, and short contributions on current themes. Contributons are most welcome, and can be submitted directly to Martijn Smit (m.j.smit@uu.nl) and/or Graham Clarke (g.p.clarke@leeds.ac.uk).

In particular, we plan to include a series on <u>teaching</u> Regional Science. If you teach Regional Science and are willing to contribute a brief overview of what & how, please contact Martijn at m,j,smit@uu.nl.

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