How to Enjoy a Sabbatical
(Reflections on the past 18 months in Princeton)

Encontros Semanais NEREUS
São Paulo, 10 de Agosto de 2015

Eduardo A. Haddad
Professor of Economics, University of São Paulo, Brazil
Outline

✓ Initial considerations

Academic activities

The agenda ahead
What do we gain?

Accelerate development
Stretch different muscles
Get out of comfort zone
Learn different capabilities
Global experience
Open new possibilities
Some guidelines

Select an interesting project*

[Select an interesting place – location matters!]

Establish realistic goals*

Prepare for the challenge ahead*

[Get your family involved]

Enjoy yourself!* 

*Source: Sybil L. Holloway (https://www.insidehighered.com/)
Some personal insights

You need some time to settle down
Create a nice routine
Do things you would not do at home
Have a positive attitude towards different mindsets
Humble to begin from scratch
Appreciate the nuances of your new environment
Remember: it is a life experience [for the whole family!]
Outline

Initial considerations

✓ Academic activities

The agenda ahead
Post-Doctoral Studies Activity Report – Summary

Department of Economics, University of Sao Paulo
ECO 552 – “International Trade II”, Esteban A. Rossi-Hansberg and Eduardo Morales (Spring 2014)


AOS 577 / GEO 577 – “Climate of the Earth: Present, Past and Future”, Thomas L. Delworth (Fall, 2014)

The Classical Mediterranean MA DL, University of Leicester, UK (since Spring 2015)
Attended the weekly research seminar series in international economics sponsored by the IES, ECO 581F – Trade Workshop (Spring and Fall, 2014; Spring 2015)

Attended the weekly IES Student Trade Workshop (Spring and Fall, 2014; Spring 2015)

Attended the 2014 Summer Workshop in Trade convened by IES

Attended the Integrated Assessment Modeling Seminar series, sponsored by the Climate Futures Initiative (CFI) at the Princeton Environmental Institute (PEI). (Fall 2014; Spring 2015)
Courses (teaching):

Graduate course: “Regional Economic Methods” (Spring 2014)

Undergraduate course: “Let the Games Begin: The Socio-Economic Effects of Mega-Events in Sports – Byrne Seminar” (Fall 2014)

Co-advising:

Dina Elshahawany
Group 1 – Mobility in Metropolitan Systems


Mobilidade, Acessibilidade e Produtividade: Nota sobre a Valoração Econômica do Tempo de Viagem na Região Metropolitana de São Paulo (with Renato S. Vieira), submitted to *Revista de Economia Contemporânea*

WP: Mobility, Accessibility and Productivity in Metropolitan Systems: The Cost of Time (with Geoffrey Hewings, Eveline S. Van Leeuwen, Alexandre Porsse and Renato Vieira)
The city of São Paulo receives daily an inflow of almost one million commuters (15.4% of workers in the city)
The integrated modeling framework

- O-D Database
- Transportation Network
- Change in the Network
- Accessibility Index
- Personal Characteristics
- Urban Structure
- Sectoral Mix
- Commuting Time
- Productivity
- Employment by Sector
- Systemic Effects
- Other Effects

Calibration stage
Simulation stage

Productivity model
Spatial CGE model

Travel demand model

Department of Economics, University of Sao Paulo 14
Input-output relations embedded in the SCGE model

**Place of production**
- Activities
  - Intermediate consumption
  - Value added
  - Gross output

**Factors of production**
- Intermediate consumption
- Value added
- Gross output

**Commodities**
- Local production
- Interregional exports

**Place of residence**
- Households, firms and government
  - Earned labor income
  - Other earned income
  - Taxes and transfers

**Place of consumption**
- Activities, households, firms and govt.
  - Intermediate consumption
  - Household consumption
  - Other final demand

**Commodities**
- Local demand
- Interregional and international imports

Department of Economics, University of Sao Paulo


Consumo de Energia Elétrica das Exportações Brasileiras: Uma Análise Sistêmica por Área de Concessão de Distribuição (with Maria Carolina Marques), revised and resubmitted to *Pesquisa e Planejamento Econômico*
Treatment of spatial information / spatial interaction

Floods are recurrent in São Paulo, especially in the summer

**What are the economic costs of floods in São Paulo?**

Example of GIS-based influence area of flood points, for different scenarios (50m, 100m, 150m, 200m)
Reaching the planner: Hotspots 2008

Source: Teixeira and Haddad (2014)
Potential GDP losses in the São Paulo wards during 2008

Source: Teixeira and Haddad (2014)


Spatial Propagation of the Economic Impacts of Bombing: The Case of the 2006 War in Lebanon, submitted to *Journal of Economic Structures*
The ARZ Project

ARZ Model

Interregional Computable General Equilibrium Model for Lebanon

The University of Sao Paulo Regional and Urban Economics Lab - NEREUS

November 2011
Scholarly Collaboration in Regional Science in Developing Countries: The Case of the Brazilian REAL Network (with Jesús Mena-Chalco and Otávio J. G. Sidone), revised and resubmitted to *International Regional Science Review*


Scholarly Publication and Collaboration in Brazil: The Role of Geography (with Otávio J. G. Sidone and Jesús Mena-Chalco), revised and resubmitted to *Journal of the American Society for Information Science and Technology*
Knowledge flows in Brazil: 2007-2009
Co-authorship network: Agricultural Sciences (1990 - 2010)

Individual degree in the network

Capão do Leão/RS – Pelotas/RS 53.451
Piracicaba/SP – Campinas/SP 30.695
Lavras/MG – Viçosa/MG 29.334
Viçosa/MG 370.118
São Paulo/SP 143.982
Lavras/MG 143.559
Co-authorship network: Health Sciences (1990 - 2010)

Individual degree in the network

Ribeirão Preto/SP – São Paulo/SP  95.120
Campinas/SP – São Paulo/SP  78.023
Rio de Janeiro/RJ – São Paulo/SP  66.852

São Paulo/SP  2.220.749
Ribeirão Preto/SP  426.694
Rio de Janeiro/RJ  388.479

Department of Economics, University of Sao Paulo
Climate Change and Land Use Pattern in Brazil (with Eduardo Barbosa, José Feres and Antonio Paez), forthcoming in the volume Innovations in Spatial Analysis and Location Modeling in Urban and Regional Systems, Advances in Geographic Information Science Series, edited by Jean-Claude Thill, Springer-Verlag, 2015 (forthcoming)


WP: Modelagem do Uso da Terra e Efeitos de Mudanças na Produtividade Agrícola entre 1996 e 2006 (with Weslem R. Faria)

WP: Modeling Land Use and the Effects of Climate Change in Brazil (with Weslem R. Faria)

WP: Economia das Mudanças Climáticas: A Experiência Brasileira com a Utilização de Modelos Integrados para Avaliação de Impactos de MCG (with Eliane Teixeira)
Economics of Climate Change in Brazil Modeling Logical Structure
Group 7 – Transportation Infrastructure and Domestic Integration

WP: Regional Analysis of Domestic Integration in Egypt (with Michael Lahr, Dina N. Elshahawany and Moises Vassallo)

WP: The Potential Economic Impacts of the Proposed Development Corridor in Egypt (with Dina N. Elshahawany and Michael Lahr)

WP: Avaliação dos Impactos Espaciais do Sistema Viário Oeste – Bahia: Uma Abordagem a Partir da Modelagem de Equilíbrio Geral Computável (with Rodrigo Calabrich)
Egypt’s Transportation Network after Connecting the Proposed Corridor
Sistema Viário Oeste

<table>
<thead>
<tr>
<th>Trecho</th>
<th>Descrição</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Construção da Ponte Salvador – Ilha de Itaparica (preto).</td>
</tr>
<tr>
<td>2</td>
<td>Duplicação da BA-001 entre os municípios de Vera Cruz e Nazaré (vermelho).</td>
</tr>
<tr>
<td>3</td>
<td>Duplicação da BA-028 trecho Nazaré – Santo Antônio de Jesus (azul).</td>
</tr>
<tr>
<td>4</td>
<td>Construção da ligação rodoviária entre Santo Antônio de Jesus e Castro Alves (verde).</td>
</tr>
<tr>
<td>5</td>
<td>Requalificação do trecho da ligação viária entre Castro Alves e a BR-116 (marrom).</td>
</tr>
</tbody>
</table>
Economic Impacts of Natural Resources on a Regional Economy: The Case of the Pre-Salt Oil Discoveries in Espírito Santo, Brazil (with Ana Carolina Giuberti), *Economy of Region, Russia*, v. 1, pp. 111-124, 2014.

Target Fitting and Sensitivity Analysis in CGE Models: An Application for the Assessment of Regional Effects of Monetary Policy in Brazil (with Gabriel Garber), submitted to *Brazilian Review of Econometrics*
Group 9 – Various


Industrial Scope of Agglomeration Economies in Brazil (with Ana Maria Bonomi Barufi and Peter Nijkamp), revised and resubmitted to *Annals of Regional Science*
## Interface of research interests – SPACE

<table>
<thead>
<tr>
<th>Methods</th>
<th>Fields</th>
<th>Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input-output (IO)</strong></td>
<td><strong>CGE</strong></td>
<td><strong>NET</strong></td>
</tr>
<tr>
<td><strong>CGE model (CGE)</strong></td>
<td><strong>CC</strong></td>
<td><strong>TRN</strong></td>
</tr>
<tr>
<td><strong>Modeling integration (INT)</strong></td>
<td><strong>TRA</strong></td>
<td><strong>URB</strong></td>
</tr>
<tr>
<td><strong>Social networks (NET)</strong></td>
<td><strong>MET</strong></td>
<td><strong>MED</strong></td>
</tr>
<tr>
<td><strong>Climate change (CC)</strong></td>
<td><strong>BRA</strong></td>
<td><strong>MOC</strong></td>
</tr>
<tr>
<td><strong>Transportation (TRN)</strong></td>
<td><strong>MET</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Trade (TRA)</strong></td>
<td><strong>MED</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Urban economics (URB)</strong></td>
<td><strong>MET</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Metropolitan systems (MET)</strong></td>
<td><strong>MED</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Mediterranean (MED)</strong></td>
<td><strong>BRA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Brazil (BRA)</strong></td>
<td><strong>MOC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Morocco, Colombia (MOC)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Outline

Initial considerations

Academic activities

✓ The agenda ahead
Ongoing research projects

**Program in Regional Economics for Morocco (OCP Policy Center)**

1. Regional information system for Morocco
2. Research theme 1: “Domestic and International Integration”
3. Research theme 2: “Regional Inequality”
4. Research theme 3: “Natural Resources”
5. Teaching component

**Memorandum of Partnership Agreement (AUB-NEREUS)**

1. Climate Change
2. Book project (Regional Science studies on Lebanon – Springer)

**Zagazig University-Rutgers-NEREUS**

1. Domestic Integration and Inequality in Egypt
Ongoing research projects

**Mediterranean (partnerships for modeling)**

1. *Portugal, Spain, France, Italy, Greece, Turkey, Lebanon, Egypt, Tunisia, Morocco*

**Scientific networks**

1. ANPEC
2. EAE

**Colombia (Banco de la Republica)**

1. Spatial CGE Model for Colombia
2. Government transfers

**Interregional Government Transfers in Brazil: An Urban Accounting Approach**
Ongoing research projects

**Climate Change**

1. Mitigation Options of Greenhouse Gas (GHG) Emissions in Key Sectors in Brazil (UNEP)
2. Rede Clima, INCT-MC, INCLINE

**Alternative Approaches to Computable General Equilibrium Modeling of Interregional Systems: An Application to Brazil**

**Modeling of metropolitan systems**

1. Commuting and value of time in space – RMSP
2. RM Campinas

**Graduate students**

Ana Barufi, Moisés Vassallo, Tales Rozenfeld, Thiago Nascimento
“Unconventional” research projects

Ancient World (The Classical Mediterranean)

- Networks (trade, migration)

- Urban systems

Destiny Studies
Ancient Urban Economics

The Pre-History of Urban Scaling

Urban Connectivity of Iberian and Roman Towns in Southern Spain: A Network Analysis Approach

The Rise of Europe: Atlantic Trade, Institutional Change, and Verbal Economics

Analysing Ancient Economies and Social Relations

The Size of the Economy and the Distribution of Income in the Roman Empire

WALTER SCHEIDEI AND STEVEN J. FRIESEN

As Roman economic historians have moved beyond concepts such as formalism and substantivism that exercised previous generations of scholars, questions of economic growth and performance have increasingly come to the fore. Consideration of these issues requires a basic understanding of the probable size of the Roman economy and the distribution of income across its population. This perspective not only encourages us to ask how different segments of the economy — such as the share of output captured by the state or the relative weight of slave wealth — were interrelated, but also how their overall importance varied over time.
ORBIS – the Stanford geospatial network model of the Roman World

The Stanford Geospatial Network Model of the Roman World

According to the Fastest routes from Alexandria to the rest of the Roman world in July, sites are this far away.

The most distant major sites are:
- Londinium (47 Days)
- Lugdunum (37 Days)
- Corduba (36 Days)
- Mediolanum (31 Days)
Pleiades – a community-built gazetteer and graph of ancient places
“It is the task of the next decades to discipline our understanding of our collective future. Traditional religions dwell on what happens to us as *individuals* long-term – in heaven or hell, for example, – but not on what happens to humankind collectively, here on earth long-term. A **new academic discipline** will develop as scholars pursue the art and science of looking ahead. It may be called Destiny Studies. It may be able to provide qualitatively new answers to the question: “What are we on Earth to do?” In academia, every university will have a Program in Destiny Studies. Are you going to be the ones to create your university’s Program in Destiny Studies?”

*Robert Socolow, “Destiny Studies: A plausible element of the new Climate Futures Initiative at Princeton University”, October 2, 2014*
Mission statement

The **Regional Science Academy** is a service-oriented scholarly network for rethinking and managing the spatial dynamics of people and socio-economic activities in connected spatial systems of our Earth by:

- developing new interdisciplinary knowledge and knowledge initiatives for strengthening regions and cities as livable, vital and resilient places;

- creating and exploiting scientific synergy – and related smart governance action – on regional and urban development, from an economic, social, demographic, policy, cultural, logistic and innovative perspective at different spatial scale levels
Regional Science Academy

- Enhance the critical role of regions and cities world-wide as vital, livable and sustainable places with a high quality for living and working.
- **Develop the foundations for an integrated regional theory and methodology.**
- Design socio-economic, ecological and planning ground research that is policy-oriented and innovation-driven.
- Provide the scholarly and policy tools for developing, assessing and aiding effective implementation of research, with a view to future challenges for regions and cities all over the world.
- Develop communication mechanisms for sharing the knowledge base in the regional science field, in particular by addressing novel and path-breaking perspectives on regional science research.
- Act as an intellectual platform for exchanging creative knowledge on regional and urban development, in cooperation with a younger generation.
Research Grants

São Paulo Research Foundation (FAPESP) Scholarships abroad – Research, January 01, 2015 - June 30, 2015 (Grant # 14/25030-2)

Brazilian Research Council (CNPq) Productivity Grant 2015-2018 (CNPq # 305137/2014-0)

Byrne Seminar Stipend – Fall 2014, Rutgers University (#662535)

Brazilian Research Council (CNPq) Post-Doctoral Fellowship, January 01, 2014 - December 31, 2014 (CNPq # 229256/2013-9)

São Paulo Research Foundation (FAPESP) Research Projects – Regular Grant, 2013-2015 (Grant # 2013/00894-1)

Brazilian Research Council (CNPq) Research Grant 2012-2014 (CNPq # 405032/2012-9)
I acknowledge the following individuals and institutions for their generous support during my sabbatical period:

- Prof. Esteban Rossi-Hansberg, Princeton University
- Prof. Gene Grossman, Princeton University
- Prof. Michael Lahr, Rutgers University
- Department of Economics, University of Sao Paulo, Brazil
- Institute of Economic Research Foundation, FIPE
- International Economics Section (IES), Department of Economics, Princeton University
- Edward J. Bloustein School of Planning & Public Policy, Rutgers, The State University of New Jersey
- Brazilian Research Council, CNPq
- São Paulo Research Foundation, FAPESP