

European Week of Regions and Cities 2017  
**Counterfactual Methods for Regional and Urban Policy Evaluation**  
SESSION - UNIV11C105

Organised by EWRC University:  
European Regional Science Association (Leader), Association of European Schools of Planning and Regional Studies Association

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### **Workshop schedule**

14:30-17:00, please be at the room at 14h15

**Room** : European Commission, building Charlemagne, Room Mansholt

14h30 -14h45	<b>RAGAZZI Elena</b> (Chair): workshop introduction and use of the interactive event app
14h45-15h30 (15mn presentations)	<b>(1) PELLEGRINI Guido</b> (Full professor of Statistics and Statistical Methods for Regional Sciences; President of the Italian Association of Regional Science). Department of Social and Economic Sciences, Sapienza University of Rome, P.le Aldo Moro, 5 - 00185 Rome, Italy. <a href="mailto:guido.pellegrini@uniroma1.it">guido.pellegrini@uniroma1.it</a> ) <b>The effects of the European Structural Funds: What have we learned from counterfactual evaluations?</b>
	<b>(2) DRANGE Nina</b> (Statistics Norway, Research Department, postboks 8131, Dep., 0033 Oslo, Norway. <a href="mailto:Nina.Drange@ssb.no">Nina.Drange@ssb.no</a> ) <b>Promoting the integration of immigrants. Lessons from a policy providing free child care</b>
	<b>(3) VÉDRINE Lionel</b> (CESAER - French National Institute of Agricultural Research, 26 boulevard dr. Petitjean 21000 Dijon CEDEX, France. <a href="mailto:lionel.vedrine@inra.fr">lionel.vedrine@inra.fr</a> ) <b>The effects of urban tolls and low emission zones: Evidence from counterfactual evaluations</b>
15h30-15h40	Interaction with the floor through the event app
15h40-16.15	Roundtable discussion and open discussion
16.30	<b>End of the workshop</b>

### **Summaries**

**(1)** The European regional policy is the wider and probably the longest experiment of income redistribution across regions and countries, so there is not only an academic interest in evaluating the policy; also policy makers and citizens are interested in knowing the effects of ERP, in reason of the huge amount of financial resources dedicated to European regional intervention. The capacity of the policy to promote regional economic growth remains controversial, because the evaluation exercises are not unanimous. Only few studies among many, presented here, are based on the counterfactual approach that enables a more precise identification of the effects of the policy. On average, the impact on growth and employment is positive and statistically significant, even if moderate and different across regions. The causes of such heterogeneity can be many. In the presentation, I focus on the diversity in the intensity of aid between regions and on the effects of spillovers from neighbouring regions. I present how the counterfactual methods can deal with these factors and some (new) results considering the intensity of treatment and spatial spillovers.

**(2)** In 2007, children aged four and five became eligible for 20 hours of free child care weekly in certain city districts in Oslo, Norway. Children with immigrant background were underrepresented in child care centers at the time, and the

intervention aimed to recruit these children to child care. We have implemented an evaluation of this policy, comparing enrollment and subsequent development of children in intervention districts with children in non-affected districts. Results show that the intervention increased the participation for children from immigrant families by 15%. Moreover, the performance on tests at school entry (age six) for children from immigrant families in city districts with free child care was better than that of similar children in comparison districts.

(3) According to the latest report from the European Environmental Agency on air quality, “European citizens often breathe air that does not meet European standards”. Indeed, air pollution is the main environmental risk factor of premature death in Europe: 430 000 premature deaths in EU-28 in 2011 are attributable to a long-term exposure to excessive levels of fine particulate matter and 16 100 to short-term exposure to ozone (EEA, 2014). The transport sector is an important contributor to air pollution, especially in urban areas; on average in EU-28, it contributes to 57% of NOx emission or 26% of CO emissions. The presentation aims to present several policies, targeted to traffic regulation (Urban Toll, Low Emission Zone, Driving Ban, Limited Speed Limit), focusing on their effect on air quality estimated with quasi-experimental method. Using Differences in Differences and Matching, these studies show positive and significant impact of Low Emission Zone on air quality and traffic composition (Wolf, 2014). Similar impacts on air quality have been identified for the urban toll implemented in Milan (Gibson and Canovale, 2015; Percoco, 2013) and London (Percoco, 2015), despite some substitution effects. Results for Driving bans are more nuanced: using a regression discontinuity design, Davis (2008) finds an increase of air pollution in Mexico mainly due to substitution effects. Nevertheless, Viard and Fu (2013) show that driving bans may prove efficient when they are sizeable and temporary.

#### **More on Counterfactual methods:**

Athey, S., & Imbens, G. W. (2017). The state of applied econometrics: Causality and policy evaluation. *The Journal of Economic Perspectives*, 31(2), 3-32.

Imbens, G. W., Rubin, D. B. (2015), *Causal Inference in Statistics, Social, and Biomedical Sciences*, New York: Cambridge University Press.

Imbens, G.W., Wooldridge, J.M. (2009), Recent developments in the econometrics of program evaluation, *Journal of Economic Literature*, 47 (1), 5-86.

#### **Selected works by the speakers and organisers:**

- Bouayad-Agha, S., Turpin, N., Védrine, L. (2013). Fostering the development of European regions: a spatial dynamic panel data analysis of the impact of cohesion policy. *Regional Studies*, 1573-1593. <http://prodinra.inra.fr/record/169151>.
- Busillo, F., Muccigrosso, T., Pellegrini, G., Tarola, O., Terribile, F. (2012) Measuring the impact of the European Regional Policy on economic growth: A regression discontinuity design approach, *Papers in Regional Science*, 2012, 92, (1), 217-233.
- Caloffi, A., Mariani, M. (2017). Regional policy mixes for enterprise and innovation: A fuzzy-set clustering approach. *Environment and Planning C*, DOI: 10.1177/2399654417691515
- Caloffi A., Mariani M., Sterlacchini, A. (2016), Evaluating public supports to the investment activities of business firms: A meta-regression analysis of Italian studies, University of Roma Tre, CREI Working Paper No. 0116, [http://host.uniroma3.it/centri/crei/pubblicazioni/workingpapers2016/CREI\\_01\\_2016.pdf](http://host.uniroma3.it/centri/crei/pubblicazioni/workingpapers2016/CREI_01_2016.pdf)
- Cataldo R., Grassia M. G., Lauro N. C., Ragazzi E., Sella L., “Individual disadvantage and policy performance: The makings of “model-based” composite indicators”, 2017, in Lauro N. C. *et al.* (Eds.), *Data Science and Social Research – Epistemology, Methods, Technology and Applications*, Springer, ISBN 978-3-319-55476
- Cerqua, A., Pellegrini, G. (2017) Are we spending too much to grow? The case of Structural Funds, *Journal of Regional Science*, (forthcoming). [http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/pdf/expo2013/wp14c\\_task1\\_final\\_report\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/expo2013/wp14c_task1_final_report_en.pdf)
- Drange, N., Telle, K. (2015), Promoting integration of immigrants: Effects of free child care on child enrollment and parental employment, *Labour Economics*, 34, p. 26-38.
- Drange, N., Telle, K. (2017), Preschool and school performance of children from immigrant families, *Empirical Economics*, 52(2), 825-867.
- Ferrara, A.R., McCann, P., Pellegrini, G., Stelder, D., Terribile, F. (2016). Assessing the impacts of Cohesion Policy on EU regions: A non-parametric analysis on interventions promoting research and innovation and transport accessibility, *Papers in Regional Science*, 2016, DOI: 10.1111/pirs.12234
- Legras, S., Védrine, L. (2016) « Urban tolls really help us to breathe easier? An econometric evaluation of the impact of urban tolls on air quality », Conference Paper, 22nd Annual Conference of the European Association of Environmental and Resource Economists, Zurich.
- Mariani, M., Mealli, F. (2017). The effects of R&D subsidies to small and medium-sized enterprises. Evidence from a regional program. *Italian Economic Journal*, forthcoming.
- Ragazzi E., García Gutiérrez F. (2014), Trial Evaluation: conclusive lessons from Essence case studies, in “Ceris Technical Reports, Special Essence Series on security standards for critical infrastructures”, N. 57. [http://essence.ceris.cnr.it/images/documenti/RT\\_57.pdf](http://essence.ceris.cnr.it/images/documenti/RT_57.pdf)
- Ragazzi, E., Sella, L. (2016), *Migration and work: the cohesive role of vocational training policies*, in “Mondi Migranti. Rivista di studi e ricerche sulle migrazioni internazionali” (ed. Franco Angeli), n. 1/2016.
- Sanch-Maritan, M., Védrine, L. and Hilal, M. (2016) «Displacement Effects and Heterogeneous impact of an Active Labor Market Policy », AFSE conférence du trésor.