COVID-19 and Domestic Violence – Evidence from Rolling Quarantines in Chile

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NBER Research Grants on Women, Victimization, and COVID-19

1 Introduction and Motivation

Since the COVID-19 pandemic which has led to millions of families the world over being "locked down" together in their homes, there have been reports from several countries of a substantial surge in domestic violence (UN Women 2020). This is a grave concern given that social isolation is likely to continue for some time, if intermittently. It also provides an opportunity to identify the mechanisms driving domestic violence. We propose to investigate COVID-19 related increases in domestic violence in Chile, using rich administrative data.

The research questions we will pursue are as follows.

1. What is the causal effect of COVID-related lockdowns on domestic violence? What is the dynamic path of domestic violence conditional on seasonality and secular trends?
2. What mechanisms explain the rise in violence? The competing hypotheses of interest are laid out below.
   (i) Restrictions on economic activity have led to unemployment and associated income stress. There is some evidence that male unemployment leads to higher domestic violence, although the evidence for female unemployment is mixed (e.g. Aizer 2010, Anderberg et al. 2016, Anderberg and Rainer 2011, Bobonis et al. 2013, Tur-Pratts 2019, Bhalotra et al. 2019, Bhalotra et al. 2020).
   (ii) Confinement has led to couples spending more time together, increasing opportunities for violence (the inverse of incapacitation effects in the crime literature). Consistent with this, there is some evidence that domestic violence spikes on public holidays, weekends and when people are forced to stay home on account of poor weather conditions (Vazquez et al. 2005).
3. How did alternative services perform during the crisis- (a) new services designed to encourage reporting during the COVID-19 crisis (eg., women were encouraged to report violence to pharmacies), (b) pre-existing services (eg., police complaints dropped even as helpline calls increased).

This project has two considerable strengths. First, in contrast to some other countries, Chile has implemented geographically fine-grained rolling quarantine measures, such that different neighbourhoods within a city are exposed to quarantine at different times. Second, we have recently generated formal agreements with two government ministries which will result in their sharing with us administrative data including calls to national domestic violence hotlines, police reports, and the result of any cases tried. These will be daily data that precede the COVID-19 crisis, span it, and are updated in real time.

2 Implementation of Quarantine, and Data on Domestic Violence

Chile has approximately 19 million inhabitants, residing in 16 regions and 346 municipalities. Since 14 March, quarantines have been rolled out across municipalities. The measures are strict, requiring that people obtain a permit to be outside their homes. They are put in place at the discretion of the Ministry of Health, based on the rate of identified contagion in the municipality and the estimated rates of change, but there is no explicit rule that might allow individuals to predict declaration of quarantine in their municipality. Once announced, quarantines take effect within 1-3 days and last anywhere between 8-45 days, with an average length of 23 days. So far, they have principally been located in the Metropolitan Region, which contains the capital city Santiago, and includes 32 municipalities. At the date of this application, 30 municipalities (throughout the country) are in quarantine, covering approximately 5.5 million inhabitants. There has been a steady rise in the population covered. We have generated data on the exact date of implementation and the exact duration of quarantine by municipality. These data will be updated continuously, as the measures are rolled out across further regions of the country.

We will obtain (or have already obtained) data on multiple measures of domestic violence from two Ministries with whom we have established data access agreements. These data will be fine-grained at the temporal and

geographic level, in most cases, daily data by municipality, in some cases by region, including at least 2019 and 2020, and possibly earlier data.

1. Domestic violence cases received in the criminal courts, either directly from individuals or via the police. In fact we have data on all crime reports by type of crime, so we can distinguish trends in domestic violence from trends in other violent crimes. The data include the age, sex and municipality of residence of the victim and the outcome of the case (if reached). From the Ministry of the Interior (which oversees law and order).
2. Calls to three well known domestic violence hotlines. One is maintained by the Ministry for Women and Gender Equality (MWGE) and provides general advice and orientation, and the other two are maintained by the national police forces and are specifically for reporting crimes and requesting urgent help. We have information on the day and region, along with their duration and waiting time to be answered. From the MWGE.
3. Usage of government-run women's shelters and women's centres attending domestic violence. These data are also provided by the MWGE at the level of day and municipality.
4. Data on the use of all new channels of domestic violence reporting implemented since the beginning of the COVID-19 crisis. This includes a whatsapp channel providing 'silent' support and responses to the code word 'Mask 19' (*mascarilla 19*) which can be used in pharmacies to solicit urgent support. These are new initiatives launched by the MWGE, and are observed daily. In the case of whatsapp messages (only), we will simply observe a national time series given low reporting of location of residence.

Current national-level figures suggest a sharp rise in calls requesting support related to domestic violence (from 3,000-5,000 calls per month throughout 2019 to 14,000 calls in April 2020), but a reduction in the number of crimes reported to the police by around 20% in March 2020 compared with March 2019.

3 Proposed Methodology

Since quarantines are typically implemented at a national or regional level, it can be challenging to identify the relative importance of these two mechanisms. Our research design will take advantage of the rollout of quarantine across municipalities. For the two large metropolitan areas of Santiago and Greater Concepción, which span more than one municipality, there is also within-city variation in quarantine status, which will allow us to estimate the causal effect of the confinement, controlling for the share of unemployment at the city level. Using daily data through 2019-2020, we will control for the known seasonality in domestic violence cases using month fixed effects.

We will first describe national level trends and their evolution over time in areas which have and have not formally imposed lock-downs, and then more formally assess the impact of lockdowns by estimating an event study style regression using a panel of municipalities over time:

$$\text{Domestic Violence}_{st} = \alpha + \sum_{j=2}^{K} \beta_{-j} \text{Quarantine}_{s,t-j} + \sum_{j=0}^{L} \beta_{+j} \text{Quarantine}_{s,t+j} + \lambda_s + \mu_t + X'_{st}\theta + \eta_{st}$$

where rates of domestic violence in area *s* (municipality or region, as laid out below) and day *t* are regressed on whether a quarantine was in place in this municipality at a fixed interval from the date considered. We thus examine both *K* lags up to the adoption of the quarantine, and *L* leads following the quarantine's introduction. We include geographic (λ_s) and time period (μ_t) fixed effects to capture idiosyncratic geographic or time factors, as well as time-varying controls in a number of specifications. An unobserved stochastic error ε_{st} is included, and standard errors are clustered by municipality.

Such a model is standard in many papers where a policy rollout is used to identify impacts of the policy, and the identifying assumption is that in the absence of reform, adopting and non-adopting municipalities would have followed parallel trends. Given the unprecedented and massive effects of COVID-19, it is not reasonable to assume that areas which have not imposed quarantines have not been impacted by the massive world-wide

changes, and as such we will use partial identification techniques to recognize the considerable uncertainty in counterfactual outcomes. The importance of such techniques is clear in the unprecedented context created by COVID-19, as has been documented in Manski and Molinari (2020). As well as estimating the event study coefficients that allow us to document the evolution of cases in domestic violence in areas which did adopt quarantines versus areas which did not, we will also conduct sensitivity to the violation of parallel trends following recent advances in event study methods allowing for "honest inference" in cases where parallel trends are violated in different manners (Rambachan and Roth, 2019).

To separate income effects of unemployment from confinement/exposure effects, we will use administrative data on unemployment benefit eligibility. We will also leverage the fact that public sector employees have more secure jobs than private sector employees. These data can be used to generate municipal-level employment rates. As well as inclusion in event studies as time-varying controls to allow for partial effects of quarantines controlling for employment shocks, we also propose to decompose coefficient movements in β_{-j} and β_{+j} conditional and unconditional on these and alternative measures as per Gelbach (2016).

4 Research Team and Ability to Complete Required Tasks

The research team consists of two PhD students, one in economics and one in criminology, two Assistant Professors and a Professor. 4 of the 5 members are "early career", and 3 of 5 are women. Every member has previous research in one or more of these areas- domestic violence, public health, crime, gender. The two national ministries with whom we have formal agreements of support are key stakeholders. They have expressed interest in our delivery of a research briefing that they will use to inform their continuous updating of policy in this area.

References

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Anderberg, D. and H. Rainer. 2011. Economic Abuse: A Theory of Intrahousehold Sabotage. *Journal of Public Economics*, Volume 97, January 2013, Pages 282-295.

Bhalotra, S., Kambhampati, U., Rawlings, S., Siddique, Z. 2019. Intimate Partner Violence: The Influence of Job Opportunities for Men and Women, *The World Bank Economic Review*, lhz030, https://doi.org/10.1093/wber/lhz030

Bhalotra, S., Britto, D., Pinotti, P., Sampaio, B. 2020. Male vs. Female Job Loss, Income Support and Domestic Violence, mimeo.

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Tur-Prats, A. 2019. Unemployment and Intimate-Partner Violence: A Cultural Approach". Mimeograph, University of California Merced.

Rambachan, A. and J. Roth. 2019. An Honest Approach to Parallel Trends. Harvard University.

UN Women 2020. COVID-19 and Ending Violence Against Women and Girls. Briefing. https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la=en&vs=5006

Vazquez, Salvador P., Mary K. Stohr, Marcus Purkiss. 2005. Intimate Partner Violence Incidence and Characteristics: Idaho NIBRS 1995 to 2001 Data., March 1. *Criminal Justice Policy Review*.

SONIA BHALOTRA

Webpages: https://www.iza.org/person/2905/sonia-r-bhalotra OR https://sites.google.com/site/srbhalotra/
Google scholar citations 4726; h-index 32; i10-index 66. In the top 1.2% of authors on IZA (Bonn)

Education
DPhil. Economics, University of Oxford (1995), MPhil. Economics, University of Oxford (1989)
B.Sc. Honours, University of Delhi, First (1987)

Current Position:
Professor of Economics, University of Essex (2013-)
Principal Investigator, ERC Advanced Grant (2020-2025)
Co-Investigator ESRC Research Centre for Microsocial Change, ISER, Essex (2019-2024)
Co-Investigator ESRC-funded Human Rights Big Data and Technology Project, Law, Essex (2015-2020)
Recent Academic Career: Professor of Economics, University of Bristol (2010-), Reader, Bristol (2003-), Senior Research Fellow DAE Cambridge and Fellow Newnham College and Wolfson College (1998-2000), Lecturer, Bristol (1995-)

RESEARCH PAPERS

Papers with a "Revise & Resubmit"

1. The Distribution of the Gender Wage Gap. With M Fernandez-Sierra. R&R, *Journal of Political Economy*. ISER WP 2018-10, June.
2. Shadows of the Captain of the Men of Death: Early Life Health, Human Capital Investment and Institutions. Second R&R, *Journal of Political Economy*. Available on SSRN. With A. Venkataramani.
3. Maternal Mortality and Women's Political Participation. With D Clarke, J Gomes, A Venkataramani. "Reject and resubmit" *Journal of Political Economy*. Older version: UNU-WIDER Helsinki WP 58/2018, May 2018.
4. Infant Health, Cognitive Performance and Earnings: Evidence from Inception of the Welfare State in Sweden. With M Karlsson, T Nilsson, N Schwarz. HEDG York WP 18/06, Mar 2018. R&R at the *Review of Economics and Statistics*.
5. On the Quantity and Quality of Girls: New Evidence on Fertility and Parental Investments. With S Anukriti, HF Tam. IZA Discussion Paper 10271, October 2016. Second R&R at the *Economic Journal*.
6. Clean Water Programs and Mortality Decline- A Natural Experiment in Mexico. With A Díaz-Cayeros, A. Miranda, Grant Miller, A Venkataramani. NBER WP 23239, March 2017. R&R *American Economic Journal-Economic Policy*.
7. First and Second Generation Impacts of the Biafran War. R&R at *Journal of Human Resources*. With R Akresh, M Leone, U Osili. Older version: NBER Working Paper 23721.

Publications

Last 3 years- Economics

1. Maternal Depression, Women's Empowerment, and Parental Investment: Evidence from a Randomized Control Trial. *American Economic Review*. March 2020. Vol. 110, Issue 3. With V Baranov, P Biroli, J Maselko.
2. Twin Births and Maternal Condition. *Review of Economics and Statistics*. December 2019, Vol. 101, No. 5, pp. 853–864. With D Clarke.
3. The Twin Instrument: Fertility and Human Capital Investment. *Journal of the European Economic Association,* 25 December 2019. With D Clarke.
4. The Price of Gold: Dowry and Death in India. *Journal of Development Economics*. Volume 143, March 2020. With A Chakravarty, S Gulesci.
5. Property Rights and Gender bias: Evidence from Land Reform in West Bengal. *American Economic Journal: Applied Economics,* 11(2): 1-34, April 2019. With A Chakravarty, D Mookherjee, F Pino.
6. Women's Inheritance Rights and the Preference for Sons. *Journal of Development Economics*. Forthcoming. With S Roy, R Brule. Available online Aug. 2018.
7. Intimate Partner Violence and the Business Cycle. *World Bank Economic Review*. With U Kambhampati, S Rawlings, Z Siddique. Published online 7 November 2019, https://doi.org/10.1093/wber/lhz030
8. Pathbreakers: Women's Electoral Success and Future Political Participation. *Economic Journal*, Volume 128, Issue 613, August 2018, pages 1844-1878. With I Clots-Figueras and L Iyer.

9. Infant Health and Longevity: Evidence from a Historical Intervention in Sweden. *Journal of the European Economic Association,* October 2017. With M Karlsson and T Nilsson.

Last 3 years- Mixed Discipline

10. Effectiveness of a peer-delivered psychosocial intervention for maternal depression on maternal and child outcomes at 3 years: Results from a cluster randomized trial and a healthy comparison cohort. With J Maselko et al. 2020. Forthcoming, *The Lancet Psychiatry*.
11. Maternal depression in rural Pakistan: The protective associations with cultural postpartum practices. With K. LeMasters, et al. *BMC Public Health* (part of Springer Nature), forthcoming 2020.
12. Father involvement in the first year of life: Associations with maternal mental health and child development outcomes in rural Pakistan. *Social Science & Medicine,* 237, 2019. With J Maselko et al.
13. Psychosocial determinants of sustained maternal functional impairment: longitudinal findings from a pregnancy-birth cohort study in rural Pakistan. *PLOS ONE,* 19 Nov 2019. With A Hagaman et al.
14. Socioeconomic status indicators and common mental disorders: Evidence from a study of prenatal depression in Pakistan. *Social Science and Medicine: Population Health*, 2018; 4; 1-19. With J Maselko, L Bates, J Gallis, K O'Donnell, S Sikander, L Turner.
15. Human Capital and Productivity Benefits of Early Childhood Nutritional Interventions." With A. Nandi, J. Behrman, A. Deolalikar, R. Laxminarayan. In *Disease Control Priorities* (3rd Ed.): Volume 8, ed D. Bundy, et al. Chapter 27. Washington, DC: World Bank. 2017. Also in Bundy AP et al. (2017). "Investment in child and adolescent health and development: key messages from Disease Control Priorities, 3rd Edition". *Lancet.* http://dx.doi.org/10.1016/S0140-6736(17)32417-0

Working Papers – Last 2 years-

1. Maternal Investments in Children: The Role of Expected Effort and Returns. With A Delavande, P Font, J Maselko. IZA WP 13056, March 2020.
2. The Impact of a Personalised Blood Pressure Warning on Health Behaviours. With A Delavande, P Fisher, J James. ISER WP 2020-02, February 2020.
3. Leader Identity and Coordination. With I Clots-Figueras, L Iyer, J Vecci. IZA DP No. 11803. Sep 2018.
4. Fertility, Health Endowments and Returns to Human Capital: Quasi Experimental Evidence from 20th Century America. With A Venkataramani, S Walther. IZA DP 11716. July 2018.
5. Multiple Births, Birth Quality and Maternal Labour Supply: Analysis of IVF Reform in Sweden. With M Palme, H Muhlrad, D Clarke. IZA DP 12490, August 2019.
6. Women Legislators and Economic Performance. With T Baskaran, B Min, Y Uppal. UNU-WIDER Helsinki WP 47/2018, April 2018.
7. Religion and Abortion: The Role of Politician Identity. I Clots-Figueras, L Iyer. IZA DP 11292, Feb 2018.
8. Population Sex Ratios and Crime against Women- Long Run Effects of Sex-Selection. With S Amaral. ISER WP 2018.
9. Does Universalization of Health Work? Evidence from health systems restructuring and expansion in Brazil. With R Rocha, R Soares. IZA Discussion Paper 12111, February 2019.

Selected Awards and Fellowships:

1. Fellow of the Academy of Social Sciences (2019-)
2. Research Fellow, Centre for Economic Policy Research CEPR London (2019-)
3. Associate Fellow, Instituto de Estudos para Políticas de Saúde (IEPS), Brazil (2019-)
4. CROP Fellow, Bergen (2015-2018)
5. Visiting Professor, University of Gothenburg (2018-19)
6. Visiting Professor University of Essen (2014-2017)
7. Research Fellow Danish SFI Copenhagen (2012-ongoing)
8. Visiting Professor Oxford (2011-2012),

Selected Recent Scientific Committees:

1. International Advisory Board, Lancet- theme- Women in Science, Medicine, and Global Health (2018-2019)
2. International Advisory Board, The Millennium Nucleus for the Study of the Life Course and Vulnerability Santiago Chile (2018- ongoing)
3. International Advisory Board, Academics Stand against Poverty, Yale (2014-- ongoing);
4. Council of European Society of Population Economics (2010-2016)

5. Scientific Program Committee of the 2020 meetings European Society of Population Economics
6. UNICEF Humanitarian Crises and Adolescents Network Steering Group (2017-)
7. British Academy Area Panel for South Asia (2011-2018)
8. International Advisory Board, CEMIS, University of Gottingen (2011-ongoing)

Senior Management of International Research Consortia

1. ERC Advanced Grant. Violence Against Women. 2.5million Euros. Principal Investigator (2020-2025)
2. ESRC Centre on Micro-Social Change, Essex, £5million (2019-2024). Co-Investigator.
3. ESRC program on Human Rights, Big Data & Technology, Essex, £5million (2015-2020). Co-Investigator.
4. ESRC Centre on Micro-Social Change, Essex, £5million (2014-2019). Co-Director, Co-Investigator.
5. Grand Challenges Canada consortium on Early Life Risk Factors for Cognitive Development and Human Capital. $3+ million, 2012-2014, https://gcc.pop.upenn.edu. Co-Principal Investigator.
6. Grand Challenges Canada. Follow-up of a randomized control trial on maternal depression treatment and children's cognitive and non-cognitive skills in Pakistan. $880,000 (2012-2014). Co-investigator
7. ESRC Centre for Market and Public Organisation, Bristol, £5million (2006-2013). Co-Investigator.
8. Townsend Centre for International Poverty Research, Bristol (2006-2013). Management Board.

***Other* Research Grants – Last 2 years only**

1. Early life adversities and the emergence of risk and resilience: a longitudinal study of child development. National Institute of Health. 2020-2025. ~$3 million Named researcher. With J Maselko et al.
2. Impact of maternal depression treatment on maternal health, parental investment and child development. Centre of Excellence for Development Impact and Learning (CEDIL). ~$1 million. 2020-2023. Co-Investigator. With J Maselko et al.
3. The long run effects of climatic extremes on mental and physical health- Evidence from the UK. Eastern Arc Facilitation Fund grant for a pilot project: £9582. With I Clots-Figueras and J Gomes.
4. Addressing Intimate Partner Violence: Evaluating Interventions with Male Perpetrators vs Female Victims in Brazil. Innovations for Poverty Action. $177,500. 2019-2020. Joint Principal Investigator with Pietro Biroli, José Carvalho, Karlijn Morsink, Joseph Vecci.
5. The Psychology of Poverty. Swedish Research Council, E 495,000. 2019-2022. Co-I. With P Martinsson.
6. Using Geocoded Big Data to Identify Causal Links Between Infectious Diseases and Child Developmental Outcomes. USD 95,900. Grand Challenges Explorations Award. (Bill and Melinda Gates Foundation). Co-Investigator. With R Rocha. 2019-2020.
7. Understanding and Preventing Domestic Violence in Brazil. Alderbert Foundation Research Award (Sweden), €50,000. Co-Investigator. With J Vecci and J Carvalho. 2018-.
8. Welfare Dependence and Poverty Traps. British Academy Sustainable Development Programme. £311,179. Principal Investigator. With R. Rocha. 2016-2018.
9. Hospitalization and mortality under the new policy on emergency care in Brazil. British Academy: Newton Advanced Fellowship. £84,155. Co-I. With R Rocha. 2016-2019.
10. Impacts of information on health-status on health-related behaviours- evidence from a quasi-experiment in the UKLHS. With A Delavande, P Fisher, J James. ~£200,000. ESRC. Co-investigator. 2016-2018.
11. Women legislators and economic growth. International Growth Centre. Principal Investigator. ~£20,000. With T Baskaran, B Min and Y Uppal. 2016-2017.

Invited Keynote Talks -Academic- Last 3 years-

1. Conference co-organized by the Millennium Nucleus on Social Development (DESOC) and Centre for the Study of Conflict and Social Cohesion (COES), Santiago, Chile, October 2020 forthcoming.
2. Applied Microeconomics workshop, University of Southampton, 26 June 2019
3. Gender Quotas and Maternal Mortality. Invited keynote. Workshop in Gothenburg, Aug 2018.
4. Women Legislators. 17th Nordic Conference in Development Economics, Helsinki, 11-12 June 2018.
5. The Political Economy of Women's Health. Invited keynote, European Public Choice Society Conference, Rome, 11-14 April 2018.
6. Conference on Medical Interventions and Socio-Economic Outcomes, University of Southern Denmark, Odense. August 10-11, 2017.
7. Conference on Development Economics and Policy, Goettingen, 1-2 June 2017

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Education

Brown University, Department of Economics Providence, RI.
Ph.D. Student in Economics 2018-

M.A. in Economics 2019

Universidad de Chile, School of Economics and Business. Santiago, Chile.
Master in Economic Analysis 2016

Bachelor's Degree in Economics 2015

Academic and Professional Experience

Centre for Social Conflict and Cohesion Studies COES
Research Manager at "The Socioeconomic Dimensions of Conflict Research" Area Sept. 2015 - July 2018

Universidad de Chile, Department of Economics
Instructor - Junior Lecturer Aug. 2016 - June 2018

Research Assistant Sept. 2015 - June 2018

Worked for Professors Daniel Hojman, Dante Contreras, Nicolás Grau, Alejandra Mizala at Universidad de Chile, and for Professor Ana Leoón at Universidad Diego Portales

Professional Internship Dec. 2013 - Feb. 2014

Research Assistant for Professor Claudia Martínez (J-PAL)

Teaching Experience

Brown University, Department of Economics. Providence, RI.
Teaching assistant Sept. 2019 - present

Applied Methods for Research in Economics

Universidad de Chile, Department of Economics. Santiago, Chile.
Lecturer - Undergraduate courses Aug. 2016 - June 2018

Intermediate Microeconomics, Applied Econometrics - Stata Lab

Teaching Assistant March 2010 - Dec. 2015

Applied Econometrics I (*Graduate*), Applied Microeconomics I (*Graduate*), Policy Evaluation (*Graduate*), Labor Economics, Economic Development, Intermediate Microeconomics, Introduction to Economics, Calculus, and Linear Algebra.

Working Papers

Vouchers, Socioeconomic Diversity and Academic Performance: Evidence from Chile (with Daniel Hojman and Dante Contreras). Serie de Documentos de Trabajo COES, Documento N° 27

Women representation across economics fields: Can female professors attract more female students? (with Margarita Machelett)

Work in Progress

Gender differences in educational expectations and higher education decisions (with Alejandra Mizala)

Presentations

Vouchers, Socioeconomic Diversity and Academic Performance: Evidence from Chile
Annual Meeting of the Chilean Economic Society (SECHI). Santiago, Chile. Sept. 2017

Educational expectations and gender gaps in education
Interdisciplinary Congress on Educational Research (CIIE). Santiago, Chile. Aug. 2019

Affiliations

PhD Student Trainee, Graduate Development Program, Brown University 2019 -

Affiliated Graduate Student, Center for Latin American and Caribbean Studies, Brown University 2019 -

Awards and Fellowships

CONICYT (Scientific Chilean Council) Fellowship for Graduate Studies (Doctoral Degree) 2019 - 2022

Summer Research Grant, Graduate Program in Development, Brown University 2019

Graduate Student Fellowship, Brown University 2018 - 2013

Best Student of the class, Master in Economic Analysis, Universidad de Chile 2016

CONICYT (Scientific Chilean Council) Fellowship for Graduate Studies (Master's Degree) 2015 - 2016

Academic Excellence Scholarship, Master in Economic Analysis, Universidad de Chile 2015 - 2016

Valedictorian, Business Engineer, Universidad de Chile 2015

Circle of Excellence, Business Engineer, Universidad de Chile (Top 5% of the promotion) 2009 - 2013

Academic Excellence Scholarship for Undergraduate Studies, Business Engineer, Universidad de Chile 2009

Additional Information

Languages: Spanish (Native), English (118/120 Toefl IBT).

Software: LaTeX, Stata, MATLAB, R.

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Employment

The University of Chile, Department of Economics, Assistant Professor, April 2020–
The University of Santiago of Chile, Department of Economics, Associate Professor, March 2016–April 2020

Education

DPhil. (PhD) in Economics, University of Oxford (January 2016)
MSc. Economics for Development, University of Oxford (2012)
BSc. (Chemistry) and BComm., The University of Melbourne (2009)

Peer Reviewed Publications

"The Twin Instrument: Fertility and Human Capital Investment" (with Sonia Bhalotra). **Journal of the European Economic Association** (Forthcoming). DOI: 10.1093/jeea/jvz058.

"Growing Together: Assessing Equity and Efficiency in a Prenatal Health Program" (with Gustavo Cortés and Diego Vergara). **Journal of Population Economics** (Forthcoming). DOI: 10.1007/s00148-019-00761-6.

"Twin Birth and Maternal Condition" (with Sonia Bhalotra). **The Review of Economics and Statistics** 101(5):853–864 (2019).

"The Demand for Season of Birth" (with Sonia Oreffice and Climent Quintana-Domeque). **Journal of Applied Econometrics** 34(5):707–723 (2019).

"A Convenient Omitted Variable Bias Formula for Treatment Effect Models". **Economics Letters** 174:84–88 (2019).

"Children and Their Parents: A Review of Fertility and Causality". **Journal of Economic Surveys** 32(2): 518–540 (2018).

"Assessing Plan B: The Effect of the Morning After Pill on Children and Women" (with Andrea Bentancor). **The Economic Journal** 127(607):2525–2552 (2017).

On Computational Routines

"Implementing The Romano-Wolf Hypothesis Correction in Stata" (with Joseph P. Romano and Michael Wolf). **Stata Journal** (Accepted, 2020).

"Practical Considerations for Questionable IVs" (with Benjamín Matta). **Stata Journal** 18(3):663–691 (2018).

"General to Specific Modelling in Stata". **Stata Journal** 14(4):895–908 (2014).

Non-Economics

"1,2-Borotropic shifts and B–N bond cleavage reactions in molybdenum hydrotris(3-isopropylpyrazolyl)borate chemistry:" (with J White, V Ng, P Smith, M Taylor and C Young). **Inorganica Chimica Acta**, 362(12):4570–4577 (2009).

Working Papers and Submitted Monographs

"Access to The Emergency Contraceptive Pill Improves Women's Health: Evidence from Chile" (with Viviana Salinas). R&R at **Demography**.

"Health and Labor Market Impacts of IVF Technology: Evidence from a Swedish Policy Mandate" (with Sonia Bhalotra, Hanna Mühlrad and Mårten Palme).

"Abortion Laws and Women's Health" (with Hanna Mühlrad).

"Maternal Mortality and Women's Political Participation" (with Sonia Bhalotra, Joseph Gomes and Atheen Venkataramani). "Reject and Resubmit" at **Journal of Political Economy**.

"Estimating Difference-in-Differences in the Presence of Spillovers".

"On the Value of Birth Weight" (with Sonia Oreffice and Climent Quintana-Domeque).

"The Impact of Abortion Legalization on Fertility and Female Empowerment: New Evidence from Mexico" (with Hanna Mühlrad).

Book

"Microeconometrics and Matlab: An Introduction". (with Abi Adams and Simon Quinn). Accompanying website. **Oxford University Press** (2015).

Selected Work in Progress

"Maternal Education and Maternal Mortality: Evidence from a Large Panel and Various National Experiments". (with Sonia Bhalotra).

"Gendered Incidence of the Costs of Unplanned Fertility" (with Sonia Bhalotra and Kathya Tapia Schythe).

"Does Blinded Peer Review Affect Quality and Equality in Publishing in Economics?" (with Cristhian Molina and Gabriel Romero).

"Updating Estimation" (with Benjamín Villena).

"Implementing the Panel Event Study" (with Kathya Tapia Schythe)

Policy Reports

Bhalotra, Sonia and Damian Clarke "Education and Maternal Mortality". Background Paper, UNESCO GMR, 2013.

Clarke, Damian and Hanna Mühlrad "The Impact of Abortion Legalization on Fertility and Female Empowerment". Policy Brief for The Expert Group for Aid Studies (EBA), Sweden, 2018.

Clarke, Damian, Gustavo Cortés Méndez and Diego Vergara Sepúlveda "Creciendo Juntos: Evaluando la Equidad y Eficiencia de Chile Crece Contigo". Support Material, Chile Crece Contigo Program, Ministry of Social Development, Chile (in Spanish).

Grants and Research Awards

FONDECYT Chile, 2020-2023 (∼180,000 USD) "Contraceptive Reforms and Women's Health – The Role of Public Policy and Political Economy" Principal Investigator.
Chile Out of the Box (IADB/University of Chile) "Public Health Innovations and Mental Health: The Role of Chile's Espacios Amigables in Reducing Teen Suicide" (15,000 USD).
Research Anillo "Well-being and inequality in Chile after independence", 2019-2022 (∼ 450,000 USD) Co-Investigator.
Millennium Nucleus for the Study of the Life Course and Vulnerability, 2018-2021 (∼ 275,000 USD) Adjunct Researcher.
FONDECYT Chile, 2016-2019 (∼150,000 USD) Identification of the diffusion of maternal and child health shocks. P.I.
CAF Development Bank of Latin America (15,000 USD) "Health for Social Inclusion in Latin America"

Professional Affiliations

Associate Fellow, Instituto de Estudos para Políticas de Saúde (IEPS) Brazil, 2020–
GLO Fellow, Global Labor Organization (GLO), 2019–
Research Fellow, IZA, 2018–
Research Associate, ESRC Research Centre on Micro-Social Change (MiSoC, Essex), 2016–
Researcher, The Human Rights, Big Data and Technology Project, University of Essex (ESRC), 2016–
Research Associate, The Center for the Study of African Economies, University of Oxford, 2015–
Junior Researcher, Millennium Institute for Research in Market Imperfections and Public Policy, 2019–2024
Adjunct Researcher, Millennium Nucleus for the Study of the Life Course and Vulnerability, 2018–2021

Refereeing

Journals: *Advances in Life Course Research*, *African Development Review*, *American Economic Review*, *BMJ Open*, *Demography*, *Economics and Human Biology*, *Economics Bulletin*, *Economic Development and Cultural Change*, *Economic Change and Restructuring*, *Estudios de Economia*, *European Economic Review*, *Journal of African Economies*, *Journal of Family and Economic Issues*, *Journal of Human Resources*, *Journal of Policy Analysis and Management*, *Health Economics*, *International Journal for Re-Views in Empirical Economics*, *Latin American Research Review*, *Oxford Development Studies*, *Oxford Bulletin of Economics and Statistics*, *PLOS ONE*, *Population and Development Review*, *Population Studies*, *Quarterly Journal of Economics*, *Review of Development Economics*, *Review of Economics of the Household*, *Sociological Methods and Research*, *The Economic Journal*, *The Manchester School*.
Other: FONDECYT Chile, Study group for Economics and Administration National Science Grants; CONICYT (Becas Chile) Economics Committee Member for Master and PhD Scholarships; FONDECYT grant application reviewer, Scientific Committee 2nd LACEA Health Economics Network Workshop.

Pilar Larroulet

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Postal address Instituto de Sociología, P. Universidad Católica de Chile
Av. Vicuña Mackenna 4860, Santiago, Chile

EMPLOYMENT

Instituto de Sociología, P. Universidad Católica de Chile, Lecturer, July 2018–

EDUCATION

PhD(c) in Criminology and Criminal Justice, University of Maryland, College Park
MA in Criminology and Criminal Justice, University of Maryland, College Park (2014)
MA in Sociology, P. Universidad Católica de Chile (2012)
BA in History, P. Universidad Católica de Chile (2005)

PUBLICATIONS

Peer Reviewed

Augustyn, M. B., Loughran, T.A., Larroulet, P., Fulco, C.J., Henry, K.L. Intergenerational Marijuana Use: A Life Course Examination of the Relationship between Parental Trajectories of Marijuana Use and the Onset of Marijuana Use by Offspring. *Psychology of Addictive Behaviors* (Forthcoming).

Larroulet, P., Droppelmann, C., Daza, S., Del Villar, P., Figueroa, A., Osorio, V. (2020). Who is Transitioning out of Prison? Characterizing Female Offenders and Their Needs in Chile. *International Journal of Crime, Justice and Social Democracy*, 9(1), 112-125. https://doi.org/10.5204/ijcjsd.v9i1.1467

Augustyn, M. B., Loughran, T.A., Larroulet, P.; Thornberry, T.P., Henry, K.L. (2020). How early is too early? Identification of Elevated, Persistent Problem Behavior in Childhood. *Prevention Science* 21, 445-455. https://doi.org/10.1007/s11121-019-01060-y

Johnson, B. y Larroulet, P. (2019). The "Distance Travelled": Examining racial and gender disparity on the effects of charge reductions on sentencing. *Justice Quarterly*, 36(7), 1229-1257. https://doi.org/10.1080/07418825.2018.1529250

Krohn, M., Larroulet, P.; Thornberry, T.; Loughran, T. (2019). The Effect of Childhood Conduct Problems on Early Onset Substance Use: An Examination of the Mediating and Moderating Roles of Parenting Styles. *Journal of Drug Issues*, 49(1), 139-162. https://doi.org/10.1177/0022042618811784

Loughran, T.; Larroulet, P.; Thornberry, T. (2018). Definitional elasticity in the measurement of intergenerational continuity in substance use. *Child Development*, 89, 1625-1641.

Chapter books

Larroulet, P. (2019). Mujeres privadas de libertad. Javier Contesse Singh y Lauraro Contreras Chaimovich (eds.), *La insostenible Situación de las Cárceles en Chile: Debate sobre la Prisión y los Derechos Humanos*. Santiago, Editorial Jurídica de Chile, pp. 245-274.

Larroulet, P. (2016). Cárcel, marginalidad y delito. Catalina Siles (ed.), *Los Invisibles. Por qué la pobreza y la exclusión social dejaron de ser prioridad.* Instituto de Estudios de la Sociedad.

Working papers

van't Wout, E., Pieringer, C., Torres I., D., Asahi, K., Larroulet, P. Machine learning for policing: a case study on arrests in Chile. R&R at Policing & Society.

Larroulet, P., Loughran, T.A., Augustyn, M. B., Thornberry, T.P., Henry, K.L. Intergenerational Continuity and Discontinuity in Substance Use: the Role of Concurrent Parental Marijuana Use. R&R at Journal of Developmental and Life Course Criminology.

Augustyn, M. B., Loughran, T.A., Larroulet, P., Henry, K.L. Economic Effects of Adolescent to Adult Patterns of Cannabis Use: Full-time Employment and Employment Stability. R&R at Journal of Drug Issues.

Larroulet, P., Daza, S., Borquez, I. Employment trajectories among females returning from prison.

AWARDS, FELLOWSHIPS, AND GRANTS

Feminist Criminology Graduate Research Scholarship, Division on Woman and Crime (ASC), 2018.
Setting Ideas Free Award, Inter-American Development Bank, 2016.
Fundación San Carlos de Maipo and Fundación Colunga grant, "Reintegration, desistance and recidivism among female inmates in Chile", 2016-2018, P.I.
Dr. Meagan Evans PhD Scholarship, University of Maryland, 2015.
Fulbright Scholarship, 2012-2014.
FONDECYT Chile, "Trajectories of offending and substance use among young offenders in Chile", 2012, Co-investigator.

PROFESSIONAL SERVICE & AFFILIATIONS

Affiliations
American Society of Criminology, Latin American Studies Association, Chilean Association of Therapeutic Jurisprudence, Millennium Nucleus for the Study of the Life Course and Vulnerability.

Referee Service
Journal of Research in Crime and Delinquency, Psychology of Addictive Behaviors, Política Criminal.

Francisco J. Pino

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School of Economics and Business
University of Chile
Diagonal Paraguay 257
Santiago, Chile

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Academic Appointments

Assistant Professor of Economics — August 2015 to present
Department of Economics, University of Chile

Research Affiliate — August 2015 to present
COES - Centre for Social Conflict and Cohesion Studies

Research Affiliate — July 2019 to present
IZA (Institute for the Study of Labor)

Previous Academic Appointments

Postdoctoral Researcher — July 2012 to July 2015
ECARES, Université Libre de Bruxelles

Education

Boston University, Boston, MA
Ph.D., Economics, May 2012
M.A., Political Economy, May 2010

University of Chile, Santiago, Chile
B.S., Electrical Engineering, December 2001
B.S., Industrial Engineering, December 2001

Fields of Interest

Primary Fields: Political Economy and Development Economics
Secondary Fields: Economic History and Labor Economics

Publications

The Tyranny of the Single Minded: Guns, Environment, and Abortion, with Laurent Bouton, Paola Conconi and Maurizio Zanardi.
Accepted, ***Review of Economics and Statistics***.

Property Rights and Gender Bias: Evidence from Land Reform in West Bengal, with Sonia Bhalotra, Abhishek Chakravarty and Dilip Mookherjee.
American Economic Journal: Applied Economics, 11(2), 205-237. 2019.

The Evolution of Land Distribution in West Bengal 1967-2003: Role of Land Reform, with Pranab Bardhan, Mike Luca and Dilip Mookherjee.
Journal of Development Economics 110, 171-190. 2014.

Chilean Pension Reform: Coverage Facts and Policy Alternatives, with Solange Berstein and Guillermo Larraín.
Journal Economía 6, 125-137. 2006.

Working Papers

Does Economics Make You Sexist?, with Valentina Paredes and Daniele Paserman.
NBER Working Paper 27070.

To Pill or Not to Pill? Access to Emergency Contraception and Contraceptive Behaviour, with Ana Nuevo-Chiquero.
IZA Discussion Paper 12076.

Does Facial Structure Explain Differences in Students Evaluations of Teaching? The Role of Perceived Dominance, with Valentina Paredes and David Díaz.
Serie Documentos de Trabajo DECON-UChile 483.

Habemus Papam? Polarization and Conflict in the Papal States, with Jordi Vidal-Robert.
IZA Discussion Paper 12911.

Is there gender bias among voters? Evidence from the Chilean Congressional Elections.
ECARES Working Paper 2014-53.

$2 + 1 < 3$*: Strategic Voting in the Chilean Congressional Elections.*

Work in Progress

Did Railroads Increase Political Competition? Evidence from the U.S. 19th Century Elections, with Laura Salisbury.

The Economic Effects of Catholic Censorship During the Counter-Reformation, with Sascha Becker and Jordi Vidal-Robert.

Long Live the Pope! Life Expectancy in the Catholic Church Hierarchy, with Jordi Vidal-Robert.

The Runner-Up Effect in the Allocation of Public Sector Jobs, with Carlos Guastavino.

Conferences and Seminars

2019 ASSA Annual Meeting, Atlanta (*session organizer and chair*); IZA Workshop on Gender and Family Economics, Viña del Mar; Universidad de Talca, Talca; Workshop on Behavioral Economics, Santiago.

2018 Luksburg PUC-ND Conference, Santiago (*discussant*); PUC-Chile, Santiago; VI EH-Clio Lab Conference, Santiago; Universidad Diego Portales, Santiago; Encuentro Anual SECHI, Valparaiso; CEA - Universidad de Chile, Santiago, Workshop in Political Economy and Political Science, Santiago; Universidad Alberto Hurtado, Santiago.

2017 ASREC Conference, Boston; V EH-Clio Lab Conference, Santiago; Central Bank of Chile, Santiago; Workshop in Political Economy and Political Science, Santiago.

2016 RIDGE/LACEA-PEG Workshop on Political Economy, Montevideo; PUC-Chile, Santiago; IV EH-Clio Lab Conference, Santiago (*discussant*); Encuentro Anual SECHI, Viña del Mar; Universidad Adolfo Ibañez, Santiago; Universidad Alberto Hurtado, Santiago.

2015 ASREC Conference, Boston; Workshop on Political Economy of Conflicts and Development, Villars-sur-Ollon (*discussant*); PEIO Annual Conference, Berlin; Spring Meeting of Young Economists (SMYE), Ghent; Workshop in Political Economy and Political Science, Santiago; Universidad Diego Portales, Santiago.

2014 Economic History Society Annual Conference, Warwick; LSE/NYU Conference on Political Science and Political Economy, London (*discussant*).

2013 CEA - Universidad de Chile; University of Namur; VI Annual Workshop on Gen-

der Economics COSME-FEDEA, Madrid; Barcelona GSE Summer Forum, Workshop on Civil Conflict and Rationality, Barcelona; 12^{th} Journées Louis-André Gérard-Varet, Aix-en-Provence; EEA-ESEM Conference, Gothenburg; Workshop on the Political Economy of Sustainable Development, Montpellier; Max Planck Institute for the Research on Collective Goods, Bonn.

2012 Institute for Economic Analysis (IAE-CSIC), Barcelona; University of Exeter; Universitat Pompeu Fabra, Barcelona; Universitat de Barcelona; EAEPE Annual Conference, Krakow.

Workshop Organizer

MiPP Workshop in Political Economy and Political Science, Santiago (2016, 2017, 2018).
Workshop on Gender, Education and Early Childhood Development, Santiago (2017).

Awards, Fellowships and Grants

Enlace Grant, University of Chile, 2019.
Best professor award, Master in Economics, School of Economics and Business, University of Chile, 2019.
Mini-COES Grant, Center for Social Conflict and Cohesion Studies, 2017.
Research Grant, School of Economics and Business, University of Chile, 2015.
Fondecyt Iniciación, National Commission of Scientific and Technological Research of Chile (CONICYT), 2015.
Research Fellowship, Boston University, Fall 2011.
Rosenstein-Rodan prize for the best paper in development economics, Institute for Economic Development, Boston University, 2010.
Summer Research Grant, Boston University, 2010.
Teaching Fellowship, Boston University, 2008-2009.
Fulbright Scholarship, 2007-2009.
Ministry of Planning Scholarship, Chile, 2007.

Referee Service

Econometrica, Economica, Explorations in Economic History, Journal of Development Economics, Journal of the European Economic Association, Journal of Law, Economics, & Organization.

Professional Affiliations

American Economic Association, Econometric Society, Economic History Association, Latin American and Caribbean Economic Association, Sociedad de Economía de Chile.

Media Coverage

"Do property rights exacerbate son preference?", Ideas for India (24 August 2018), VoxDev (17 September 2018).
"Guns and Votes: The Victory of an Intense Minority Against an Apathetic Majority", ProMarket (22 February 2018).
"Gun control? Americans increasingly see more guns as the solution, not the problem", The Washington Post (27 July 2015).
"Why Democrats flip-flop on guns", The Economist (12 July 2014).
"Why does Congress oppose gun laws backed by more than 90% of US citizens?", The Conversation (20 December 2013).
"Guns and votes: The victory of an intense minority against an apathetic majority", VoxEU (9 December 2013).

Languages

English, Spanish and French.

Updated May 7, 2020

Budget NBER

Item	Cost	Notes
Personnel (non-project investigators)		
Research Assistant 1 (graduate level)	$10,372.09	8 months salary based on current exchange rate
Research Assistant 2 (Final year undergrad)	$3,265.12	4 months salary based on current exchange rate
Data Entry (reported crimes)	$1,500.00	Piece rate
Miscellaneous Research Costs		
Software Licenses	$1,000.00	Access to software and online storage/communication
High capacity laptop for Junior team member	$1,800.00	Laptop with high processing capacity, eg Thinkpad
Low capacity laptop for Junior team member	$800.00	Simple laptop for non-office work, eg HP Envy
Office and miscellaneous supplies	$500.00	External hard-drives, office supplies, etc.
Webinar/presentation of results to Ministries	$500.00	
Total	$19,737.21	