Research Proposal: Information and Communication Technologies (ICT) and Societal Empowerment

Investing in learning at secondary school in Chile

Principal Investigators

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1. RESEARCH QUESTION

The economic literature on human capital investments is enormous. Underlying much of this literature is a model of decision-making that has the individual (usually the student) choosing between whether to continue with an extra year of school or with a college degree, or not. However, it is not clear that students themselves necessarily take these decisions when parents are often paying for tuition, or whether students or parents have the correct set of expectations about the relative costs and benefits of more schooling. In this project, we investigate whether changing student expectations of the costs of obtaining a college education can affect their performance in school and their decisions about the type of secondary school to attend, and whether changing the expectations of their parents is more or less effective in affecting these outcomes.

The specific aims of our project are:

- To evaluate the impact of providing information about the expected costs of college education – including fellowship and tuition subsidy information – to grade 8 students in the form of an informational DVD

- To evaluate the impact of providing the same information about expected costs of college education to students and their parents, in the form of an informational DVD

The use of the ICT medium – a short video program – will allow us to standardize messages across groups. We propose to run a field experiment which will allow us to investigate:

- The sensitivity of investment in learning at secondary school (the amount of learning as well as the type of learning) to new information about the expected returns to college education

- How much more of an impact the same information has on outcomes when provided to parents, who are likely to be responsible for the financial cost of further education and may also be important in motivating children to invest in learning

2. MOTIVATION FOR RESEARCH ON EDUCATIONAL INVESTMENTS IN SECONDARY SCHOOL

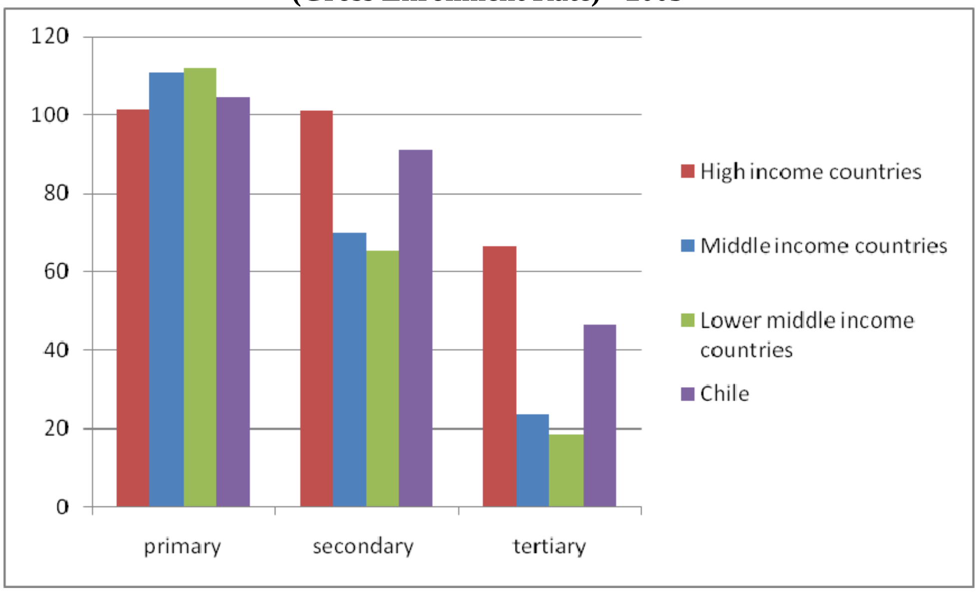
(a) Context

Middle-income developing countries with youthful populations will face significant educational challenges in decades to come. In most of these countries, primary school enrollment is universal and secondary school enrollment is also high. Yet a much smaller fraction of individuals go on to enroll in tertiary education. Since college education is, in general, associated with higher earnings and higher social mobility, the limited inflows in to tertiary education in middle-income countries place bounds on how socially mobile these societies can be, and may contribute to the continued intergenerational transmission of poverty.[1] There are two features of developing countries that may make it particularly difficult for young people to choose investment in higher education. Structural shifts in the economy that alter labor market opportunities across generations as well as rapid rural-urban migration imply that young people may not hold the "right" (or realistic) set of expectations about net returns to schooling. Average earnings of parents and other adults in the locality may be uninformative for young adults in such economies, while the difficulty of accessing information about student loan and scholarship opportunities presents further hurdles to investment in post-secondary education.

Chile is representative of the situation in upper middle-income economies. As Figure 1 shows, all young children are in primary school, enrollment is over 90% at the secondary school level but fewer than 50% of individuals of the relevant age group are enrolled in any form of tertiary education. The cost of attending college varies widely across type of college and is generally high: for example the annual cost of commercial engineering at the University of Chile is 1.78 times annual minimum wage earnings.

Figure 1: % of relevant age-group enrolled at different levels of school

(Gross Enrollment Rate) - 2005



Notes: Data are the most recent statistics on enrollment from the World Bank Educational Database. Primary school enrollment may be over 100% due to measurement error discrepancies between the total number of young children and the total number of young children enrolled. The gross enrollment rate is measured as the number of pupils enrolled in the particular level of school, regardless of age, expressed as a percentage of the population of the five-year age group who should have graduated to that level of education.

In high income countries, the fraction of young people going on to further study is much higher: close to 70% who have been through high school go on to enroll for higher-level education. The gap between high- and middle-income countries in the production of skilled workers will need to be addressed by policy-makers in future. In order to sustain the engines of economic growth and to increase the opportunities for social mobility, governments will need to design public policy to increase the fraction of

[1] For example, Dunn (2007) shows that the intergenerational elasticity of lifetime earnings (sons' to fathers' earnings) is very high in Brazil, at 0.85, and that much of the transmission mechanism is through education.

youth completing secondary school with enough preparation to continue with higher education, as well as increase the fraction of young people investing in a range of technical educations.

Becker's model of human capital formation provides a standard framework for characterizing the demand for higher education as well as the demand for an additional year of education. Individuals will choose an optimal level and type of education by weighing the relevant expected costs and benefits of each possibility. Suppose that at time $t=0$, a young adult must decide whether or not to invest in a college degree that takes $k=4$ years to complete. The financial cost of attending college is c per year and the interest rate is r. Many variables go in to this cost-benefit calculation. Important factors on the cost side include the money, time and personal effort cost of schooling. The individual can expect to earn y_0 in each year that they work, if they stop at the end of high school and y_k if they complete college. The decision to continue with higher education then depends on the comparison of net present value of completing college with the net present value of not attaining a college degree:

$$PV(college)-PV(no\ college) = [\int_k^{\infty} y_k e^{-rt}dt - \int_0^k c e^{-rt}dt] - \int_0^{\infty} y_0 e^{-rt}dt$$

The individual will choose to go to college (or get another year of schooling, or invest in technical knowledge) when this expression is positive, or, rearranging, when:

$$ln[(y_k +c)/(y_0 +c)]/k>r$$

This expression captures the role that the relative difference between y_k and y_0 play in the decision to go to college, as well as the role of costs and the interest rate. One of the explanations typically given for why individuals under-invest in education is that the interest rate at which they are able to borrow is too high. However, as Jensen (2006) shows, there may also be a market failure on the side of knowledge about returns to extra education. In our project, we will explore whether lack of knowledge about the true cost of college could also be driving educational investments. In addition, our project will investigate whose knowledge about c matters more in changing behavior: parents or children.

(b) Background literature

Many existing programs in the developing world aim to lower the cost of obtaining an extra year of education. For example, Kremer, Miguel and Thornton (2004) study the impact of merit scholarships on school attendance and attainment in Kenya and find significant positive effects at the primary school level. Duflo (2001) shows that school construction in Indonesia increased attainment at the primary school level. Conditional cash transfers have substantially raised enrollment rates and educational attainment of Mexican children (Schultz, 2004). While many of these programs have been successful in getting young people into school, the focus is often on primary schooling. We have also not found any studies that have assessed the impact of providing information about student loans and scholarships on the expected cost of higher education and how this affects educational investment decisions.

The effects of changing expectations about the benefits of higher education have also been studied far less often. Kaufmann and Attanasio (2008) use observational data in Mexico to show that high school students tend to have fairly accurate beliefs about average returns to education; but it is not clear under what circumstances these results generalize to other settings. In contrast, pupils in the Dominican Republic tend to have extremely downwards' biased estimates of average returns to completing high school (Jensen, 2008). In a recent field experiment, Jensen (2008) shows that providing information on average earnings after secondary school completion to schoolboys aged 13-17 in the Dominican Republic increased the perceived returns to schooling and significantly raised performance at school and progression through school. Interestingly, his results operate most strongly for non-poor students, suggesting a possible constraint on access to credit which additionally limits the options for further education for the poorest students. In this project, we focus on one of the sources of these credit constraints: lack of information about financing options, particularly through scholarships and educational loans.

3. EXPERIMENTAL DESIGN AND IMPLEMENTATION

(a) Limitations of previous research and the importance of randomization

Evaluating the effects of information about the (subsidized) costs of higher education is extremely challenging. Youth from poorer households are less likely to be exposed to individuals who have higher education (and thus have no information about returns to this higher education) and are also more likely to face credit constraints in school choice. Hence, observing a cross-sectional correlation between subjective expected costs of education and actual decisions about what level and type of education to invest in is not informative about how expectations may affect such choices.

A randomized intervention designed to manipulate individual information sets about average costs of higher education combined with a brief survey to directly capture expectations and subsequent measures of academic performance represents an appropriate solution to this evaluation problem. Randomizing the provision of information about costs across schools allows us to create a clean measure of the impact of student expectations on performance, absent confounding factors.

(b) Treatment intervention

We will provide information on the costs of college education to individuals in grade 8. We place to conduct in-depth focus groups with grade 8's to further refine the details of the intervention. The type of information provided could include:

- The types of loans and scholarship programs that are available for pursuing different careers/studies and where to obtain information on the applications process
- The importance of having good grades at the secondary school level to qualify for entry in to tertiary institutions
- The importance of good grades at secondary school for being successful in scholarship or fellowship applications

This information will be delivered in the form of a DVD, featuring young individuals, describing their particular choices of study, their current returns and how they paid for their studies. The DVD will also include references to web pages where additional information on costs of higher education and methods of finance (particularly scholarship and fellowship) can be found. This main treatment will be delivered to two groups of individuals: school children and parents.

- Child-level treatment: grade 8 students in a randomly selected group of schools are chosen to answer a self-administered baseline survey, watch the DVD and answer questions on a follow-up survey 6 months later. Randomization is at the level of the school.

- Parent-level treatment: a randomly selected group of children is provided with their own DVD copy which they can take home and show to their parents/guardians. Since almost 80%[2] of households in Chile owned a DVD player in 2008, lack of DVD playing facilities is not a major barrier to participation.

- Control group for the child-level treatment: grade 8 students in a randomly selected group of schools are chosen to answer a self-administered baseline survey and a follow-up survey 6 months later

- Control group for the parent-level treatment: grade 8 students who are not selected to receive the informational DVD for their parents are chosen to answer a self-administered baseline survey and a follow-up survey 6 months later

Schools and children will be randomized in to treatment and control groups before the baseline survey is administered.

Sample selection

Grade 8 is an important time at which an intervention of this nature can have effects because it is the last year of primary education. Although these students are on average only 12 years old, these young teenagers are able to alter their long-term trajectories by investing more time and effort in human capital accumulation, by choosing specific subjects to study at high school and by choosing a particular high school to attend: they can choose technical education or scientific-humanistic education, where the latter prepares them for college. They can also apply to high quality secondary schools, which have a competitive admissions process. Since college admissions committees consider school achievement from grade 9 to grade 12, individuals who want to improve their chances of going to college should focus on working hard in school from grade 9. This is another reason why grade 8 is a critical intervention period.

In addition, treatment group 2 selects a sample of students and parents to receive the intervention. This design will help us to isolate whose expectations about the expected net returns to college matter more in affecting schooling performance and choice of subject.

(c) Outcomes of interest

The outcomes of interest include:

- Effects on own expected future earnings or job type – this will be collected at baseline and at both follow-up surveys. Measuring subjective expectations about returns to education is possible and has been carried out in other contexts (see Dominitz and Manksi, 1996).

[2] According to the Sixth National TV Survey, 2008.

- Effects of expectations about ability to finance higher education– this will be collected at baseline and at both follow-up surveys

- Administrative data: Scores on standardized tests (SIMCE) administered at grade 8 in 2009, at the individual and school level. We will be able to measure this with administrative data available in early 2010 and this will capture the short-run effect of changing information sets about returns to education. This outcome measures some part of individual investment/effort in secondary schooling.

(d) Power calculations

The number of schools to be included in the experiment in order to attain sufficient power for detecting effects will depends on the intra-cluster (school) correlation in test scores, beliefs and other outcome variables. Focusing on the test scores for now, since we have these data readily available, we used a range of intra-cluster correlations and minimum detectable size to calculate that a sample size of 150 schools will be required to attain power of 80%, with 75 schools in each group and 30 students in each school.

4, DATA SOURCES: AVAILABLE AND TO BE COLLECTED

(a) Chile LFS

We will use publicly available data from the Chilean National Socioeconomic Characterization Survey (CASEN) to construct estimates of the returns to college level education versus high school education and of the returns to different types of college level education. These results will be provided as information in the experiment. We will also use information on returns to education in different career paths available at www.futurolaboral.cl

(b) Scholarships and loans

Many scholarships and loan programs are available for students of technical and college education (see http://64.76.150.237/byc/doc/GuiadeBecasyCreditosFinal.pdf), however many of these are new programs that have not been publicized sufficiently among high school students. Part of our experiment will involve directing students towards these new sources of information.

(c) SIMCE

For some of the outcomes data, we will use rich individual and school-level data available through the SIMCE data-base. There are annual data available capturing (among other things) individual performance on the national standardized test administered at grades 4, 8 and 10 and family socioeconomic outcomes (grades 8 and 10 test are applied every other year). Our treatment and control individuals will write the SIMCE examinations in November 2009 and we will be able to see whether scores in treatment schools are on average higher than in control schools, controlling for a host of individual characteristics and lagged school performance on grade 8 and grade 4 SIMCE exams. These data will allow us to measure how investment in secondary school was affected by the intervention.

In addition, we will use the SIMCE data to draw the sample set of schools which will participate in the experiment.

(d) Baseline survey of experimental sample

The baseline survey will be a short self-completed survey administered to treatment and control students. Information collected here will include basic demographic details, socio-economic background of parents and family (including parental levels of education) and own expectations about future target level of education, potential earnings, sources of higher education funding and expected ability to finance college education.

(e) Follow-up survey of experimental sample

The follow-up survey will also be self-completed and will be administered while the students are still in grade 8. The survey will include a brief questionnaire asking about own expectations for future target level of education, potential earnings, sources of higher education funding and expected ability to finance college education. We will use these data to measure the short-run effect of the intervention on expectations.

5. POLICY RELEVANCE

We expect the outcome of this project to be informative for policy in several ways:

- We will learn about the effect of providing better information about the expected cost of college on academic performance, at an age when human capital investment decisions create lock-in to specific career trajectories

- We will learn about whether it is more effective to target this information at children or at children and their parents. Although children grow up to reap most of the rewards of educational investments, it is often parents who must pay for further education

- We will learn about the potential that a low-cost ICT intervention has to weaken the intergenerational transmission of poverty and promote social mobility. The low-tech and replicable form of the treatment intervention is key for policy impacts. It would be relatively cheap and easy to scale up the distribution of identical DVDs to schools and communities across the country.

6. BIOGRAPHICAL SKETCH FOR TEAM MEMBERS

TARYN DINKELMAN is an Assistant Professor of Economics and Public Affairs in the Department of Economics and the Woodrow Wilson School at Princeton University. She is an empirical development economist who has worked predominantly on labor market and health issues in sub-Saharan Africa. Her recent work has included an evaluation of the labor market effects of rural household electrification in South Africa and the estimation of the effects of being born in a drought on the long-term human capital accumulation trajectories of young South Africans. She received a PhD in Economics from the University of Michigan (2008), an MA in Economics from the University of Michigan, an MComm in Economics from the University of the Witwatersrand and a BA from Rhodes University.

CLAUDIA MARTINEZ A. is Assistant Professor of Economics at University of Chile and Researcher at Centro de Microdatos from the same University. Her research focuses on migration and intra-household allocation in a developing country context with experience in El Salvador, Philippines, Honduras and Chile. She has experience in survey design for field experiments, implementation of experiments and analysis. Prior to finishing graduate school, she worked at the Ministry of Finance in Chile and at the Inter-American Development Bank. She holds a PhD in Economics from the University of Michigan, an MA from University of Michigan and University of Chile and a BA from University of Chile.

CLAUDIA PEIRANO is a Researcher at Centro de Microdatos at Universidad de Chile. She is a specialist in issues of education and experience in management of evaluation processes and surveys on a large scale. She has been part of the teams responsible for the implementation of various national projects that have included design processes, construction of items, test application and correction of open and closed items. She has participated in the design of the processes of web registration, logistics and material control, process design correction via optical trapping and systems specially designed for open-ended questions, as well as working on the development of feedback systems results to users. These works have been performed mainly for special tests and surveys applied by the Ministry of Education, under international standards. She holds a Master in Economics from Georgetown University – Ilades.

7. TIMELINE

Activity	**Scheduled for**
Application to IRB	March 2009
Focus Groups	March 2009
Video text Preparation	March 2009
Baseline questionnaire preparation	April 2009
Video production	April 2009
School selection	April 2009
Baseline survey and intervention in field	May 2009
SIMCE	November 2009
SIMCE data available	May 2010
Data analysis and writing up of results	July 2010

8. BUDGET

Survey Cost		
Baseline	10,000	
Follow-up	4,000	
Intervention Cost	13,667	
Focus Group	600	
Professional Fees		
Field Manager	6,000	8 months, 50% time
RA	1,000	2*4 months, 50% time
Researchers	15,000	3* 6 months * 15% time
Travel		
Flight	3,000	2 round trip USA-Chile
Stipend	1,056	176 per day (Chile-UN), 3 days
Total	54,323	
Overhead	10,865	20% Overhead, Centro de Microdatos
Total Cost	65,187	

Note: This includes 150 schools surveyed, 30 kids per school.
US=$600 pesos

REFERENCES

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Dominitz, J. and C. Manski. 1996. “Eliciting student expectations of the returns to schooling”, *Journal of Human Resources*, 31 (1) pp. 1-26

Duflo, E. 2001. “Schooling and labor market consequences in school construction in Indonesia: Evidence from an unusual policy experiment”, *American Economic Review*, 91 (4)

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Education

PhD, Economics, University of Michigan, 2007
M.A., Economics, University of Michigan, 2004
M.A., Economics, University of Chile, 2000
BA Economics, University of Chile, 1999

Fields

Development Economics, Public Finance

Work Experience

2007 Assistant Professor. Department of Economics, University of Chile. Researcher, Nucleo Milenio Centro de Microdatos, Department of Economics, University of Chile.

2005-2006 Research Fellow Inter-American Development Bank

2004-2005 Research Assistant Dean Yang (Ford School of Public Policy, University of Michigan)
Research Assistant James R. Hines and Joel Slemrod (Office of Tax Policy Research, University of Michigan)

2000-2002 Coordination of Economic Policies, Ministry of Finance, Chile

1999 Instructor Professor, Department of Economics, University of Chile

1997-1999 Research Assistant, Department of Economics, University of Chile

Teaching Experience

2008: *Public Finance*, University of Chile, BA Economics
Economic Development, University of Chile, BA Economics
Advanced Public Finance (team), University of Chile, MPP

2007: *Economic Development*, University of Chile, BA Economics
Advanced Public Finance (team), University of Chile, MPP

2002: *Economics of Social Policies* (team), University Alberto Hurtado, M.A. Economics

2001: *Introduction to Macroeconomics*, University of Chile, BA Economics

2000: *Economics of Social Policies* (team), University of Chile, BA Economics

1999-2000: *Microeconomics I*. University of Chile.

Other Education

Summer School Bureau for Research and Economic Analysis of Development. Banff, Canada, 2005

Diploma in Philosophy, University Alberto Hurtado, 1999

Fellowships, Awards and Distinctions

2007	Rackham One-Term Dissertation Fellowship, University of Michigan
2005	Summer School Bureau for Research and Economic Analysis of Development Fellowship.
2003-2004	Summer Research Fellowship, Departments of Economics, University of Michigan
2002-2004	Fulbright Fellowship
2002-2003	International Center Fellowship, University of Michigan
2001	Summer School fellowship. University of Göttingen, Germany
2000	Best Graduate, M.A. Economics, University of Chile
	Best Graduate, B.A. Economics, University of Chile
1998-1999	Fellowship for M.A. Economics, Department of Economics, University of Chile

Publications

<u>Corporate Tax Minimization and the Effectiveness of Investment Incentives,</u> with Estelle Dauchy. State Tax Notes, Vol. 47, No. 13, March 31, 2008.

Remittances and Poverty in Migrant's Home Areas: Evidence from the Philippines, con Dean Yang, en Caglar Ozden y Maurice Schiff, eds, *International Migration, Remittances and the Brain Drain*, World Bank, 2005

Structural Change in Labor Demand, con Gustavo Morales and Rodrigo Valdés, *Economía Chilena*, 2001

Work in Progress

Child Support and Intra Household Allocation in Chile (submitted)

Financial Innovations to Stimulate Remittances and Savings: An Experimental Approach, con Nava Ashraf, Dean Yang and Diego Aycinena

Mobilizing Remittances for Microfinance, with Diego Aycinena and Dean Yang

Transantiago and the Labor Market, with David Bravo

What has been the effect of public day care expansion on Female labor force participation?, with Patricia Medrano

Invited Presentations

- Chilean Economic Society, 2008
- NTA Meeting, Columbus, Ohio 2007
- LACEA, Bogota 2007
- University of Chile, Catholic University of Chile and University Alberto Hurtado. 2007
- Public Finance Seminar, University of Michigan, 2006
- Research Department, Inter-American Development Bank, 2006
- LACEA, Paris 2005
- Chilean Economic Society, 2000 .

February, 2009

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ESTUDIOS

Magíster en Economía con mención en Políticas Sociales
Programa de Postgrado en Economía
ILADES/Georgetown University, 1995 – 1997

Ingeniero Comercial con mención en Economía
Facultad de Ciencias Económicas y Administrativas,
Universidad de Chile, 1986 – 1990

Capacitación:
Curso "Standards-based Assessment Models for Masters Teachers", enero de 2002, Educational Testing Service (ETS), Princeton.
Curso "Test Development and Analysis Issues", noviembre de 2002, Educational Testing Service (ETS), Princeton.

TRABAJO ACTUAL

Investigadora Centro de Microdatos, Universidad de Chile. El Centro está orientado al desarrollo de proyectos e investigación que utilicen información empírica en la formulación de políticas públicas, en particular, en áreas de educación, pobreza, trabajo, salud y empresas. Se realiza un trabajo multidisciplinario que incluye desde la etapa del levantamiento de la información al desarrollo de investigación y propuestas de política. www.microdatos.cl

Directora del Programa de Acreditación de Excelencia Pedagógica (AEP), proyecto conjunto del CMD con el Centro MIDE de la Pontificia Universidad Católica de Chile, y miembro del Directorio Académico del nuevo Programa INICIA, en el área evaluación diagnóstica de los egresados de las carreras de pedagogía del país.

Otras actividades:
- Miembro del Grupo de Trabajo Profesión Docente de PREAL-BID.
- Consejera de la Fundación Chile, miembro del Comité de Educación y de Recursos naturales.
- Consejera de la Corporación Educacional de la Municipalidad de Peñalolén.

EXPERIENCIA LABORAL

Asesora de Jorge Rodríguez Grossi, Subsecretario de Hacienda, 1991/1992

- Asesora en la coordinación y seguimiento de los créditos multilaterales del área social y en proyectos específicos del área social implementados por esta Subsecretaría.
- Asesora en la coordinación del Comité Económico Social de Ministros.

Coordinadora Económica del Programa MECE, Ministerio de Educación, 1992/1993

- Responsable de implementar la unidad de control financiero del Programa MECE de Educación Básica para determinar su ejecución y seguimiento financiero (Programa total de US$ 142 mill.)
- Responsable de procesar y reportar información financiera para el Banco Mundial, institución que financió el Programa.
- Asesor en materias económicas y de procesos de las distintas líneas de acción del Programa.

Directora de Proyectos, Departamento de Economía, ILADES, 1994 / 1996

- Responsable de la administración de proyectos de investigación del Departamento de Economía de ILADES.
- Responsable de la dirección ejecutiva del Programa de Postgrado en Economía ILADES/Georgetown University, incluyendo la relación con la Universidad de Georgetown y con las entidades que mantenían programas de becas para alumnos.
- Responsable de la gestión de un programa de becas del BID para alumnos latinoamericanos.

Coordinadora de la División de Proyectos y Extensión, Departamento de Economía, Universidad de Chile, 1997 / 2002.

- Asesor del Director del Departamento en materias de gestión administrativa y presupuestaria, incluyendo el desarrollo de nuevos procesos.
- Responsable de la coordinación administrativa-financiera de los proyectos de investigación y operaciones que desarrolla el Departamento de Economía, con una cartera promedio de 50 proyectos anuales.
- Responsable de la ejecución de los programas de extensión y educación continua que ofrece el Departamento.
- Responsable de la coordinación de proyectos en el área de educación y evaluación, entre los que se incluyen los servicios

prestados al Ministerio de Educación para las pruebas SIALS, SIMCE, CÍVICA y TIMSS.

Directora Ejecutiva del Centro de Microdatos del Departamento de Economía de la Universidad de Chile, 2003 a 2006.

- Responsable ejecutiva de los proyectos del Centro.
- Responsable del Area de proyectos de Educación.
- Coordinadora de procesos en aplicaciones de encuestas, pruebas estandarizadas y otros instrumentos de evaluación.

Actualmente, investigadora asociada del Centro de Microdatos del Departamento de Economía de la Universidad de Chile.

CONSULTORÍAS

Asesoría al Plan Nacional de Acción para la Infancia en Nicaragua, 1993

Consultor de apoyo contratada por UNICEF, Managua.

Estudio de Costos Programa P-900, 1994

Consultor para la elaboración de un estudio de costos del Programa de apoyo a las 900 escuelas más pobres de Chile (P-900), en conjunto con Robert McMeekin.

Elaboración de un Manual de operaciones de la Ley de Donaciones Educativas, 1994

Elaboración de un manual para el financiamiento de proyectos de mejoramiento educativo a través de donaciones privadas, por encargo de UNICEF, el Consejo Nacional para la Superación de la Pobreza y el Ministerio del Interior.

Asesorías ocasionales al Programa MECE Básica, Ministerio de Educación, 1995/99

Asesor del Programa MECE en distintos trabajos específicos relacionados con temas financieros y de gestión. En particular, para las líneas de trabajo de los Proyectos de Mejoramiento Educativo (PME) y para el plan de informática educativa (ENLACES).

Evaluación financiera inicial Proyectos Montegrande, Min. de Educación, 1997

Coordinadora de la evaluación inicial en el área de gestión y finanzas de los proyectos postulantes al Programa Montegrande del Ministerio de Educación.

Asistencia Técnica a los liceos del Programa Montegrande, Min. de Educación, 1997

Responsable principal del equipo de profesionales que brindó asistencia técnica en el área de gestión y finanzas a los liceos del Programa Montegrande.

Estudio financiero Programa ENLACES, Ministerio de Educación, 1998

Responsable principal del estudio de costos, financiamiento y gestión financiera del plan de informática educativa, ENLACES.

Estudio de Proyectos de Educación Técnico Profesional, Fundación Andes, 1998.

Responsable principal del estudio de evaluación y seguimiento de egresados de los proyectos de educación técnico profesional financiados por Fundación Andes.

Estudio de la Educación Técnico Profesional Dual, 1999

Responsable, en conjunto con el profesor David Bravo, del estudio de evaluación de la implementación de la modalidad de educación técnico profesional dual en Chile. Este trabajo fue encargado por la Agencia de Cooperación Alemana, GTZ.

Responsable del estudio *educación Privada en Chile,* por encargo del BID, 2000.

Evaluación programas educativos en Argentina, por encargo del BID, 2002.

Aplicación Pruebas SIMCE 4º básico Región Metropolitana, 2005.

Coordinadora general del proceso de aplicación de la prueba SIMCE 2005 por encargo del Ministerio de Educación. En este proceso trabajaron cerca de 3.000 personas.

Desarrollo y aplicación de la primera Encuesta Longitudinal de Docentes 2005, por encargo del Ministerio de Educación.

Consultoría de apoyo a la Unidad de textos Escolares del Ministerio de Educación de Chile, 2005-2006. La asesoría incluye un diagnóstico del trabajo interno de la unidad, encuestas y estudios de casos a usuarios y apoyo en la metodología de elaboración de términos de referencias, con el fin de mejorar la calidad y el uso de los textos en sala.

Elaboración de Pruebas de Escritura para 4º y 8º básico y determinación de un primer borrador de estándares de escritura para estos niveles, 2005-2006. Responsable de la dirección de un equipo multidisciplinario experto en escritura y evaluación.

Desarrollo de un estudio sobre evaluación docente en América Latina, por publicarse. PREAL 2007.

Miembro del equipo directivo del proyecto Programa de Acreditación para la Asignación de la Excelencia Pedagógica (AEP), Primer Ciclo, Segundo Ciclo y Enseñanza Media, por encargo del Mineduc. Este proyecto lo realiza el Departamento de Economía en conjunto con la Escuela de Psicología de la P. Universidad Católica, 2002 - 2008. www.aep.mineduc.cl

Participación en seminarios sobre evaluación docente, como investigadora asociada a la red PREAL-BID en El Salvador, Perú y México, 2007.

Consultoría para la implementación de la Encuesta de Protección Social en Uruguay, por encargo del BID, 2007.

Miembro del equipo investigador coordinado por Mario Marcel (POLITEIA) para el Estudio Cualitativo y Cuantitativo de la Educación Municipal en Chile, por encargo del Ministerio de Educación, 2007.

Responsable del proyecto de apoyo en el mejoramiento de la gestión educacional municipal, trabajo en 20 municipios, por encargo de la SUBDERE, 2007.

Responsable del proyecto Elaboración de un Índice de Vulnerabilidad Digital para las Escuelas de Chile, por encargo de la UFRO – ENLACES, 2008.

Consultora de la Evaluación intermedia de la Red de Portales Educativos RELPE por encargo del BID, 2008.

PUBLICACIONES

Estudio de Costos Programa P-900, 1994
Estudio publicado en *Cooperación Internacional y desarrollo de la Educación*, editado conjuntamente por CIDE y AGCI, Chile, 1994.

Como opera la Ley de donaciones con fines educacionales, UNICEF Chile, 1995.

Formación Dual: un desafío para Chile, escrito en conjunto con David Bravo, Marcela Weintraub y María Paola Sevilla, editado por GTZ, el Departamento de Economía de la Universidad de Chile y el Ministerio de Educación, febrero 2001.

El caso de Chile, escrito en conjunto con Jaime Vargas, capítulo del libro *El Rol del Sector Privado en la Educación en América Latina*, editado por PREAL, marzo 2002. Reeditado en inglés en 2005.

Formación profesional dual: la alternancia entre escuela & empresa, en conjunto con Paola Sevilla, Revista PAIDEIA, U. de Concepción.

El papel de la Educación Técnica en el mejoramiento de las oportunidades de los jóvenes: en caso de Chile, conjunto con Paola Sevilla, capítulo del libro Tendencias de la Educación Técnica en América Latina, IIPE, UNESCO, 2003.

Impacto Distributivo de la Subvención Preferencial, con Osvaldo Larrañaga, Trabajos de Investigación en Políticas Públicas Nº1, Depto. Economía U. de Chile, noviembre, 2006.

Encuesta Longitudinal Docente 20005: Análisis y principales Resultados, con David Bravo y Denise Falck, Documento de Trabajo Nº281, Depto. Economía U. de Chile, junio 2008.

Competencias en TIC: El mayor desafío para la evaluación y el entrenamiento docente en Chile, con María Paz Domínguez, Revista Iberoamericana sobre Calidad, Eficiencia y Cambio en Educación, Vol 6 – Nº 4, por publicarse.

OTROS

Representante de Chile para el Foro Juventud y Desarrollo organizado por el BID y el Banco de Israel, en Jerusalén, en abril de 1995.

Profesora del Magister en Dirección y Gestión Escolar e calidad, Fundación Chile – Universidad del Desarrollo, 2004-2007.

Profesora del curso Políticas Educativas, Ingeniería Comercial, Universidad de Chile, 2008.

Santiago, 2009.

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Academic Positions

Princeton University, Department of Economics and the Woodrow Wilson School of Public and International Affairs, Assistant Professor of Economics and Public Affairs, 2008-present

University of the Witwatersrand (South Africa), Department of Economics, Junior Lecturer, 1999-2002

Rhodes University (South Africa), Department of Economics, Junior Lecturer, 1998

Education

University of Michigan, Ph.D. Economics, "*Three Essays in Development and Labor Economics*", August 2008

University of the Witwatersrand, Master of Commerce (Economics), April 2002

Rhodes University, B.A. in Economics, Politics, Journalism, April 1998

Peer-reviewed Publications

Linking Poverty and Income Shocks to Risky Sexual Behavior: Evidence from a Panel Study of Young Adults in Cape Town (with David Lam and Murray Leibbrandt) *South African Journal of Economics*, 2008. 76 (S1): 53-74

How household context affects search outcomes of the unemployed in KwaZulu-Natal, South Africa: A panel data analysis, *South African Journal of Economics*, 2004. September 72(3)

Individual, household and regional determinants of labour force attachment in South Africa: Evidence from the 1997 October Household Survey (with Farah Pirouz) *South African Journal of Economics*, 2002. June 70(5)

Other Publications

Book Review: Rethinking Infrastructure for Development by François Bourguignon and Boris Pleskovic, *Journal of Economic Literature*, 2008. December XLVI (4): 1021

Household and community income, economic shocks and risky sexual behavior of young adults: Evidence from the Cape Area Panel Study 2002 and 2005 (with David Lam and Murray Leibbrandt), *AIDS*, 2007. 21 (S7): S49-S56

Working Papers

The effects of rural electrification on employment: New evidence from South Africa, Manuscript August 2008 *(submitted)*

A model for understanding gender discrepancies in sexual behavior reports (with David Lam), Manuscript January 2009 (*submitted*)

The long-term effects of being born in a drought: Evidence from the Cape Area Panel Study 2002-2006, Manuscript October 2009

Compliance with minimum wage laws when penalties and enforcement are weak: Domestic workers in South Africa (with Vimal Ranchhod) Manuscript July 2008

When knowledge is not enough: HIV/AIDS information and risky behavior in Botswana (with Jim Levinsohn and Rolang Majelantle), *NBER Working Paper 12418*, August 2006

Grants, Fellowships and Honors

2008

NBER Africa Project Grant: Cell-phones in Malawi (with Emily Oster and Rebecca Thornton) ($50,000)
Rackham One-Term Doctoral Dissertation Fellowship, University of Michigan

2007

National Science Foundation (NSF) Doctoral Dissertation Research Improvement Grant ($10,000)
Eva Mueller Award - New Directions in Demography and Economics, University of Michigan
Marshall Weinberg International Research Prize, University of Michigan
Rackham Travel Grant, University of Michigan

2006

Gail R. Wilensky Fellowship in Health Economics, University of Michigan

2005

Rackham Travel Grant, University of Michigan

2003, 2004

Summer Research Assistantship, Department of Economics, University of Michigan
Departmental Award for Graduate Student Instruction, top ten, University of Michigan

2002, 2003

Fogarty Fellowship in Economic Demography, Population Studies Center, University of Michigan
Graduate Student Fellowship, University of Michigan
International Study Fellowship, University of the Witwatersrand

1998

B.A. Honors with Full Academic Colors, Rhodes University

1997

Nedbank/Old Mutual Budget Essay Scholarship (national winner)
Rhodes University Scholarship for honors study in Economics
Threlfell Memorial Prize (top graduating Economics student), Rhodes University

Invited Presentations

The long-term effects of being born in a drought: Evidence from the Cape Area Panel Study

2007 Northeast Universities Development Conference (Boston, November)
Population Association of America meetings (New Orleans, April)

A model for understanding gender discrepancies in sexual behavior reports (with David Lam)

2008 Population Association of America meetings (New Orleans, April)

The effects of rural electrification on employment: New evidence from South Africa

2009 Michigan State University
University of California-Riverside
Yale University

2008 Brown University
Dartmouth College
Harvard Kennedy School
Harvard School of Public Health
Institute for International Economic Studies at Stockholm University
London School of Economics
Northwestern University
Penn State University
Princeton University
Resources for the Future,Washington D. C.
Syracuse University
The Harris School of Public Policy Studies
The World Bank (Microeconomics of Growth Network Conference, June 6-7)
UCLA
University of Cape Town
University of North-Carolina (Chapel Hill)
University of Washington-St Louis

2007 Northeast Universities Development Conference (Cambridge, October)
University of KwaZulu-Natal (Durban)
University of Michigan/Michigan State University/University of Western Ontario
Labor Day (East Lansing, May)
University of Michigan

Linking Poverty and Income Shocks to Risky Sexual Behavior: Evidence from a Panel Study of Young Adults in Cape Town

2006 Health, Economics and HIV/AIDS Research Division (HEARD and UNAIDS)
Symposium on "HIV/AIDS and Poverty" (Durban, October)

Compliance with minimum wage laws when penalties and enforcement are weak: Domestic workers in South Africa

2006 UC Berkeley Labor Lunch

Individual, household and regional determinants of labour force attachment in South Africa: Evidence from the 1997 October Household Survey (with Farah Pirouz)

2001 Development Policy and Research Unit Annual Conference (Johannesburg)

Professional Affiliations and Memberships

Affiliate, Office of Population Research, Princeton University
American Economic Association
Population Association of America
South African Labour and Development Research Unit, University of Cape Town

Referee Activity

American Economic Journal (Economic Policy), B.E. Journal of Economic Analysis and Policy, Demographic Research, Economics of Education Review, The Economic Journal, Journal of Economic Literature, Labour Economics, South African Journal of Economics

Other Professional Experience

Botswana Distance Learning Project, University of Botswana and Central Statistics Office (Gaborone, Botswana) Course developer and instructor, April-July 2004

South African Integrated Family Household Survey (Agincourt, South Africa), Pilot Study Fieldwork, April 1999

Teaching Experience

Graduate Development Economics (ECO562) – Princeton University

Quantitative Methods (WWS507c) – Princeton University

Undergraduate Econometrics (ECON406) – University of Michigan

Economics of Population (ECON466) – University of Michigan

Econometrics for Large Household Survey Data – University of Botswana

Introductory Microeconomics (ECON101) – University of the Witwatersrand

Undergraduate Public Finance – University of the Witwatersrand

Mathematics and Statistics for Economists – University of the Witwatersrand

Intermediate Macroeconomics (ECON201) – Rhodes University

Service

University of the Witwatersrand, Department of Economics, Governing Committee, 2001

University of the Witwatersrand, Department of Economics, Second Year Economics Coordinator, 2001-2002

Citizenship

South Africa

Languages

English, Afrikaans (conversational)

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