Estimating the Causal Effect of Economic Policies on Productivity in Chile

A Research Proposal

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1. Introduction and Motivation

Since the Asian and the Russian crisis, Latin America has struggled to recover its long-term productivity growth. Casual evidence suggests that Asian emerging economies have been more successful in recovering from the crisis. Only in the last few years, mainly due to the high terms of trade, Latin American economies have been growing at a faster pace.

Chile has not escaped to this trend. After being a successful example of growth over 1986-1997 (TFP grew at 3%), the aggregate productivity growth has dramatically declined over the last 10 years (TFP grew at 0.4%) for this economy (see Figure 1). The profession has not come out with an undisputable answer to explain this decline. Most of studies regarding total factor productivity have emphasized the macroeconomic environment and economic reforms to explain aggregate productivity growth. Chile has been an example of good macroeconomic management and an earlier reformer country. It seems that the answer to this puzzle should be searched on the micro side.

One of the challenges to conduct an empirical study on the effect of micro policies on productivity of individual plants across sectors is that most of the policies in Chile are uniform. In contrast to some other countries, there is not regional variation in regulations as those that have been useful to identify their effects in countries like the U.S. and India. In Chile, there are very few policies to target specific sectors or specific regions. Although there are some specific programs for small firms, the lack of consistent data for beneficiaries of these programs limits the possibility of studying the effects of micro policy at the level of firms. There are several studies that look at the effect of trade orientation on productivity of the Chilean manufacturing industry. But as far as we know none of them study the effects of other type of policies like taxation, labor market regulation, and barriers to entry and exit. We think that broader questions need to be addressed to explain the productivity slow down shown in figure 1.

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2 Some exceptions are the program specific evaluations of FONTEC (Benauste Crespi and Maffioli, 2007) and of export promotion programs managed by PROCHILE (Alvarez, 2004).
4 Bergoeing et al (2006) also uses the identification strategy of Rajan and Zingales (1998) to analyze how financial development affects the productivity of plants operating in industries that differ in external financing needs. A similar strategy has been used by Alvarez and Gorg (2007) to identify different responses in domestic and multinational plants during the last economic crisis in Chile.
Despite the neutrality of Chilean policies in general, it is possible to observe changes in policies over time (structure of taxation, labor’s law, minimum wages, and free trade agreements) that would have different effects on the performance of individual plants and sectors. For instance, it can be argued that changes in the labor’s law or minimum wage will affect different to plants, depending of the capital and labor intensity used in each plant and sector\(^5\). Then, several interesting questions arise form these policy changes. How more rigid labor markets may affect resource allocation across plants and sectors? What is the implicit productivity cost of not using the “right” capital/labor ratio? Is the minimum wage requirement or labor’s law modification affect plants of different size?

In a different avenue, it is also possible to explore the effect of cost of entry regulations on productivity for different sectors. The number of procedures or number of days for starting business will be the same for all plants, but compared to the size of each plant this cost could be found as an important cost that refrain plants to enter in different sectors.

In sum, this project will focus on two types of policies that can affect plant and industry productivity: labor market regulations and entry costs. In the first case, we will exploit

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\(^5\) Montenegro and Pagés (2005) show evidence on how minimum wages and job security provisions affect unemployment rate of young versus old workers, skilled versus unskilled workers and men versus women.
changes overtime in employment protection derived from labor reforms and changes in minimum wages during the period. In the second case, even when entry costs do not change overt time, we will exploit regional-and-industry specific differences in the relative cost of entry.

One potential shortcoming of using Chilean data to analyze these issues is that this country was an early reformer and, it can be argued, most of the most important policy changes were already implemented. Nevertheless, Chilean labor market tends to be less regulated than other Latin American labor markets; it is well behind the best practice economy (See Fuentes and Mies, 2005). In Table 1 we show some comparative labor-market statistics, where Chile ranked above the average of Latin American (LA) economies, but below the average for OECD group and USA, and way below best practice.

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>LA</th>
<th>OECD</th>
<th>Brazil</th>
<th>Mexico</th>
<th>USA</th>
<th>Best practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiring flexibility</td>
<td>56</td>
<td>56</td>
<td>49</td>
<td>78</td>
<td>81</td>
<td>33</td>
<td>17</td>
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<tr>
<td>Market labor conditions</td>
<td>65</td>
<td>79</td>
<td>58</td>
<td>89</td>
<td>81</td>
<td>29</td>
<td>22</td>
</tr>
<tr>
<td>Firing flexibility</td>
<td>29</td>
<td>48</td>
<td>28</td>
<td>68</td>
<td>70</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Labor regulation</td>
<td>50</td>
<td>61</td>
<td>45</td>
<td>78</td>
<td>77</td>
<td>22</td>
<td>20</td>
</tr>
</tbody>
</table>


This is also valid for the analysis of the effects of barriers to entry. Again Chile is doing relatively better than the average Latin American country in this feature, even closer to OECD groups, but still worse than US and the best practice economies (Table2).
Table 2: Barriers to start business

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>LA</th>
<th>OECD</th>
<th>Brazil</th>
<th>Mexico</th>
<th>USA</th>
<th>Best practice</th>
</tr>
</thead>
<tbody>
<tr>
<td># of procedures</td>
<td>10</td>
<td>12</td>
<td>6</td>
<td>15</td>
<td>7</td>
<td>5</td>
<td>--</td>
</tr>
<tr>
<td>Duration (days)</td>
<td>28</td>
<td>74</td>
<td>30</td>
<td>152</td>
<td>51</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Cost (% Income per capita)</td>
<td>12</td>
<td>70</td>
<td>10</td>
<td>12</td>
<td>19</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Minimum capital (% Income per capita)</td>
<td>0</td>
<td>86</td>
<td>61</td>
<td>0</td>
<td>88</td>
<td>0</td>
<td>--</td>
</tr>
</tbody>
</table>


The main objective of this project is to explore - using plant and industry data - how variations in labor and entry regulations can explain the productivity slowdown of the Chilean economy. The analysis will try to identify the effect of regulations depending on exogenous industry characteristics. The analysis will be based on econometric specifications for total factor productivity and it will be complemented with estimations for the probability of exit and industry regressions for entry and exit rates. At the end, this project will give information on how productivity growth could be decomposed in incumbents’ productivity growth and that part that it could be explained by reallocation through changes in plants share and entry and exit.

2. Methodology

As explained in the introduction, the “neutrality” of most policies in Chile allows for time series variation of policies rather than cross-industry variation. Thus, the identification strategy proposed in this study follows Rajan and Zingales (1998), in the sense that sectors and plant exposure to each specific regulation are identified ex-ante.

2.1 Labor Regulations

Our identification strategy will be based on industry differences in unskilled labor intensity and overall labor intensity (capital/labor ratio). We test two main hypotheses:

- More unskilled labor intensive are more vulnerable to rise of the minimum wage
• More labor intensive sectors will be more affected by an increase in labor market rigidity.6.
In this case we can use direct information from Chilean industries, measuring factor intensities at the beginning of the period.

We can also exploit the identification strategy followed by Micco and Pagés (2006), who use information for the U.S. industries exposure to volatility in demand or supply shocks. In such a case, we can test the following hypotheses:
• The effect of employment regulations will be higher for industries more exposed to volatility in demand or supply shocks.

2.2 Barriers to entry

Given that there is not time series information on barriers to entry (starting business), we cannot exploit cross-country difference as in Klapper et al (2006) or region specific as Bertrand and Kramarz (2002). The strategy in this case is to give variability to the estimated cost of the barriers to entry. Djankov et al (2002) computes a useful measure of entry regulations as the direct entry cost plus the monetized value of entrepreneurship time (as a fraction of GDP per capita in 1999). Given that income per capita and industry-specific plant size differs across regions of a country, we can calculate the entry cost across Chilean regions and industries. Thus, we will have to alternative measures of entry costs varying across industries and regions. In the first case, we will have the entry costs as proportion of plant size. In the second case, entry cost will be a proportion of the region income per capita. This is a variant of the work by Fisman and Sarria-Allende (2004) who test whether entry regulations barriers are more relevant in industries characterized by low natural barriers to entry7. In such case, the hypotheses to be test are the following:
• An increase in entry costs will have more effects on industries with low natural barriers to entry defined by Fisman and Sarria-Allende (2004).

6 The effect of labor market regulations on labor flow and plant dynamics has been previously studied in Micco and Pagés (2006) and Autor, Kerr and Kugler (2007). The effects on productivity, investment and employment were analyzed across states in India by Besley and Burgess (2004).
7 A natural concern is that entry regulations may affect regional income directly through a lower growth of certain industries. In such a case, we can instrument current income by predetermined lagged income per-capita (regional data availability from the beginning of the 60’s). Other instruments are region-specific variables from the colonial epoch. These have been shown to be good predictors on current income per capita (Bruhn and Gallego, 2008).
2.3. Econometric specification

The general specification for plant-level estimation of productivity and exit will be:

\[ y_{ijrt} = \alpha_i + \alpha_r + \alpha_j + \beta x_{ijrt} + \lambda \text{Reg}_{ijrt} * Z_j + \epsilon_{ijrt} \]

Where \( y_{ijt} \) is the variable of interest, sub index \( i \) denotes a plant, \( j \) an industry, \( r \) a region, and \( t \) a year. \( x_{ijrt} \) is a vector of plant characteristics, Reg is a measure of regulations (labor and entry) and \( Z \) is a vector of industry characteristics.

When using labor regulations, Reg will vary over time. When using entry costs, this variable will vary across industries and or regions. In both cases \( Z \) will vary across industries and will allow identifying differential effects on plants operating in industries that differ ex-ante in the exposure to labor and entry regulations.

Using industry level data, the above equation become:

\[ y_{jrt} = \alpha_j + \alpha_r + \beta x_{jrt} + \lambda \text{Reg}_{jrt} * Z_j + \epsilon_{jrt} \]

We will use this equation to estimate the effect of regulations on industry productivity, growth (employment and or sales), entry rates and exit rates.

Using this strategy we can determine how our dependent variables are affected by distortions, and how, even with “neutral” policies, some specific sectors are more vulnerable than others depending on differences in exposure to labor and entry regulations. Thus the marginal effect of distortions on productivity will depend on these industry characteristics:

\[ \frac{\partial y_{jrt}}{\partial \text{Reg}_{jrt}} = \lambda Z_j \]

This relationship could be illustrated in a graph with the proper confidence interval.

It should be noted that, similar to most of the recent empirical works using the methodology proposed by Rajan and Zingales (1998), this specification allows to identify the differential effect across industries, and not the overall impact of regulations. For example, in the case of labor reforms that vary over time, this is captured by the year-specific effects.

2.4 Productivity Growth Decomposition

One interesting question to be addressed is the effect of regulation on different components of productivity growth. To shed light on these issues productivity growth –at the industry level – may be decomposed in four elements: (i) A within-plant effect, given by

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\(^8\) In the case of exit, the model is not linear and it will be estimated using Probit.
incumbents’ productivity growth weighted by initial output shares; (ii) a reallocation effect capturing gains from the expanding market share of high productivity plants relative to the initial aggregate productivity level; (iii) an entry effect which is the sum of the differences between each entering plant’s productivity and initial aggregate productivity, weighted by its market share; and (iv) an exit effect given by the sum of the differences between each exiting plant’s productivity and initial aggregate productivity, weighted by its market share (as shown in Foster, Haltiwanger, and Krizan, 1998). For each of these four components, we will estimate the following equation:

\[
G_{y_{j\tau}} = \alpha_{j} + \alpha_{t} + \beta \Delta X_{j\tau} + \lambda \Delta R e g * Z_{j} + \varepsilon_{j\tau}
\]

Where \(G_{y_{j\tau}}\) is productivity growth for each component detailed above.

Finally, using industries differences in exposure to labor and entry regulations we can give some estimates of how much, if any, of the productivity growth differences may be explained by the effect of regulation on each of these for components.

4. Data Description

Our analysis will be based mainly in information for Chilean manufacturing plants covering the period 1990-2005. This is the most recent information provided by the Encuesta Nacional Industrial Annual (the Annual National Manufacturing Survey, ENIA) collected by the Instituto Nacional de Estadisticas (National Institute of Statistics, INE). Currently, we have information for the period 1992-2005. We are working in the matching of plant identification number to incorporate information for 1990 and 1991.

The panel for the ENIA collects information for more than 5,000 plants in 4-digit ISIC industries. The number of plants by year is shown in the Table 3. Given that the number of plants in some 4-digit industries is very low, we will work with plants grouped at 3-digit industries. The distribution of plant by industry is shown in Table 4. The information provided by the ENIA allow us to compute total factor productivity at firm-level data using the methodology strategy developed by Olley and Pakes (1996) and extended by Levinsohn and Petrin (2003), as it has been made previously for Chile by Bergoeing et al (2006) and Alvarez and López (2005).

The second source of information is provided by the Internal Tax Service (SII), which collects information of firms that pay taxes. Then, the main difference with the ENIA is that we can have information of firms and not plants. Unfortunately, due to confidentiality
reasons, we cannot access to specific firm-level information, we can use only aggregate information by economic sectors (the number of firm observations by year is shown in Table 5).

One advantage of this source of information is that we can expand the coverage of economic sectors. ENIA only collects information for manufacturing industries and the SII provides information for agriculture, mining, manufacturing industries and services. Unfortunately, this information does not allow us to estimate productivity, but we can test some of the hypotheses using sales growth, entry and exit rates (entry and exit rates are shown in columns 2 and 3 of Table 5)\(^9\). In any case, we think the SII information as complementary to the results using the ENIA.

<table>
<thead>
<tr>
<th>Year</th>
<th>Plants</th>
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<tbody>
<tr>
<td>1992</td>
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<td>1993</td>
<td>5935</td>
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<tr>
<td>1994</td>
<td>6256</td>
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<td>1997</td>
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<td>1998</td>
<td>4862</td>
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<tr>
<td>1999</td>
<td>4800</td>
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<td>2000</td>
<td>4632</td>
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<tr>
<td>2003</td>
<td>5155</td>
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<td>2004</td>
<td>5447</td>
</tr>
<tr>
<td>2005</td>
<td>5326</td>
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\(^9\) For the Project, these entry and exit rates and also sales growth, will be calculated by economic sectors.
Table 4: Distribution of Plants by Industries, 2005

<table>
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<tr>
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<tr>
<td>311</td>
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<td>313</td>
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<td>314</td>
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<td>321</td>
<td>275</td>
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### Table 5: SII and Number of Firms

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<th>Year</th>
<th>Firms</th>
<th>Entry Rate</th>
<th>Exit Rate</th>
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<tr>
<td>1999</td>
<td>795,967</td>
<td>13.43</td>
<td>12.93</td>
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<tr>
<td>2000</td>
<td>800,523</td>
<td>13.86</td>
<td>12.64</td>
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<tr>
<td>2001</td>
<td>811,843</td>
<td>16.10</td>
<td>13.87</td>
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<tr>
<td>2002</td>
<td>833,420</td>
<td>14.15</td>
<td>14.82</td>
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<td>2003</td>
<td>826,941</td>
<td>15.02</td>
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<td>2004</td>
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<td>12.48</td>
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<td>2005</td>
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<td>13.83</td>
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<tr>
<td>2006</td>
<td>878,913</td>
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<td>13.07</td>
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References


## ANNEX 1
### Budget of the Project

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Time</th>
<th>Value</th>
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<tbody>
<tr>
<td>Rodrigo Fuentes (Head of the Project)</td>
<td>8hrs/week</td>
<td>5,500</td>
</tr>
<tr>
<td>Roberto Alvarez (Researcher)</td>
<td>8hrs/week</td>
<td>5,000</td>
</tr>
<tr>
<td>José Miguel Benavente (Researcher)</td>
<td>8hrs/week</td>
<td>5,000</td>
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<tr>
<td>Cintia Sacciloto (Research Assistant)</td>
<td>20hrs/week</td>
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<tr>
<td>Research Assistant</td>
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<tr>
<td>Other expenses</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$20,000</strong></td>
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</tbody>
</table>
Annex 2

CV of the Researchers
CURRICULUM VITAE
J. RODRIGO FUENTES
2008

PERSONAL DATA

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ACTUAL POSITION

Senior Economist at the Research Department, Central Bank of Chile (until July 2008)
Associate Professor, Department of Economics P. Univesidad Católica de Chile (Starting August 2008)

ACADEMIC DEGREES

1992 Ph.D. in Economics, University of California - Los Angeles (UCLA)
1989 M. A. in Economics, University of California - Los Angeles (UCLA)
1987 Master in Finance, Universidad de Chile
1984 Professional Degree in Economics, Universidad de Chile

MAJOR FIELDS OF INTEREST

Economic Growth, Macroeconomics, International Trade, Banking

OTHER ACADEMIC POSITIONS

2007-2008 Member of the Study Group in Economics and Business, National Commission of Science and Technology (CONICYT)
2006-2008 Member of the Board of the Chilean Economic Society
1998-2002 Dean of the Graduate School of Business and Economics, Universidad de Chile
2001-2002 Visiting Professor at the AB Freeman School of Business, Tulane University (Spring Semester)
1999 Visiting Professor at the Department of Economics, UCLA (Winter Quarter)
1996-2001 Visiting Professor at the Graduate School of Universidad Nacional de Tucumán, Argentina (one course a year)
1992-1998 Assistant Professor in the Economics Department at the Universidad de Chile

HONORS, AWARDS, FELLOWSHIPS, GRANTS

1991-1992 Japan/World Bank Graduate Scholarship
1987-1990 “Presidente de la República” Scholarship
1990 Research Grant, Sloan Foundation
1991 Research Grant, Sloan Foundation
2001-2003 Research Grant, Global Development Network
2007 Medal for Research on Development, Global Development Network
2007 Central Bank of Chile Award for Goal Achievements in 2006
PUBLICATIONS IN JOURNALS


1999 “Policy Challenges in the Chilean Fishing Sector.” (Spanish), Estudios Públicos, Nº 75, 229-272. (Joint with J. Peña and J. Barton).

2003 “Trade Reform and Productivity in Chile: A Look 15 years Later.” (Spanish), Trimestre Económico, Vol. LXX(1), 21-41, Mexico. (Joint with Roberto Alvarez).


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2004 *Banking Industry and Monetary Policy Transmission*. Book edited jointly with Luis A. Ahumada, Central Bank of Chile.

BOOK CHAPTERS


3
Fedesarrollo and Inter-American Bank for Development (Joint with M. Agosin and L. Letelier).


1997 “Do Regions Converge in Chile? An Interpretation.” (Spanish), in F. Morandé and E. Vergara (editors), Análisis del Crecimiento Económico Chileno, pp. 171-196, Centro de Estudios Públicos e Ilades/Georgetown University.


2001 “Convergence in Output and Income Across Regions in Chile.” (Spanish). In Tomás Mancha and Daniel Sotelsek (editors), Convergencia Económica e Integración, Spain. (Joint with G. Anriquez).


2004 “Is There Lending Rate Stickiness in the Chilean Banking Industry?” In Luis A. Ahumada and Rodrigo Fuentes (editors), Banking Industry and Monetary Policy Transmission, Central Bank of Chile. (Joint with S. Berstein).


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2008 “La tasa de interés real neutral: Definiciones y evidencia para Economías Latinoamericanas” Centro de Estudios Monetarios Latinoamerican, CEMLA (forthcoming)
WORK IN PROGRESS

“Path of development, Specialization and Natural Resources Abundance.” Working paper 383, Central Bank of Chile (Joint with R. Alvarez). Submitted for publication to European Economic Review.


“Effects on bank’s margin spread of changes in the management of monetary policy.” Working paper 428, Central Bank of Chile (Joint with V. Mies).


“Removing the Constraint for Growth.” (Joint with C. Calderón). First and incomplete draft.

TEACHING EXPERIENCE

2004-2007 Macroeconomic Policies and Intermediate Macroeconomics, Pontificia Universidad Católica de Chile, Santiago, Chile
2001-2002 Global Economy, MBA at Tulane University; Macroeconomics II, MA in Economics, Universidad de Chile, Santiago, Chile
1996-2001 Theory of Economic Growth (Graduate), Universidad Nacional de Tucumán, Argentina.
2000 Topics in Banking, MA in Finance, Universidad de Chile
1999 Macroeconomics and International Trade, UCLA, Winter Quarter
1997-2000 Microeconomics, joint MBA Program Tulane University and Universidad de Chile
1992-1999 Intermediate Microeconomics, Macroeconomics, International Trade, Open Macroeconomics (Undergraduate), Theory of Economic Growth and Econometrics (Master in Economics), Applied Microeconomics (MBA), Universidad de Chile.
1995 International Finance (Graduate), Ecuador

OTHER ACADEMIC ACTIVITIES

2007 Regional coordinator for the project on Natural Real Interest Rate of the Research Network of Central Banks of the Americas
2002 Co-organizer of the VI International Conference of Central Bank of Chile: Banking Industry and Monetary Policy in Chile

1998 Editor and Organizer of *Comentarios sobre la Situación Económica* (Chilean Economic Situation Report). Yearly publication of the Department of Economics, Universidad de Chile

1992-1998 Editor of *Estudios de Economía*, Journal edited by the Department of Economics at Universidad de Chile

**SPEAKER IN INTERNATIONAL CONFERENCES**


**CONSULTING EXPERIENCE (since 1990)**


1998 “Demand for Telecommunication Traffic and Telephone Lines.” Project Financed by Teléfonica S.A.

1998 “Cost of Capital Estimation for Cellular Telephone Company.” Project Financed by Teléfonica Móvil S.A.

1999 “Cost of Capital Estimation for Local Telephone Company.” Project Financed by Teléfonica S.A.

1998 “Cost of Capital Estimation for Regulated Companies.” Project Financed by the Ministry of Economics


1998 “Import Tariffs, Price Bands and Production Subsidy: The Case of Vegetable Oils Market.” Project Financed by Vegetable Oil Producers Association


1998 “Measuring Risk Exposure in a Multinational Company.” Project for Embotelladora Andina (Coca-Cola Representative in Chile).


1997-1998 “Analysis of the Manufacturing Small Firms Competitiveness.” Project Financed by the Ministry of Economics, Chile
1997 Determinants of Investment in the Forestry Sector and the Manufacturing Sector, Project Financed by ECLA.
1997 Analysis of Regional Competitiveness, Project Financed by the Ministry of Regional Development, Chile.
1996 Valuation of Cellular Concession in XI and XII Region in Chile for STARTEL.
1996 Determination of the Cost of Capital for CTC Mundo (Long Distance Telephone Company), June 1996.
1996 “Economic Evaluation of an Airline Route between Chile and Pacific-Asia.” Economic Division of Foreign Affairs Ministry.
1995 “Analysis of the Chilean Financial System.” Leasing Andino S.A.
1995 “Cost and Benefits to join NAFTA.” Prepared for an International Conference “La Empresa Chilena frente al NAFTA.” Santiago, Chile.
1994 “Competitiveness Analysis of the Forestry Sector in Chile.” Centro de Estudios Públicos.
1991 “Measurement Errors and the Convergence Hypothesis.” Research Assistant at UCLA for Professor Edward Leamer.
1991 “Pooling Noisy Data Set.” Research Assistant at UCLA for Professor Edward Leamer.
1990 “A Bayesian Perspective on Inference from Macro-Economic Data.” Research Assistant at UCLA for Professor Edward Leamer.
EDUCATION

- M. A., Economics, University of Chile. 1997.
- B. A., Economics, University of Chile. 1996.

PROFESSIONAL EXPERIENCE

- Researcher, Centre for Innovation and Entrepreneurship Analysis (INTELIS), University of Chile. March 2008-present
- Senior Economist, Research Department, Central Bank of Chile. July 2006-present
- Alternate Representative, National Commission of Price Distortions on Imported Goods. 2007-2008
- Research Assistant: "Global Disaggregation of Information Intensive Services", UCLA Anderson School of Management, December 2001- February 2002, under supervision of Professor Uday Karmakar.
- Instructor Professor: Department of Economics, University of Chile. 1996 – 2000.
- Research Assistant: Department of Economics, University of Chile. 1994 - 1996.
FIELD OF SPECIALIZATION

- International Trade and Economic Development
- Innovation and Productivity

PUBLICATIONS

ARTICLES IN JOURNALS


• “Productivity and Openness in Chile: 15 Years Later”, El Trimestre Económico, LXXX(1), 277, January-March 2003, pp. 21-41, (with J. Rodrigo Fuentes), in Spanish.


• "External Sources of Technological Innovation in Chilean Manufacturing Industry”, Estudios de Economía, Vol. 28, N 1, June 2001, pp. 53-68.


• "Impact of Liquidity Constraints on Small and Medium Size Firms Performance”, Estadística y Economía, N 18, December 1999, pp. 85-100, in Spanish. (with Gustavo Crespi, David Naschelsky and M. Gabriela Sepúlveda).


BOOK CHAPTERS


• “Imperfect Labor Mobility, Urban Unemployment and Agricultural Trade Reform in Chile”, in R. Chumacero and K. Schmidt-Hebbel (Eds.): General Equilibrium Models for Chilean Economy, 2005, pp. 375-394, Central Bank of Chile, Santiago, Chile (with D. Holland, E. Figueroa and J. Gilbert)

• “Information Technologies and “Grassroots Tourism”: Protecting Native Cultures and Biodiversity in a Global World”, in F. Di Castri and V. Balaji (Eds.): Tourism, Biodiversity and Information, Chapter 21, pp. 349-380, 2002 (with Eugenio Figueroa).


• "Environmental Capacitation in the Public Sector", in E. Figueroa (ed): Economic Policies for Sustainable Development in Chile. Center of Economy of Natural Resources and Environment, December, 1994 (with Eugenio Figueroa and Rodrigo González), in Spanish.

WORK IN PROGRESS

• "Exports and Productivity: Comparable Evidence for 14 Countries,” The International Study Group on Exports and Productivity.

• “The Chinese Phenomenon: Price, Quality or Variety?”, with Sebastián Claro (Central Bank of Chile).

• “David versus Goliath: The Impact of Chinese Competition on Developing Countries,” with Sebastián Claro (Central Bank of Chile).

• “Dynamics of Innovation and Competitiveness in Chilean Exports,” with Álvaro García (Central Bank of Chile)

• “Exchange Rate Pass-Through to Import Prices,” with Patricio Jaramillo and Jorge Selaive (Central Bank of Chile.

• “Trade Liberalization and Industry Adjustments,” with Ricardo A. Lopez (Indiana University, USA)

• “New Products in Exports Markets: Learning Effects,” with Hasan Faruq (Xavier University) and Ricardo A. López (Indiana University)

• “Wages Effects of Chinese Import Competition,” with Luis Opazo (Central Bank of Chile).

FELLOWSHIPS AND AWARDS

• First Place, Medals for Research and Development, Changes in Global Trade: Causes and Consequences. 2006 Global Development Awards (with Sebastian Claro)

• Second Place, Medals for Research and Development, Industrial Development and Long Term Growth. 2006 Global Development Awards (with J. Rodrigo Fuentes)

• Dissertation Year Fellowship, Graduate Division, UCLA: 2005-2006.
• Bradley Graduate and Post Graduate Fellowship Program, The Lynde and Harry Bradley Foundation, Inc.: 2004-2005


• Graduate scholarship. Graduate Division, University of Chile: M. A. in Economics, University of Chile: 1995-1996.

• Award “Best Professor in Undergraduate Economics Courses”: Department of Economics, University of Chile: 1998.

RESEARCH GRANTS


TEACHING EXPERIENCE

• University of Chile: Trade, Innovation and Growth, Graduate School, 2007-2008

• University of Chile: Introduction to Macroeconomics, Undergraduate School, 2008


• Southern University of Chile (Universidad Austral de Chile, Temuco): Graduate courses (MBA) in Macroeconomics and Microeconomics.1999-2000.

REFEREERING


• Referee for research proposals presented at FONDECYT, Chile.
SEMINARS AND PRESENTATIONS

• “Trade Liberalization and Industry Dynamics: A Difference in Difference Approach”
  World Bank, Washington D.C., January 2008

• “New Products in Export Markets: Learning from Experience and Learning from Others”
  Econometric Society Meeting, New Orleans, January 2008
  LACEA, Bogotá, October 2007.

• “Determinants of Manufacturing Exports to China”
  Department of Economics, University of Chile, Santiago, November 2007.

• “Survival of SMEs in Chile”
  Alberto Hurtado University, Santiago, October 2007.

• “David versus Goliath: The Impact of Chinese Competition on Developing Countries”
  Department of Economics, University of Chile, Santiago, May 2007.
  Center of Applied Economics, University of Chile, Santiago, June 2007.

• “The Chinese Phenomenon: Price, Quality or Variety?”
  Department of Economics, University of Chile, Santiago, December 2006.

• “Multinationals as Stabilizers? Employment Growth in Multinationals and Domestic Firms in an Economic Crisis”
  LACEA, Bogotá, October 2007
  Seminar on Macroeconomics and Finance, Central Bank of Chile, Santiago, August 2006.

• “Is Exporting a Source of Productivity Spillovers”
  European Trade Study Group Eight Annual Conference, University of Vienna, September 2006.

• Does Economic Crisis Spur Organizational Change? Evidence from Chilean Manufacturing Plants”
  SPRU 40th Anniversary Conference, University of Sussex, September 2006.
  Department of Economics, University of Chile, September 2006.

• “Trade Liberalization, Price Distortions, and Resource Reallocation”

• “Globalization, Survival, and Growth of Small and Medium-Sized Firms”
  Universidad Adolfo Ibanez, January 2006
  School of Business, University of Chile, January 2006.
• “Paths of Development, Specialization, and Natural Resources Abundance”
  Department of Economics, University of Chile, January 2006.
  Seminar on Macroeconomic and Finance, Central Bank of Chile, January 2006.

• “Export Transitions: From Primary to Manufacturing Exports”

• “Productivity Spillovers from Exporting through Vertical and Horizontal Linkages”
  Midwest International Economics Meeting, Kansas University, October 2005.

• “Entry and Exit in International Markets: Evidence from Chilean Data”
  Midwest International Economics Meeting, Vanderbilt University, April 2005.

• “Determinants of Firm Export Performance in a Less Developed Country”
  Research Department, Inter-American Development Bank, September 2003
  Proseminar in Industrial Organization, UCLA, March 2003
  Midwest International Economics Meeting, Notre Dame University, October 2002.
  Proseminar in Development and International Economics, UCLA, September 2002

• "An Empirical Reassessment of the Relationship Between Exports and Firm Performance: The Case of Chile" 
  Midwest International Economics Meeting, Indiana University, Fall 2003.

• “Exports and Innovation: Evidence from Chile and Mexico”
  Empirical Investigations in International Trade, 7th Annual Conference, November 3-5, 2000, University of Colorado, Boulder.

• “External Sources of Technological Innovation In Chilean Manufacturing Industry”
  Conference in Economic Growth, Technology and Human Resources, December, 2000, Santiago, Chile.

• “Exporter Performance and Promotion Instruments: The Chilean Empirical Evidence”
  Latin American and Caribbean Economic Association (LACEA) Conference, 1999

• “Productivity and Openness in Chile: 15 Years Later”
José Miguel Benavente H.

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Datos Personales

Nacionalidad: Chilena.

Posición Actual

Profesor Asistente, Jornada Completa. Departamento de Economía. Universidad de Chile.

Educación

Licenciado en Ciencias de la Ingeniería, Universidad Católica de Valparaíso. 1990.
Magister en Economía, Universidad de Chile. 1994.

Areas de interés

Microeconometría Teórica y Aplicada, Economía de la Innovación y Política Tecnológica,
Evaluación de Programas Públicos, PYMEs, Criminalidad y Empresarialidad.

Cursos Dictados Recientemente

Econometría I y Econometría II. Carrera de Ingeniería Comercial. Universidad de Chile
Microeconometría Aplicada. Programa de Magíster en Economía. Universidad de Chile.
Métodos Cuantitativos Avanzados. Programa de Magíster en Políticas Públicas. Universidad de Chile y Universidad de Chicago.

Artículos Publicados Recientemente


Informes Recientes


Borradores


Contribuciones en Libros


Referatos Realizados

Evaluación de Impacto Realizadas

- Programa **Fondos de Asistencia Técnica**, FAT, para CORFO en 1997.
- **Fondo de Desarrollo e Innovación**, FDI, para la Dirección de Presupuestos, Ministerio de Hacienda, 2004.
- **Fondo Nacional de Desarrollo Científico y Tecnológico**, FONDECYT, para el BID, 2006.

Becas y honores


Otros cargos y responsabilidades

Director, Centro de Estudio sobre la Innovación y el Emprendimiento “I+E”. Departamento de Economía, Universidad de Chile.
Miembro del Directorio, Centro de Microdatos. Universidad de Chile.
Director del Postítulo “Economía y Finanzas para Abogados”. Departamento de Economía.
Director Científico, Proyecto FONDEF D0311025 “Modelo Predictivo del Crimen para la Región Metropolitana”.
Editor Revista “Estudios de Economía”
Miembro grupo de expertos informe Global Entrepreneurship Monitor GEM Chile.
Miembro del Círculo de Innovación Tecnológica, ICARE.
Miembro del Consejo Nacional de Innovación para la Competitividad de Chile.
Miembro del Comité de Pequeña Empresa del Ministerio de Economía de Chile.
Consultor Banco Mundial, Banco Interamericano de Desarrollo (BID), OECD y CEPAL.

Idiomas

Español, Inglés y Francés.

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ESTUDIOS

- 2004 – 2006  Magíster en Economía
  Facultad de Ciencias Económicas y Administrativas
  Universidad de Chile

- 1999 – 2003  Ingeniería Comercial – Mención Economía
  Facultad de Ciencias Económicas y Administrativas
  Universidad de Chile

- 1996 – 1999  Economía Jornada Vespertina
  Centro de Ciencias Económicas
  Universidad de Vale do Rio dos Sinos (UNISINOS)
  São Leopoldo (Brasil)

- 1993 – 1994  Enseñanza Media Vespertina
  Escola 31 de Janeiro, Campo Bom (Brasil)

  Escola Santa Teresinha, Campo Bom (Brasil)

EXPERIENCIA LABORAL

- Septiembre 2007 – la fecha
  Investigador Asociado
  Departamento de Economía Universidad de Chile

- Septiembre 2007 – la fecha
  Directora de Estudios Emprendimiento
  Intelis Centro de Análisis I+E – Departamento de Economía Universidad de Chile

  “Acceso y Uso de Tecnologías de Comunicación en las Empresas Chilenas 2006”
  División TIC – Ministerio de Economía

- Enero 2005 – Mayo 2006
  Jefe de Proyecto “Publicación de las Tasas de Interés y Tarjetas de Crédito”
  Departamento de Economía Universidad de Chile junto a Superintendencia de Bancos e Instituciones Financieras (SBIF)

- Diciembre 2005 – Febrero 2006
  Investigadora Principal
  Documento de Trabajo: “Organización de la Demanda por el Apoyo Público” a cargo de José Miguel Benavente (Académico Universidad de Chile)
Departamento de Economía Universidad de Chile

  Encargada de Sede de Corrección
  Sistema de Evaluación del Desempeño Profesional Docente – CPEIP/MINEDUC
  Departamento de Economía Universidad de Chile junto a Facultad de Psicología PUC

- Mayo 2005 – Octubre 2005
  Encargada de la Selección de las Publicaciones en Portugués
  Asamblea Anual del Consejo Latinoamericano de Escuelas de Administración
  CLADEA 2005

- Mayo 2005 – Agosto 2005
  Ayudante de Investigación – manejo de base de datos y programación
  Documento de Trabajo: “Evo, Pablo, Tony, Diego y Sonny” a cargo de Rómulo Chumacero
  (Académico Universidad de Chile)
  Banco Mundial

- Diciembre 2004 – Enero 2005
  Encargada de Sede de Corrección
  Sistema de Evaluación del Desempeño Profesional Docente – CPEIP/MINEDUC
  Departamento de Economía Universidad de Chile junto a Facultad de Psicología PUC

- Diciembre 2003 – Enero 2004
  Asistente de Sede de Corrección
  Sistema de Evaluación del Desempeño Profesional Docente – CPEIP/MINEDUC
  Departamento de Economía Universidad de Chile junto a Facultad de Psicología PUC

- Julio – Diciembre 2003
  Ayudante de Investigación – manejo de base de datos y programación
  Proyecto “Encuesta Nacional de Salud – Chile 2003” - MINSAL
  Departamento de Economía Universidad de Chile junto a Facultad de Medicina PUC

- 1995 – 1999
  Asistente Ejecutivo
  Gerente General Ocean Export – Nine West
  Novo Hamburgo (Brasil)

- 1994 – 1995
  Programadora Área Exportación
  Ocean Export – Nine West
  Novo Hamburgo (Brasil)

- 1993 – 1994
  Asistente de Contabilidad
  Ocean Export – Nine West
  Novo Hamburgo (Brasil)
AYUDANTÍAS

- Verano 2005
  Cátedra: Econometría I
  Profesor(a): Javiera Vásquez
  Universidad de Chile

- Primavera 2004
  Cátedra: Econometría I
  Profesor(a): Javiera Vásquez, Andrés Otero y José Miguel Benavente
  Universidad de Chile

- Otoño 2004
  Cátedra: Econometría I
  Profesor(a): Patricia Toledo
  Universidad de Chile

- Primavera 2003
  Cátedra: Macroeconomía
  Profesor(a): Carlos Pereira
  Universidad de Chile

- Primavera 2003
  Cátedra: Econometría I
  Profesor(a): Patricia Toledo y José Miguel Benavente
  Universidad de Chile

- Otoño y Primavera 2003
  Cátedra: Introducción a la Microeconomía
  Profesor(a): Maria Paola Sevilla
  Universidad de Chile

OTROS CONOCIMIENTOS

- Idiomas:
  Portugués, Español e Inglés

- Manejo avanzado de Internet y Microsoft Office (Word, Excel, PowerPoint)

- Manejo de programas computacionales estadísticos (Stata, E-views y SPSS)

- Manejo de otros programas computacionales (Gauss, Matlab, Latex)