Estimating the Impact of Economic Insecurity on Expectations in Chile and Mexico: a Multinomial Logit Approach

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Abstract

The paper aims to identify which population groups are most prone to economic insecurity in Chile and Mexico and how they are affected by changes in economic insecurity variables. For this purpose we use panel data from household surveys and apply multinomial logit to analyze the effect changes on wellbeing, health, wealth, age, employment status, education and gender have on expectations. The estimations show that changes on current wellbeing have the most significant effects on expectations, followed by changes on age and then health. We are able to identify the impact on expectations of most of the variables associated to economic insecurity and the overall direction and strength of our findings are consistent with the theory. Our findings also show that the individual's standing in the labour market; his age and education all also contribute in shaping the strength and direction of household expectations. The parameters obtained from the econometric estimations allow us to identify expectations over a wide range of combinations of economic insecurity variables, that range from categories where 94% of the households in that category expect to improve in the future, to others where no more than 11% feel that they will improve.

JEL Subject Codes:

Key words: economic insecurity, multinomial logit, econometrics.

I. Introduction

Most countries have recently observed an increase in variability in both household incomes and wealth, due to recessions, economic slowdown, unemployment, foreclosures, fall in real estate prices or at times even complete write-off in the values of financial assets and pension funds. As a result of this the study of economic insecurity is currently drawing an increasing amount of attention.

Although the literature does not entirely agree on how to measure economic insecurity, the most commonly used definitions involves subjective perceptions on how individuals regard the development of their personal financial situation. Economic insecurity is defined by Osberg (1998) as "the anxiety produced by a lack of economic safety – i.e. by an inability to obtain protection against subjectively significant potential economic losses". Bossert and D'Ambrosio (2009) define it as "the anxiety produced by the exposure to adverse events and the inability to recover from them" and Jacobs (2007), defines it as "the intersection between "perceived" and "actual" downside risk".

Because this individual perception is linked both to past events and to the uncertainty they feel about the future, it could be considered as part of an indicator of the welfare of society. It is in this sense that Osberg and Sharpe (2002) argue that a "better Index of Economic Well-Being should consider: effective current per capita consumption flows, net societal accumulation of stocks of productive resources, income distribution, and Economic Security."

Its study in economics then essentially considers the effect of certain very relevant variables over economic well-being, and the effect of wellbeing over expectations.
Regarding this relationship between economic insecurity and expectations, Dominitz and Manski (1996) find that respondents with a high risk of one adverse outcome tend also to perceive high risks of having other negative outcomes. In their study Economic Insecurity tends to decline with age and with schooling and that minorities respondents perceive much greater insecurity than do whites, especially among males. They also find that expectations and the realizations of health insurance coverage and of job loss tend to match up quite closely.

In Latin America Economic Insecurity has received little attention from economists. Rodrik (1999) finds Economic Insecurity in Latin America is multifaceted and feeds from many sources. Some of the Insecurity arises from the observed decline in employment protection and the increased volatility of outcomes faced by households. Some of it is the result of erratic capital flows and the systemic instability observed at the time. Finally an important component is associated to the weakness of the institutions of voice and representation.

The main objective of this paper is to estimate the effect of economic insecurity over expectations. For this purpose we use micro-data from representative household panel surveys, to capture the effects changes in economic insecurity variables, specifically welfare, health, wealth, age, employment status, education and gender have on expectations. We employ multinomial logit since the technique is especially well suited for such research and estimate the equations for two intermediately developed Latin American countries, Chile and Mexico. We are also careful to match the procedures, variables and estimation techniques for both countries so that results can be comparable.

Results confirm the relevance of the variables associated to economic insecurity on the formation of expectations. We are also able to rank these variables in order of importance considering the construction of personal expectations, and explore further into these variables by characterizing specific features that are judged relevant.

The paper is structured as follows: Section 2 examines the data and describes the variables, Section 3 presents a set of descriptive statistics that characterize the populations in the data bases for both Chile and Mexico, Section 4 contains the econometric results and a detailed analysis of their significance for every variable, while finally Section 5 presents the conclusions.

II. Data Sources

This study uses Chilean and Mexican data. The Chilean data comes from the National Socio-Economic Characterization Survey panel (CASEN Panel), implemented in three waves; 1996, 2001 and 2006. The survey is fully representative for geographical areas covering around 60% of all households in the country, and is also roughly representative at the national level. This study is primarily based on data from the 2006 survey, which compromises 3,769 households with 14,558 individuals. The 2001 survey was utilized to obtain information on the past levels of variables.

The survey conveys current and historic information on several social and economic issues including economic expectations, educational level, current and past economic situation, age, gender, labor status, wealth, debt and health among others. The expanded data for 2006 revealed 9,590,087 individuals and 2,377,678 households. The data set has some limitation primarily due to the fact that the labor history sub-base has not been released. A second limitation is the large number of respondents that answered the questionnaire only partially, and omitted the questions on expectations. This implies that a considerable number of questions we rely on to acquire needed data remain unanswered, forcing a reduction in the sample size to 1,759 observations, which expand to 1,025,812 households.

The Mexican Family Life Survey (MXFLS) is a panel survey representative at the national level that has had two waves, one in 2002 and a second in 2005. The survey conveys current and past information on several social and economic variables including expectations on welfare (wellbeing), educational level, current and past welfare (wellbeing) situation, age, gender, labor status, wealth, debt, health and other variables. The data set also has some important limitations primarily due to the fact that some of the questions, such as those about wealth, go unanswered by most respondents and are rendered useless. The MXFLS -2005 is hard to exploit as the expansion factors have not been released, and because some of the MXFLS -2002 questions were not asked again in 2005, including the 2002 question on welfare. Due to this the MXFLS -2002 data was used which includes consistent questions that cover the household's past. The expanded data revealed 24,153,549 households and 101,344,436 individuals, from a representative sample that averaged 8,388 households and 36,628 individuals. As was the case for Chile, there are a number of answers that were omitted by respondents, so the final sample size is reduced to 6,790 observations that represent 21,148,879 households for the 2002 wave, of these, 10.2 million of the household heads declare incomes equal to zero or did not declare income; almost all of these classify themselves as house-wives or as retired, and much fewer as unemployed.[1]

Please note that the Chilean survey asks how well the household head is currently doing economically, and how he expects the future economic wise, while the Mexican survey asks how well his life is, and how well he expects it to be in the future, which we have denominated how well his welfare (wellbeing) is.

[1] As a precaution, given the very large number of zeros, the Mexican multinomial logits were always estimated twice, once including all the zero income households and another excluding them. The parameters and probabilities were always very similar, so we normally kept the estimations derived from the larger sample.

III. Descriptive Statistics

III.1 Descriptive Statistics, Chilean Data.

In the following paragraphs we outline the Chilean data in order to allow the reader to judge the relative size and characteristics of the households.

Households on average earned US$ 527 in 2006 and US$ 392 in 2001[2], while the average home, net of mortgage, was worth US$ 30,400 in 2006 and US$ 28,800 in 2001. Financial assets averaged US$ 506 per household in 2006, while non-mortgage debt averaged US$ 1,012 per household in 2006, as can be seen below in table III.1.1

Table III.1.1
Income, Wealth and Assets by Category of Expectations

Expectations	Income 2006	Income 2001	Wealth 2006	Wealth 2001	Financial Assets	Financial Debts
Improve	638	428	25.400	24.200	615	990
Mantain	447	350	34.600	31.200	465	1.106
Worse	481	427	30.600	34.200	344	768
Total	527	392	30.400	28.800	506	1.012

The total number of households included in the econometric analysis is 1,025,812, of which 21% feel that they are currently better off than before, 54% believe they are now as they were before, and 25% feel that they are worst off than before (see table III.1.2). These same heads of household are confident about the future: 39% expect their economic situation to improve, 47% expect it to remain unchanged and only 14% expect it to fall, as shown in table III.1.3.

Table III.1.2
Distribution of Households by Current Situation

	Economic Situation			
	Improved	Mantained	Worsened	Total
%	21%	54%	26%	100%

Table III.1.3
Distribution of Households by Current Situation and Category of Expectations

Expectations	Current Situation			
	Improved	Mantained	Worsened	Total
Improve	68.2%	28.9%	37.2%	39.2%
Mantain	26.3%	62.7%	29.1%	46.5%
Worse	5.5%	8.5%	33.8%	14.3%
Total	100%	100%	100%	100%

Please observe that out of the 21% of the households that mentioned they had seen improvement, 68.2% declared they expected to still do better in the future, and only

[2] All numbers in real US$ Dollars of 2006

5.5% believed they would do worse. Out of the 25% currently feeling worst-off, 33.8% believe they will again go down, while 37.2% expect things to get better, showing how highly correlated current conditions are to expectations.

The self-employed add up to 17.0% of the households. They are more optimistic than the other categories, and 47% believe that they will fare better in the future. Their optimism is higher than that of employees, who comprise 48% of total households, and only 44% of whom are positive about their future. Still, only 10% of the employees are pessimistic about the future, which compares with 22% of the self-employed. Finally, the unemployed (accounting for 2.5% of all households[3]) are less confident than the other categories, with 33%, of them optimistic and 13% pessimistic about their future, as is presented in table III.1.4.

Table III.1.4
Distribution of Households by Employment Status and Category of Expectations

Expectations	Employment Status				
	Employee	Self-Employed	Unemployed	Others	Total
Improve	44.0%	46.7%	33.5%	28.1%	39.2%
Mantain	46.3%	31.1%	53.1%	54.8%	46.5%
Worse	9.7%	22.2%	13.4%	17.1%	14.3%
Total	100%	100%	100%	100%	100%

Finally, table III.1.5 contains information on education. Of those that went to college, only 11.2% expect things to get worse and 43.9% expect to improve, compared to 15.4% and 34.9% of those that did not attend high school.

Table III.1.5
Distribution of Households by Education and Category of Expectations

Expectations	Education Level			
	Elementary	Secondary	College	Total
Improve	34.9%	42.3%	43.9%	39.2%
Mantain	49.7%	43.4%	45.0%	46.5%
Worse	15.4%	14.3%	11.2%	14.3%
Total	100%	100%	100%	100%

III.2 Descriptive Statistics, Mexican Data.

It is important to consider that out of the 21,143,879 households that result from expanding the data, only 10.9 million declared incomes greater than 0. On average, these 10.9 million households with positive income earned US$ 464 in 2002[4]. Within this set, those who expect to improve their lives in the following 12 months on average earn US$ 522, while those who think it will worsen average substantially less, a current income of US$ 348 as presented in table III.2.1.

[3] This is 2.5% over all households in the survey, not a ratio over work force.
[4] In real US$ Dollars of 2002

Table III.2.1
Income by Category of Expectations

Expectations	Households (#)	Income 2002 (USD)
Improve	6,156,721	522
Mantain	4,175,962	396
Worse	614,439	348
Total	10,947,122	464

Tables III.2.2-2.5 describe data that encompasses the 21.1 million of households, where 29% feel that they are currently better off than before, 59% feel they are now as before, and 12% feel that they are worse off than before (see table III.2.2). Data on what they expect for their future is presented in Table III.2.3, where 48.9% expect their lives to improve, 44.3% believe their lives will not change and only 6.7% believe that their lives are going for worse.

Most declare that they have maintained their overall wellbeing over the past year (58.9%), while 48.9% say they expect it to improve in the future and 44.3% expect it to remain unchanged.

Table III.2.2
Distribution of Households by Current Situation

	Economic Situation			
	Improved	Mantained	Worsened	Total
%	29%	59%	12%	100%

Table III.2.3
Distribution of Households by Current Situation and Category of Expectations

Expectations	Current Situation			
	Improved	Mantained	Worsened	Total
Improve	83.6%	33.8%	38.2%	48.9%
Mantain	14.3%	61.8%	31.6%	44.3%
Worse	2.0%	4.4%	30.2%	6.7%
Total	100%	100%	100%	100%

Within the 29% that declare that their lives have improved, 83.6% think the future will be even better while only 2% expect it to worsen. While at the other end, within the 12% that say that it has worsened, 30% believe it will get to be even worse while 38% say it will improve. As in Chile, there is a high correlation between current conditions and expectations.

Again, as in Chile, employees are less pessimistic about their future compared to other categories, and yet, unlike the Chilean case, employees are also more optimistic about their future: 57.8% of them believe that their future will improve, while 46.4% of the self-employed believe the same. Both are significantly more optimistic than the unemployed, of whom only 40.1% believe their situation will improve, as shown in table III.2.4.

Table III.2.4
Distribution of Households by Employment Status and Category of Expectations

Expectations	Employment Status				
	Employee	Self-employed	Unemployed	Others	Total
Improve	57.8%	46.4%	40.1%	34.1%	48.9%
Mantain	37.8%	46.1%	52.5%	55.3%	44.3%
Worse	4.4%	7.5%	7.3%	10.6%	6.7%
Total	100%	100%	100%	100%	100%

Table III.2.5 presents data ordered by educational levels. In relative terms, the ones who only attended elementary school are also the ones who have the worst expectations about their future: 9.3% think it will worsen and 38.0% believe it will improve, while on the other hand, 69.1% of those who reached the highest level of education consider that their future will be better and only 2.6% of them believe it will be worse.

Table III.2.5
Distribution of Households by Education and Category of Expectations

Expectations	Education level			
	Elementary	Secondary	College	Total
Improve	38.0%	64.3%	69.1%	48.9%
Mantain	52.7%	33.0%	28.3%	44.3%
Worse	9.3%	2.8%	2.6%	6.7%
Total	100%	100%	100%	100%

IV. Econometric Results and Analysis

We run independent estimations for Mexico and for Chile, employing a conventional Multinomial Logit specification of the kind

Equation 1.1

$$P(Y_i = j) = \frac{e^{\beta_j' x_i}}{1 + \sum_{k=1}^{3} e^{\beta_k' x_i}} \qquad j = 1, 2, 3$$

The variables included in the Multinomial Logit are those that are believed to influence expectations on household welfare (wellbeing), with a particular emphasis on those associated to economic insecurity. In Chile the respondent is asked to scrutinize over a three-year horizon, while in Mexico it is across the next twelve months.

In the case of Mexico, the variable on the left corresponds to personal expectations on the welfare (wellbeing) of the head of household, while for Chile it corresponds to his personal economic expectations. In both cases expectations have been classified into three categories defined as one of three: *Worse than present*, *Maintains as present* or *Better than present*.

The dependent variable is defined as Y_i=0, if the i^{th} household head declares that his situation will improve; Y_i=1 if the household head declares his situation will stay the same; and Y_i=2 if the household head declares that his situation will get worse. The explanatory variable vector x_i is made up of the following variables:

1. Current Situation
   a. Mexico. Current Welfare (wellbeing) Situation[5]: Improved=1 if the individual's welfare condition has improved and 0 otherwise; Maintained=1 if the individual has maintained his welfare condition just as well (or just as bad), and 0 otherwise, Worsened=1 if the individual's welfare condition has worsened, and 0 otherwise.
   b. Chile. Current Economic Situation[6]: Improved=1 if the head's economic condition has improved and 0 otherwise; Maintained=1 if the household head has maintained his economic conditions just as well (or just as bad), and 0 otherwise, Worsened=1 if the household head has worsened his economic condition, and 0 otherwise.
2. Gender: Equals 1 if the head is a woman and 0 if man.[7]
3. Age: Middle Age=1 if the household head is between 31 and 65 years old; Elderly=1 if the household head is older than 65; and 0 otherwise.
4. Education: Elementary=1 if the individual did not attend high school and 0 otherwise, Secondary=1 if the individual attended high school and 0 otherwise; College=1 if the individual attended one or more years of college, and 0 otherwise.

[5] This variable is the answer to the question on whether *personal welfare (wellbeing)* in the past 12 months, has: improved, maintained or worsened.
[6] This variable is obtained from the question on whether personal economic condition in the past 5 years, has; improved, maintained or worsened.
[7] The Gender variable, though statistically significant, did not provide clues to behavior, so we have omitted its analysis, though kept in the regressions.

5. Health: Good=1 if the individual health self-perception is good and 0 otherwise, Regular=1 if the individual health self-perception is regular and 0 otherwise; Bad=1 if the individual health self-perception is bad and 0 otherwise.
6. Employment Status: Employee=1 if the household head is in employment and 0 otherwise; Self-Employed=1 if the household head is self-employed and 0 otherwise; Unemployed=1 if the household head is unemployed and 0 otherwise, Others=1 if the household head belongs to any other group and 0 otherwise[8].
7. House Condition: WH=1 if the family does not have a house and 0 otherwise; HFP=1 if the house is fully paid and 0 otherwise; HPM=1 if the family is paying a mortgage and 0 otherwise (only Chile).
8. Financial Assets. Financial Assets divided by net monthly incomes less net financial debt divided by total incomes (only Chile).
9. Wealth Change: The value of the house in 2006 minus the value of the house in 2001 divided by head's monthly income, all numbers in constant pesos (only Chile).

[8] Category Others includes the following groups: employers, armed forces, non-paid relatives, retired.

IV.1 Econometric results.

Table VI.1 provides the results for the Multinomial Logit estimations. All p-values except one, for Education-Chile, are at the 1% level and all the signs are as expected. The following paragraphs analyze the probabilities assigned to the most relevant events that resulted from the estimations.

Table IV.1

Multinomial Logit Estimates of Determinants of Expectations

Chile			**Mexico**		
Dependent Variable: Expectations					
	Improve	Mantain		Improve	Mantain
Gender			**Gender**		
Female	0,039	-0,226	Female	0,035	0,046
	(0.00)	(0.00)		(0.00)	(0.00)
Health			**Health**		
Regular	0,039	-0,226	Regular	-0,212	-0,231
	(0.00)	(0.00)		(0.00)	(0.00)
Bad	-0,749	-0,269	Bad	-0,821	-0,637
	(0.00)	(0.00)		(0.00)	(0.00)
Age			**Age**		
31-65	-2,076	-1,572	31-65	-1,228	-0,773
	(0.00)	(0.00)		(0.00)	(0.00)
66 and +	-2,972	-1,670	66 and +	-2,452	-1,138
	(0.00)	(0.00)		(0.00)	(0.00)
Education			**Education**		
Secondary	0,010	-0,062	Secondary	1,070	0,528
	(0,20)	(0.00)		(0.00)	(0.00)
College	0,250	-0,040	College	1,286	0,458
	(0.00)	(0.00)		(0.00)	(0.00)
Employment Status			**Employment Status**		
Self-employed	-0,609	-0,925	Self-employed	-0,122	0,003
	(0.00)	(0.00)		(0.00)	(0.00)
Unemployed	-0,147	0,129	Unemployed	0,320	0,612
	(0.00)	(0.00)		(0.00)	(0.00)
Other	-0,107	-0,154	Other	-0,107	0,237
	(0.00)	(0.00)		(0.00)	(0.00)
Current Econ. Sit			**Current Welfare situation**		
Mantained	-1,169	0,346	Mantained	-1,432	0,805
	(0.00)	(0.00)		(0.00)	(0.00)
Worsened	-2,080	-1,685	Worsened	-2,949	-1,671
	(0.00)	(0.00)		(0.00)	(0.00)
Net Financial Assets	0,006	0,019	**Cons**	4,638	2,635
	(0.00)	(0.00)		(0.00)	(0.00)
Current Econ. Sit*House	-0,199	0,023			
	(0.00)	(0.00)			
Wealth Change	0,005	0,003			
	(0.00)	(0.00)			
Cons	5,096	3,552			
	(0.00)	(0.00)			

Base Category: Worse

IV.1.1 Current Fluctuations on Welfare

The economic insecurity variable that has the largest impact upon economic expectations is the change in Welfare, measured as fluctuations in economic conditions in Chile and as perception of change in welfare (wellbeing) in Mexican households. Chilean household heads that declare they have undergone a negative change that has made their current condition worse than in the past (25.5% of the households), are very negative about the future: 32% believe they will perform even worse in the future, while only 38% believe they will do better. For Mexican heads that have undergone a negative change (11.8% of the households), 24% expect to be worse-off in the future, while 46% believe they will do better.

Of those Chilean households that said they had improved (20.8% of the household heads) only 6% believe they will be worse-off in the future, while a very large fraction, 66%, expects to again improve. For Mexican households that improved (29.3% of the households), a tiny 3% expect to be worse-off, while 80%, believe they will again improve. Though comparable, Chilean households are both more pessimistic and less optimistic than their Mexican counterparts. An examination of the households that feel they are now just as they were before (see Table IV.1.1 below), again reveals that Mexicans are more positive about the future. Table IV.1.1 presents the probabilities associated to household expectations according to whether their current conditions where improving, maintaining or worsening and shows what the descriptive data had already hinted: current and past Welfare shocks are major determinants of expectations.

Table IV.1.1
Current Situation and Expected Probabilities

Current Situation	Expectations in Chile			Expectations in México		
	Improve	Mantain	Worse	Improve	Mantain	Worse
Improved	66.0%	28.3%	5.7%	79.7%	17.3%	2.9%
Mantained	30.2%	61.1%	8.7%	35.3%	60.5%	4.1%
Worsened	37.6%	30.9%	31.5%	45.9%	30.1%	24.0%

It is interesting to observe that the current situation of households is very much determined by income levels, but the expected condition is much less so. Tables IV.1.2 and IV.1.3 below, present information on current and expected conditions of household heads organized by income quintiles. Observe that in Chile 15.8% of the households in Quintile V feel their current condition has worsened versus 32.7% of the households in Quintile I, a substantial difference of 21.9% percent. But, only 11.3% of the households in Quintile V and 15.8%, of those in quintile I expect the situation to worsen, a difference of only 4.5%. In Mexico 8.6% of the richer households are currently worse-off compared to 14.3% of the poorer ones, but 5.7% of those in Quintile V and 6.3% of those in Quintile I expect to be worst-off, almost identical fractions. At the other extreme, 33.1% of the richer in Chile have improved compared to 12.8% of the poorer, a difference that sets them 18.3% points apart. Yet, 43.2% of the richer expect to improve and 37.2% of the poorer expect the same, a difference of only 6%. As for México, 45.4% of the richer have improved, against 23.0% of the poorer, a difference of 21.6%, while 56.4% of the richer expect to improve versus 47.0% of the poorer, a difference of 9.4%.

Table IV.1.2
Distribution of Households by Current Situation and Income Quintiles

Country	Current Situation	Quintiles						
		No income	I	II	III	IV	V	Total
Chile	Improved		12.8%	15.7%	17.8%	25.5%	33.1%	20.8%
	Mantained		54.5%	55.7%	56.5%	50.1%	51.2%	53.7%
	Worsened		32.7%	28.6%	25.8%	24.4%	15.8%	25.5%
	Total		100%	100%	100%	100%	100%	100%
Mexico	Improved	24.4%	23.0%	27.9%	34.2%	40.0%	45.4%	29.3%
	Mantained	62.1%	62.7%	61.7%	56.5%	51.8%	46.0%	58.9%
	Worsened	13.5%	14.3%	10.5%	9.4%	8.1%	8.6%	11.8%
	Total	100%	100%	100%	100%	100%	100%	100%

No income are HH that omit income question. They are 48% of HH not considered in Quintiles.
In Chile only 2.8% of HH omit income, and are included in the poorest quintile.

Table IV.1.3
Quintiles and Expectations Weighted Probabilities

Quintiles	Expectations in Chile			Expectations in Mexico		
	Improve	Mantain	Worse	Improve	Mantain	Worse
No Income				47.6%	45.9%	6.5%
I	37.2%	47.0%	15.8%	47.0%	46.3%	6.7%
II	38.0%	47.3%	14.8%	48.8%	45.3%	5.9%
III	38.5%	47.5%	14.1%	51.5%	42.9%	5.6%
IV	41.2%	45.3%	13.5%	54.0%	40.8%	5.3%
V	43.2%	45.4%	11.3%	56.4%	38.3%	5.3%

IV.2 Age

The second most important variable that determines expectations is the age of the household head. We have divided household heads into three groups according to their age; between 18 and 30, between 31 and 65 and over 65. As shown in table IV.2.1 below, households head who are older than 65 are by far more pessimistic about their future: only 27% of the older Chileans believe they will do better, and 18% believe they will do worse, while in Mexico the probabilities are 33.2% and 10.8%. This compares with corresponding probabilities for the youngest that respectively are 58% and 3% for Chile and 60.1% and 2.6% in Mexico. Younger households are much more positive about the future, while older households place the larger share of their probabilities on their hope of preserving their current situation into the future.

Table IV.2.1
Age and Expected Probabilities

Age	Expectations in Chile			Expectations in Mexico		
	Improve	Mantain	Worse	Improve	Mantain	Worse
18-30	58.4%	38.9%	2.7%	60.1%	37.4%	2.6%
31-65	42.7%	44.1%	13.2%	49.7%	44.1%	6.2%
65 and +	26.6%	55.1%	18.3%	33.2%	56.1%	10.8%

IV.3 Health

The health of the household head is also a major determinant of expectations. In Chile, 19.5% of heads that presently have poor health expect their situation to worsen and only 27.8% believe it will improve, and the corresponding numbers in Mexico are 9.9% and 44.4%. For those that are in good health, these numbers are 13.0% and 38.6% (Chile) and 5.6% and 49.4% (Mexico). The health variable is not as important as changes in welfare or age, but it still is very significant. Mexican households respond less than their Chileans counterparts to changes in health, and are more confident about the future, as can be seen in Table IV.3.1 below.

Table IV.3.1
Health perception and Expected Probabilities

Health	Expectations in Chile			Expectations in Mexico		
	Improve	Mantain	Worse	Improve	Mantain	Worse
Good	38.6%	48.4%	13.0%	49.4%	45.0%	5.6%
Average	42.8%	42.7%	14.6%	49.2%	44.0%	6.7%
Bad	27.8%	52.7%	19.5%	44.4%	45.7%	9.9%

IV.4 Education

To measure the effect of education on expectations, household heads were divided into three segments. The first group contains those that completed eighth grade or less (45% of household heads in Chile and 60.7% in Mexico); the second group includes those that continued into high school, but never started college (40% of the Chilean heads and 26.0% of the Mexicans); and the third group is made up of those that completed one or more years of college (15% of the Chilean heads and 13.3% of the Mexicans).

Though in both countries education has a very positive effect on expectations, it is in Mexico where education (see table IV.4.1 below) has the largest impact: fully 61.0% of the Mexican households that went to college and 55.6% of those that went to high school are optimistic, while only 43.9% of those that have 6 years or less of education feel that they will improve in the future. In Chile the probabilities spread less, the respective number being 43%, 39% and 38%, and there is no significant difference between the low and medium educated household heads. It is also noteworthy that negative expectations fluctuate little across educational groups, implying education basically helps households on how hopeful they are about their future, but not in insuring against negative shocks.

Table IV.4.1
Education level and Expected Probabilities

Education	Expectations in Chile			Expectations in Mexico		
	Improve	Mantain	Worse	Improve	Mantain	Worse
Low	38.0%	47.5%	14.5%	43.9%	48.2%	7.9%
Medium	39.1%	46.4%	14.5%	55.6%	40.3%	4.2%
High	42.6%	44.2%	13.3%	61.0%	35.1%	3.9%

IV.5 Employment Status

To determine the importance of the employment status, households have been divided into four groups: employees, self-employed, unemployed and other[9]. The information on employment status is less straightforward to interpret than the other probabilities estimated in this paper, both because the data fluctuates little from one employment status to another, and because some of the results are unexpected.

With respect to the unemployed, we observe that in Chile they perceive significantly smaller chances of improvement than what employees or self-employed perceive. Yet, in Mexico the difference in the expectations of improvement that the unemployed have vis-à-vis the rest are much smaller. Surprisingly the unemployed feel that their chances of doing worse are almost identical in Chile than that of the employees, while only somewhat larger in Mexico, maybe suggesting that many feel they can not be worse-off than what they now are.

Regarding the self-employed, in Chile they believe their probabilities of doing worse are significantly higher than those of the employees (21.5% versus 11.9%), while in Mexico they are almost identical (7.2% versus 6.9%). In Chile the self-employed feel slightly more optimistic than the employees about improving in the future (41% versus 39%), while in Mexico they only feel slightly less optimistic (48.6% versus 50.9%), maybe because some of them expect to improve by becoming employees, and that balances out some of the negative issues associated to being self-employed.

[9] ***Other*** category includes heads of households that: are retired; are housewives; have no income and are not searching for a job; have no income and did not provide additional information; omitted labour status question in the questionnaire.

Table IV.5.1
Employment Status and Expected Probabilities

Employment status	Expectations in Chile			Expectations in Mexico		
	Improve	Mantain	Worse	Improve	Mantain	Worse
Employed	39.0%	49.0%	11.9%	50.9%	42.2%	6.9%
Self-employed	41.0%	37.5%	21.5%	48.6%	44.3%	7.2%
Unemployed	32.8%	55.4%	11.8%	46.7%	48.7%	4.7%
Other	39.7%	46.7%	13.7%	45.0%	48.5%	6.4%

IV.6 Wealth

Information on the value of houses, savings, financial assets, debt and mortgages is one of the hardest to capture in household surveys, because people may feel the need to hide information on what their assets really are, because the value of these assets is subjective and because respondents may not know how much they owe, either with respect to their mortgages or their consolidated debts. The respondent may refuse to provide information, and when he does, it may be incomplete or wrong. This implies that there are deep disparities with respect to ownership, volumes, and values of assets and liabilities when comparing the values provided in the first wave in a survey with those provided in the second wave some years later.

The information on Mexican household financial assets, savings, debt, mortgages and real estate included in the 2002 survey is very poor and incomplete, and the great majority of the households omitted these questions. Due to this it was not possible to estimate the value of the wealth coefficients for Mexico.

Yet in the case of Chile the 2006 survey captures a considerable amount of information that allows the estimation of parameters for various dimensions of wealth. On average, the most important asset found in a Chilean household is their home, where over 2/3 of households owns the house that they live in. Out of these, 85% declare that they do not owe mortgages. Assets were grouped into 4 categories: (1) the value of the house if it was fully paid; (2) the value of the house less mortgage if mortgage existed; (3) all other debt; and (4) the value of all other assets.

The partial probabilities for these variables are presented in table IV.6.1, and shows the following: First, those households possessing savings or financial investments are less anxious about their future, though the effect is small: households whose net debt (excluding mortgage) corresponds to 10 salaries have a 15.7% probability of expecting a negative economic outcome, while households that have 10 salaries worth of savings and financial assets have 12.8% probability of expecting a negative outcome. Households that owe are more optimistic about doing better, probably because the category of those that owe has an optimistic self-selection process associated to the motivations behind investing or acquiring goods and repaying in the future.

Table IV.6.1

Net Financial Assets and Expectations Probabilities in Chile

Net Financial Assets	Expectations		
	Improve	Mantain	Worse
-10	40.7%	43.6%	15.7%
-5	39.9%	45.2%	15.0%
0	39.0%	46.8%	14.2%
5	38.1%	48.4%	13.5%
10	37.3%	50.0%	12.8%
15	36.3%	51.5%	12.1%

Second, those families that own their home, but are still paying their mortgage, are more anxious about the future: if they are currently doing worse than in the past, then only 14.8% of these households expect their situation to improve while 38% of the households that fully own their houses (have no mortgages) feel they will improve and 46.1% of he households that do not own a home expect improvement. In all the categories presented in table IV.6.2, those who do not own a house are more optimistic, followed by those who own a fully paid house, while those that own a home and are paying their mortgages are always more pessimistic. This numbers probably reflect the tension associated to losing your home once you have it and the probability of advancing in the future by acquiring a home if you don't own one.

Table IV.6.2

Assets and Expectations Probabilities in Chile

Current Situation	Assets	Expectations		
		Improve	Mantain	Worse
Improved	Without House	71.3%	20.5%	8.2%
	Full Paid House	64.7%	30.3%	5.0%
	House with Mortgage	59.1%	37.2%	3.7%
Mantained	Without House	40.7%	52.5%	6.8%
	Full Paid House	24.8%	65.7%	9.5%
	House with Mortgage	26.8%	62.1%	11.1%
Worsened	Without House	46.1%	24.3%	29.6%
	Full Paid House	38.4%	33.2%	28.4%
	House with Mortgage	14.8%	36.1%	49.1%

Finally table IV.6.3 below shows how expectations of positive outcomes are somewhat higher for those who have currently been favoured by increases in net wealth versus those who lost wealth: those whose wealth increased by 50 salaries between 2001 and 2006 feel they have a 42% chance of improving and 12% of worsening, while those whose wealth fell by 50 salaries feel their chances of improving are 37% and that of doing worse are 16%.

Table IV.6.3

Change in Wealth and Expectations Probabilities in Chile

Change in Wealth	Expectations		
	Improve	Mantain	Worse
-50	36.8%	47.1%	16.1%
0	39.3%	46.7%	14.0%
50	41.8%	46.1%	12.1%

IV.7 Further Analysis

The estimated Multinomial logit presented in table IV.1 can be used to calculate the marginal probabilities for any combination of variables. For example, an extremely pessimistic household head would be one that: has currently undergone a negative shock, is over 65, has serious health problems, has no high school education and works as self-employed. In this case if he were Chilean, he would expect a probability of 11.4% of doing better and a 41.9% chance of doing worse-off, and if he were Mexican the corresponding probabilities are 13.5% and 47.3%. On the other side of the spectrum, a household head who has currently undergone a positive shock, is young, healthy, went to college and works as an employee and was Chilean, has 83% chance of expecting to improve and a 0.5% chance of expecting to be worse-off, and the corresponding probabilities for a Mexican are 94.2% and 0.2%.

The table below summarizes the probabilities associated to each extreme case and adds an example that falls in between.

Table IV.7.1

Type Household and Expected Probabilities: Chile

Type of Household					Expectations		
					Chile		
Current Situation	Age	Education	Employment Status	Health	Improve	Mantain	Worse
Improved	18-30	High	Employee	Good	83.0%	16.6%	0.5%
Worsened	31-65	Low	Employee	Good	41.6%	35.3%	23.1%
Worsened	66 and +	Low	Unemployed	Bad	11.4%	46.7%	41.9%

Type Household and Expected Probabilities: Mexico

Type of Household					Expectations		
					Mexico		
Current Situation	Age	Education	Employment Status	Health	Improve	Mantain	Worse
Improved	18-30	High	Employee	Good	94.2%	5.6%	0.2%
Worsened	31-65	Low	Employee	Good	41.8%	32.0%	26.2%
Worsened	66 and mo	Low	Unemployed	Bad	13.5%	39.2%	47.3%

Similar to the examples provided above, the appendix presents a list of probabilities associated to different combinations of variables and characteristics for both Chile and Mexico.

V. Conclusions

This paper uses Multinomial logit applied to panel micro-data surveys from Chile and Mexico to analyse the impact that different variables, but particularly those associated to economic insecurity, have on expectations. Expectations are divided in three: that the situation will improve, will remain unchanged or will worsen. Our foremost result is to confirm the relevance and significance of the variables associated to economic insecurity in determining household welfare (wellbeing) expectations. We are also able to rank them by their importance in building expectations: for both countries the variable that affects expectation the most is the measure of how well households are currently doing compared to the recent past. Next in importance comes the age of the head of household, then his health, followed by educational levels, employment status and at the end, wealth.

The results show that the following characteristics all imply that a household head will have a larger probability of feeling that in the future he will improve with respect to his current status:

1-that he is currently doing well,
2-that he is young,
3-that he is healthy,
4-that he is educated,
5-that he is an employee,
6-that he has increased his wealth.

Thus, only 11.4% of Chilean and 13.5% of Mexican household heads who have currently undergone a negative shock, are over 65, have serious health problems, have no high school education and works as self-employed expect to do better. Correspondingly, these Chileans have a 41.9% chance of expecting to do worse-off, and Mexicans a 47.3%. On the other side of the spectrum, a Chilean household head who has currently undergone a positive shock, is young, healthy, went to college and works as an employee, has an 83% chance of expecting to improve and a 0.5% chance of expecting to be worse-off, and the corresponding probabilities for Mexicans are 94.2% and 0.2%.

Data on wealth was only available in Chile, and estimations show that savings and assets are relevant in reducing the odds that households build negative expectations, rather than helping in constructing positive expectations. The pessimistic nature of those households who own their home, yet still owe their mortgages is especially noticeable when dealing with negative shocks.

When comparing all the different outcomes analysed throughout the paper, one important conclusion that emerges is that those who are currently doing well have by far the highest expectations: If someone is doing well, he feels he can do even better. This is somewhat surprising, as one may presume that those who are currently doing well would expect to remain doing well, yet they strongly expect to do even better.

Another relevant finding is that the current situation of households is very much determined by income levels, but the expected condition is not. Poorer households are substantially worst-off in how they classify their current situation vis-à-vis the richer

ones, yet the expectations of both groups about how well or bad they will fare are similar.

The similarities in the parameters estimated for Chile and Mexico was another encouraging finding, providing evidence of congruence in the effects of economic insecurity on expectations in two countries that are fairly similar in terms of income per capita and culture. Research of the nature outlined in this paper helps us understand the costs and benefits households assign to changes in economic insecurity variables, to measure which variables have the strongest effects, and to outline the optimal policies to counter the effect increases in economic insecurity have over household wellbeing.

Appendix. Household Head Characteristics and Corresponding Expected Probabilities

Table A.1

Type Household and Expectations: Chile

Type of Household					Expectations Chile		
Current Situation	**Age**	**Education**	**Employment Status**	**Health**	**Improve**	**Mantain**	**Worse**
Improved	18-30	High	Employee	Good	83.0%	16.6%	0.5%
Improved	18-30	Middle	Unemployed	Bad	64.2%	34.6%	1.2%
Improved	31-65	High	Employee	Good	72.9%	23.8%	3.3%
Improved	31-65	Middle	Unemployed	Bad	49.1%	43.2%	7.7%
Improved	66 and +	High	Employee	Good	55.0%	38.8%	6.2%
Mantained	18-30	High	Employee	Good	48.2%	50.9%	0.9%
Mantained	18-30	Middle	Unemployed	Bad	25.8%	72.6%	1.7%
Mantained	31-65	High	Employee	Good	34.9%	59.6%	5.5%
Mantained	31-65	Middle	Unemployed	Bad	16.4%	74.9%	8.7%
Mantained	66 and +	High	Employee	Good	19.8%	72.6%	7.6%
Mantained	66 and +	Middle	Employee	Bad	11.0%	77.1%	11.9%
Worsened	18-30	High	Employee	Good	67.6%	28.5%	3.9%
Worsened	18-30	Middle	Unemployed	Bad	43.6%	48.1%	8.3%
Worsened	31-65	High	Employee	Good	47.2%	31.3%	21.5%
Worsened	31-65	Low	Employee	Good	41.6%	35.3%	23.1%
Worsened	66 and +	Low	Unemployed	Bad	11.4%	46.7%	41.9%

Type Household and Expectations: Mexico

Type of Household					Expectations Mexico		
Current Situation	**Age**	**Education**	**Employment Status**	**Health**	**Improve**	**Mantain**	**Worse**
Improved	18-30	High	Employee	Good	94.2%	5.6%	0.2%
Improved	18-30	Middle	Unemployed	Bad	88.3%	11.2%	0.5%
Improved	31-65	High	Employee	Good	90.7%	8.4%	0.8%
Improved	31-65	Middle	Unemployed	Bad	82.1%	16.4%	1.5%
Improved	66 and +	High	Employee	Good	80.0%	17.6%	2.5%
Mantained	18-30	High	Employee	Good	63.9%	35.4%	0.7%
Mantained	18-30	Middle	Unemployed	Bad	45.2%	53.7%	1.0%
Mantained	31-65	High	Employee	Good	52.4%	45.6%	2.0%
Mantained	31-65	Middle	Unemployed	Bad	33.9%	63.4%	2.6%
Mantained	66 and +	High	Employee	Good	31.4%	64.6%	4.0%
Mantained	66 and +	Middle	Employee	Bad	21.4%	70.7%	7.8%
Worsened	18-30	High	Employee	Good	79.2%	16.8%	4.0%
Worsened	18-30	Middle	Unemployed	Bad	64.2%	29.2%	6.7%
Worsened	31-65	High	Employee	Good	66.4%	22.2%	11.5%
Worsened	31-65	Low	Employee	Good	41.8%	32.0%	26.2%
Worsened	66 and +	Low	Unemployed	Bad	13.5%	39.2%	47.3%