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Entrepreneur Income and the Surge in Inequality in Chile

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# **Entrepreneur Income and the Surge in Inequality in Chile**

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## **Abstract**

Chilean income distribution deteriorated sharply in the mid-seventies. Between July 1974 and June 1976 the Gini increased from .49 to 0.55. The deterioration was sudden, strong and permanent. This paper shows that a large fraction of the increase in inequality can be attributed to an increase both in the share of income held by entrepreneur families and to the concentration of income within this segment. The share held of income by entrepreneur families increased by 25% after 1976. Measures of income concentration within this segment show a similar rise. The effect of these changes over inequality is particularly strong because these families earn considerably more than the mean income, so small permanent increases in their share implied significant increases in the Gini thereafter.

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# Entrepreneur Income and the Surge in Inequality in Chile

## Introduction

A number of papers have studied and documented the permanent deterioration in income distribution that occurred in Chile in the mid-seventies. Yet few, if any, have determined the mechanisms that undermined the distribution and/or the fundamental changes that set off these mechanisms. The association some researchers provide between the surge in inequality and the enrichment of the top decile of the distribution is too broad to offer useful policy guidelines.

This paper sets to show that, in Chile, the increase both in entrepreneur family income and in income concentration within the entrepreneur sector is to a large extent responsible for the fall in equality.

Chilean income distribution today is very unequal. With an income per capita of US\$ 8900 and a Gini of 0.54 in 2006 (see Table 2), the World Bank Development Indicators (WDI) data set would, on one hand, rank Chile almost in the richest quintile of countries (140th out of 180 countries), but in the other, as the 12th most unequal country in the planet. Chile's inequality is one of the world's most disturbing: a relatively rich country where income distribution behaves as if it was one of the very poorest.

In the 50's, 60's and early 70's, income distribution in Chile was fairly normal or good for Latin American standards (Uthoff 1977). Table 1 presents a 1969 homogenous study of family income in six Latin American capitals where Chile's capital city, Santiago, ranks second lowest Gini.

**Table 1**  
**Chilean Gini v/s Other Latin American Countries**

1969 capital Cities	Gini	2005 <sup>4</sup> Urban population <sup>5</sup>	Gini
Asunción	0.554 <sup>1</sup>	Paraguay	0.504 <sup>3</sup>
Bogota	0.472 <sup>1</sup>	Colombia	0.587 <sup>3</sup>
Caracas	0.429 <sup>1</sup>	Venezuela	0.490 <sup>3</sup>
Lima	0.487 <sup>1</sup>	Perú	0.471 <sup>3</sup>
Quito	0.518 <sup>1</sup>	Ecuador	0.521 <sup>3</sup>
Santiago	0.455 <sup>2</sup>	Chile	0.547 <sup>3</sup>

(1) Source: ECIEL, Urban Household Income and Consumption Patterns in Latin America-A Comparative Analysis of Colombia, Paraguay, Peru and Venezuela; (2) Source: ECIEL, Estudio Conjunto sobre Integración Económica Latinoamericana sobre Presupuestos y Patrones de Consumo, Santiago, Marzo, Abril y Mayo 1969 (3) Source: CEPAL, Anuario estadístico de América Latina y el Caribe, 2006. (4) Except Chile (2003) and Peru (2004). (5) Except Venezuela (national)

There was a permanent increase in inequality in the mid-seventies that changed things for the very worst, as shown in Table 2. The Gini index rises from 0.45 in 1968 to 0.53 in 1976. A homogenous study of urban family income distribution for 2005 for the same countries included in the previous study now ranks Chilean urban areas as the second most unequal in the sample (see Table1). In a continent that is well known for its income distribution problems (Fishlow 1995), Chile ranks very low.

The civilian governments that took office after the end of the Pinochet regime in 1989 have explicitly included inequality in their agenda. Their plans have compounded increased social spending with progressive changes in tax and labor legislation (French-Davis 2003, Velasco 1994). The failure of these policies in achieving more equality in a context of rapid economic growth has been very frustrating. Some relief can be found by adjusting income for in-kind transfers. Engel, Galetovic and Radatz (1999) estimate the 1996 Gini after adjusting for in-kind income transfers as 0.06 points lower. Given that these per capita transfers have increased slightly more (15%) than per capita income in the period 1989-2002 (French-Davis 2003), the "adjusted" Gini might be falling.

**Table 2**  
**Chilean Gini Index and Income**

Chile	Gini	Income per capita 2006 dollars
1964	0.47 (1)	US\$ 3328
1968	0.45 (1)	US\$ 3658
1976	0.53 (2)	US\$ 3118
1987	0.57 (3)	US\$ 3960
1996	0.57 (4)	US\$ 6855
2000	0.58 (4)	US\$ 7416
2003	0.57 (4)	US\$ 7874
2006	0.54 (4)	US\$ 8886

Source: (1) Isabel Heskias, *Distribución Individual y Familiar del Ingreso en Chile 1960-1969*, Estudios de Economía N°2, Dpto de Economía U de Chile. Data for Santiago. (2) Estimated from *EICH*. (3) Estimated from Encuesta Casen 1987. (4) 1992-2006: Official Government Estimates from Encuesta Casen 1992, 1996, 2000, 2003 and 2006.

The explanation behind the increase in inequality and its persistence has evaded researchers. In the United States the increase in inequality observed since the 80's has been closely associated with the rising dispersion in the wage distribution (Autor, Katz and Kearney, 2005). Studies for Chile yield very different results. Beyer and Le Fuolon (2002) conclude that wage inequality has not changed significantly during the period 1970-1999. In fact, they observe small reductions in wage dispersion during that time.

This paper focuses in the proposition that the increase in entrepreneur (family) income and the increase concentration of earnings within the entrepreneur segment are central elements in explaining the surge in inequality that took place in Chile. This paper also shows that the concentration of income in and within the entrepreneur family segment persists until today and is one of the essential aspects that explain why inequality does not recover to the levels observed in the sixties and early seventies.

The paper is organized as follows. Section 1 describes the data set. Section 2 analyzes the path followed by income distribution in Chile in the last 4 decades. Section 3 shows how the concentration of income in the hands of entrepreneurs is a leading element to explain why equality deteriorated in Chile. Finally, section 4 presents the conclusions.

## 1. Data

The data used comes from the *Encuesta de Ingresos de la Universidad de Chile (EICH)*, a household income survey carried out annually in June since 1957 in Santiago, the capital city. A standard *EICH* survey has a sample size of approximately 12.000 individuals, which in turn involves roughly 3000 family units. A family unit is defined as a group linked by kin, marriage or legally, that live in the same house and share the food budget.

The survey has the advantage of been very homogenous throughout the period and both the questionnaire and the methodology have remained comparable throughout time. The ample array of variables included in the survey and the flexibility inherent to micro-data analysis can be used to reorder the information according to requirements. *EICH* provides annual data, a truly fundamental advantage that allows comparisons in time.

The survey has some relevant limitations, most of which arise because it is basically directed at measuring unemployment, not income, implying some imperfections in income data recollection. Disadvantages and limitations include the following: a) on average, 13% of the sample declares zero income or refuses to give information. b) The survey excludes income from capital and imputed rents,

thus it only comprises approximately 75% of total family income<sup>2</sup>. c) In general family surveys are characterized by under-declaration of income, especially from richer families that show a higher tendency to conceal incomes. d) Finally, the sample only covers Santiago, the capital city.

Family units were grouped according to whether the main source of income earned by the family head was that of an entrepreneur or otherwise.<sup>3</sup> All incomplete data was excluded, including those families that declared either zero or failed to declare income. This study uses data from the period 1960-2003.<sup>4</sup>

## 2. The Deterioration of Income Distribution in Chile

This section of the paper focuses in showing that the major initial setback in Chilean income distribution took place between 1975 and 1976.

To characterize and time the shifts in Chilean income distribution it is necessary to use consistent and comparable yearly income distribution estimates that reach as far backwards as possible. The limited number of data points available before 1987 in most income distribution series makes this task difficult.

The only income data source that possesses these characteristics is the annual *Encuesta de Ingresos de la Universidad de Chile (EICH)*. The series has some important limitations (discussed previously), but it starts in the late fifties and has the advantage of being reasonably homogenous throughout the period.

A standard Universidad de Chile survey has a sample size of approximately 12.000 individuals, which in turn involves roughly 3000 family units. The Gini index for family income for every year from 1960 through 2003 is calculated and displayed in Table 3 and figure 1. The data is somewhat noisy, but shows a sudden and large increase in inequality between 1975 and 1976 (the *75/76 shift*).

The *1975/1976 shift* is very abrupt: in June 1974 the Gini is .45, it then increases to .48 (June 1975) and then surges to .53 in June 1976. It dwells around that value until 1982, when it begins an upward drift that reaches .62 in 1987 followed by a downward drift where it falls to .50 by 1993, but only to again increase to .54 by 1995. The series characterizes Chile as a country that suffered a very strong and permanent income distribution shock between 1975 and 1976 that lasts until today.

The data suggests that there are two major and distinct inequality periods separated by an abrupt shift: the first phase lasts until 1974 while the second spans from 1976 onwards (see figure 1). Inequality in the 1960-1974 period, where the Gini averaged 0,48 was fundamentally different to the levels of inequality observed in the years 1976-2003, where the Gini averaged 0.54. The Gini coefficients shifted to 0.53 by 1976 and stayed at similar high values thereafter. The increase in the Gini index does not reverse itself even though income per capita more than doubles between 1986 and 2003.

Measures of inequality in Chile definitively changed for the very worst in the mid-seventies. Heskia (1979) using the *EICH* data set, was the first to present conclusive evidence that income distribution had undergone a negative transformation after 1975. French-Davis (2003) reviews the series of Gini coefficients using the similar data set and concludes that there is a sharp and permanent reversal in income distribution in 1975. Ferreira and Litchfield (1999) and Contreras (2003) conclude that while poverty falls, Chilean inequality remains permanently high and invariable for the period 1987-1996.

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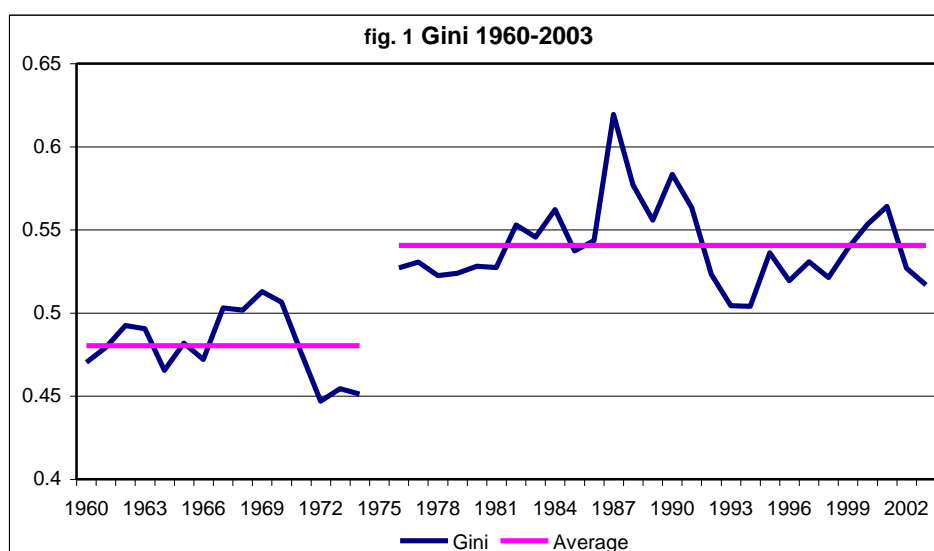
<sup>2</sup> The incomes surveyed in the questionnaire include wages and salaries, payments in kind, self-employment and employer income, retirement and government pensions and other income.

<sup>3</sup> Otherwise includes all others, including those labeled "unclassified".

<sup>4</sup> Years 2004 and 2005 are available, but they present an anomalous reduction and a very anomalous increase both in declared employer income and in the number of employer families that refuse to provide information on their incomes.

Table 3 Gini Index							
Year	Gini	Year	Gini	Year	Gini	Year	Gini
1960	0.47	1971	0.48	1982	0.55	1993	0.50
1961	0.48	1972	0.45	1983	0.55	1994	0.50
1962	0.49	1973	0.46	1984	0.56	1995	0.54
1963	0.49	1974	0.45	1985	0.54	1996	0.52
1964	0.47	1975	0.48	1986	0.54	1997	0.53
1965	0.48	1976	0.53	1987	0.62	1998	0.52
1966	0.47	1977	0.53	1988	0.58	1999	0.54
1967	0.50	1978	0.52	1989	0.56	2000	0.52
1968	0.50	1979	0.52	1990	0.58	2001	0.52
1969	0.51	1980	0.53	1991	0.56	2002	0.53
1970	0.51	1981	0.53	1992	0.52	2003	0.51

Estimated from the *EICH* series using family income.



In the abrupt nature of the change in inequality and its irreversibility lie the clues to identify the elements behind the changes in inequality. A major share of the deterioration must be due to one or more sharp changes that occurred in a very short period (between 1974 and 1976) and these shocks were of a permanent nature.

### 3. The Increase in Entrepreneur Income Share and Concentration

In the United States increased concentration in the wage distribution has been documented extensively as one of the most important driving forces behind the increase in household inequality observed since 1980. As discussed earlier, the evidence in Chilean suggests that wage distribution has not deteriorated substantially. If income has not concentrated into the hands of employees, as was the case of the United States, then it must have concentrated in the hands of others. Marcel and Solimano (1994) using the *EICH* data set conclude that the top quintile were the great beneficiaries of the Pinochet regime while the share held by the middle class declines and suggest a “permanent regressive shift against the middle class in Chile for the (market oriented) reforms”.

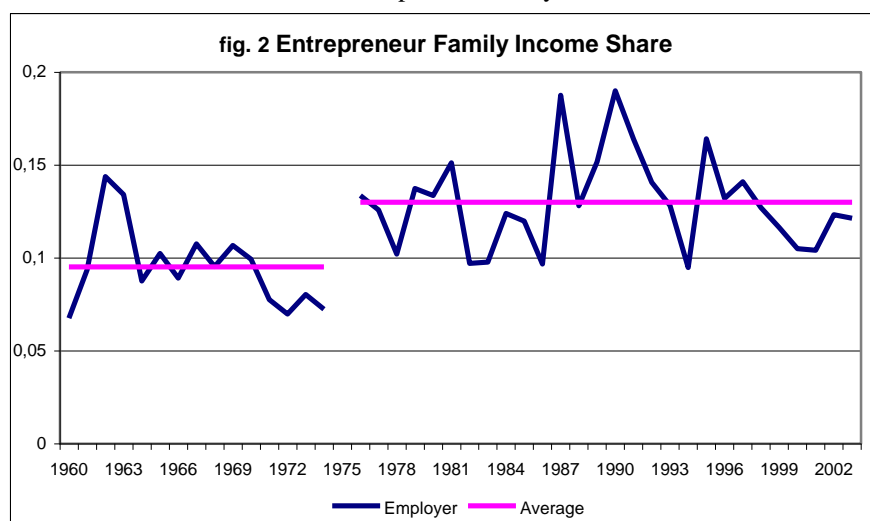
This section focuses in showing that income has indeed concentrated in the hands of a different category of earners, and those are the *entrepreneurs*, referring to those who fully or partially own and run a firm or business that has three or more employees.

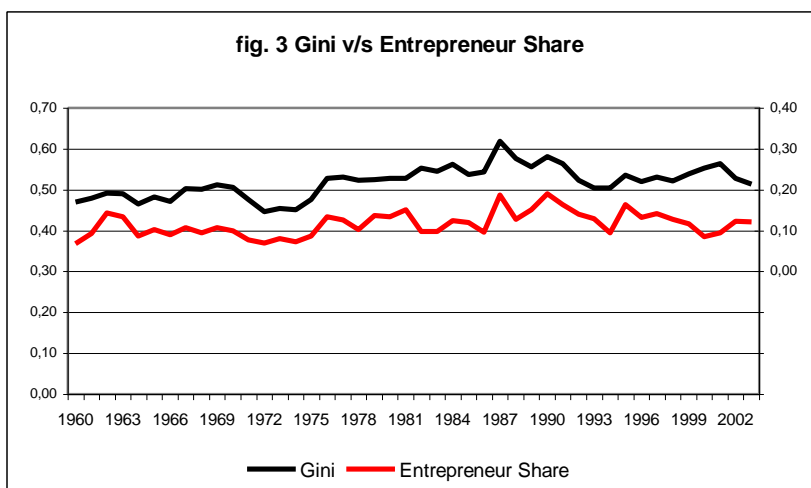
Again, the Universidad de Chile income survey provides the annual data. Family units are grouped according to whether the principal source of income earned by the family head is obtained as *entrepreneur* or *otherwise*. Entrepreneur family income share for the period 1960-2003 is presented in tables 4 and figure 2. The data shows two clearly marked periods, one that goes from 1960-1974 and another that spans from 1976 onwards. During the initial period entrepreneur family share averages 9.5% of total family income, while for the period 1976-2003 it averages 13%. Similarly, the average income for entrepreneur families for the period 1960-1974 is 3.4 times larger than mean income, while the average for the period 1976- 2003 climbs to 4.9 times the mean income. The changes are very sudden: shares and average entrepreneur family income respectively rise from 7.2 % of total income and 2.7 times the mean income in 1974 to 13.4% and 4.4 by 1976.

Year	Entrep. Share	Entr.Y/ MeanY	Year	Entrep. Share	Entr.Y/ MeanY	Year	Entrep. Share	Entr.Y/ MeanY	Year	Entrep. Share	Entr.Y/ MeanY
1960	6.75%	3.10	1971	7.77%	3.00	1982	9.71%	5.80	1993	12.83%	3.80
1961	9.37%	3.20	1972	6.99%	2.50	1983	9.78%	5.70	1994	9.49%	3.80
1962	14.37%	3.40	1973	8.03%	3.10	1984	12.39%	5.90	1995	16.41%	4.60
1963	13.42%	3.90	1974	7.24%	2.70	1985	11.98%	5.00	1996	13.21%	4.10
1964	8.76%	3.40	1975	8.62%	3.70	1986	9.66%	5.20	1997	14.10%	4.00
1965	10.24%	4.20	1976	13.36%	4.40	1987	18.76%	7.00	1998	12.70%	4.20
1966	8.92%	3.50	1977	12.58%	4.80	1988	12.82%	4.40	1999	11.63%	4.60
1967	10.75%	4.00	1978	10.20%	4.00	1989	15.18%	4.60	2000	10.50%	3.80
1968	9.53%	3.80	1979	13.75%	4.80	1990	18.99%	5.70	2001	10.42%	5.80
1969	10.68%	3.80	1980	13.36%	4.30	1991	16.39%	2.00	2002	12.32%	4.30
1970	9.93%	4.00	1981	15.13%	5.80	1992	14.07%	4.10	2003	12.14%	6.10

Estimated from the EICH series using family income

Figure 3 compares entrepreneur family income with the Gini index. Observe how both series appear to move together and how the timing and the abruptness of the change in entrepreneur family share coincides with the increase in inequality that took place in Chile in 1976. Also make a note that both changes were of a permanent nature, with income distribution and entrepreneur family share moving into much higher levels after 1975. The figure suggests that at least part of the increase in Gini was a consequence of the increase in the share of entrepreneur family income.

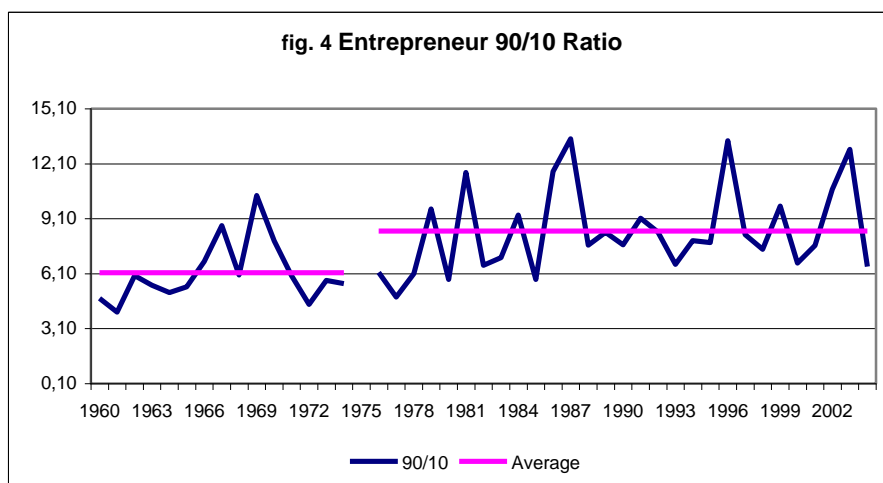




The increase in share was not the only change associated with entrepreneur income. In addition to the changes in share, concentration within the entrepreneur sector surged in the same period. Table 5 and Figures 4 and 5 show the changes in the 90/10 and 90/50 ratio for entrepreneur income. The 90/10 averaged 6.13 from 1960 to 1975 and increased to 8.5 for the period 1976- to 2003<sup>5</sup>. Similarly the 90/50 averaged 2.22 from 1960-1975 and increased to 2.75 in the period 1976-2003<sup>6</sup>. Although these ratios are noisy and swing up and down along these years, after 1975 they present a clear upward trend.

Further information can be obtained from the coefficient of correlation between the Gini and entrepreneur share, between the Gini and mean entrepreneur income, between the Gini and the 90/10 ratio and between the Gini and the 90/50 ratio. These results are presented in table 6, all showing strong links between the variables and the Gini. This further confirms the close relationship between inequality and the increase in both entrepreneur family income and income concentration within this segment.

Between 1975 and 1976 income is distributed to entrepreneur families, probably the richest segment of the population, and simultaneously, entrepreneur family income concentration increases. The increase in shares and the increase in concentration within the entrepreneur segment appear to be very significant factors in determining the increase in inequality observed in Chile since 1975.



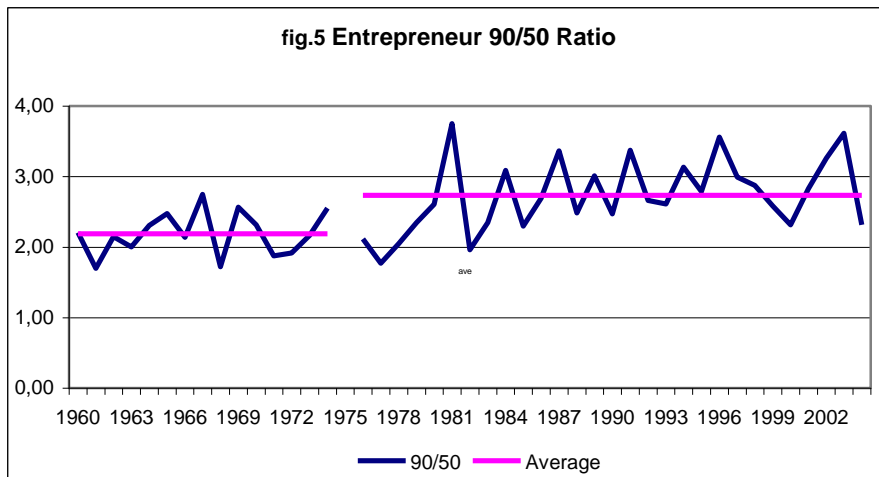
<sup>5</sup> For 1960-1969 and 1970-1975 the averages are 6.40 and 5.50 respectively.

<sup>6</sup> For 1960-1969 and 1970-1975 the averages are 2.27 and 2.09 respectively.



Year	90/10 Entrep.	90/50 Entrep	Year	90/10 Entrep	90/50 Entrep	Year	90/10 Entrep	90/50 Entrep	Year	90/10 Entrep	90/50 Entrep
1960	4.76	2.21	1971	6.00	1.88	1982	6.55	1.96	1993	6.60	2.61
1961	3.99	1.70	1972	4.42	1.91	1983	6.97	2.35	1994	7.90	3.13
1962	6.00	2.15	1973	5.72	2.17	1984	9.30	3.09	1995	7.80	2.79
1963	5.46	2.00	1974	5.56	2.55	1985	5.78	2.30	1996	13.35	3.56
1964	5.07	2.31	1975	3.70	1.73	1986	11.67	2.69	1997	8.23	2.99
1965	5.38	2.47	1976	6.17	2.12	1987	13.46	3.37	1998	7.43	2.88
1966	6.76	2.14	1977	4.81	1.77	1988	7.66	2.48	1999	9.78	2.58
1967	8.72	2.75	1978	6.10	2.05	1989	8.35	3.01	2000	6.67	2.32
1968	6.03	1.72	1979	9.63	2.35	1990	7.67	2.47	2001	7.64	2.83
1969	10.35	2.57	1980	5.79	2.61	1991	9.12	3.37	2002	10.70	3.26
1970	7.88	2.32	1981	11.63	3.75	1992	8.37	2.66	2003	12.88	3.61

Estimated from the EICH series using family income



By matching changes in the Gini with changes in family income shares for different categories of earners part of the obscurity associated to the deterioration of income distribution in Chile can be lifted.

Correlations Coefficients				
	Shares	90/10	90/50	Entrep. Y
Gini	.709	.539	.446	.829

#### 4. Conclusions

Chilean income distribution deteriorated sharply in the mid seventies. Between July 1974 and June 1976 the Gini increased from .49 to .55. The deterioration was sudden, strong and never reversed itself. The Gini increased form an average of 0.48 in the period 1960-1974 to an average of .54 in the period 1976-2003.

This paper shows that a large fraction of the increase in inequality can be attributed to an increase both in the share of income held by entrepreneur families and the concentration of income within this segment. Entrepreneur families are a small number of units (approximately 3% of total families), the richest segment in the society and are associated to firm and business owners.

The share held by entrepreneur families of total family income increased from an average of 9.5% in the period 1960-1974 to 13% in the period 1976-2003. The concentration within this segment also increased. The 90/10 and 90/50 ratio in the entrepreneur family units increased from an average of 6.13 and 2.22 for 1960-1974 to 8.5 and 2.75 for 1976-2003 respectively.

The effect of changes in the share of entrepreneur families over inequality is particularly strong because these families earn considerably more than the mean income (for example, in 2003, entrepreneur families earn 6.2 times the mean family income). This is why relatively small permanent increase in the share of entrepreneur family income that took place between 1974 and 1975 (of 2.5%) implied permanent significant increases in the Gini thereafter. Making the richer richer has profound impact in inequality.

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