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Work Contracts and Earnings Inequality: The Case of Chile

CATALINA AMUEDO-DORANTES

Great social inequality has been one of the worrisome features of economic development in Latin America. This study focuses on Chile, one of Latin America's fastest growing economies with one of the highest levels of income inequality during the 1990s. Using micro-level data from the 1994 and 2000 Encuestas de Caracterización Socio-Económica, this article examines the role of work contracts in explaining male and female earnings and earnings inequality among wage and salary workers over the second half of the 1990s. The analysis distinguishes between wage and salary work without a work contract – referred to as 'informal' work, and wage and salary work with a work contract. Within the latter group, the study further differentiates by the type of work contract held, such as permanent and a variety of contingent work contracts. The findings reveal that the majority of employees in informal and contingent wage and salary work arrangements earned significantly less than their permanent counterparts. Additionally, informal and contingent wage and salary work arrangements accounted for a small, although increasing, fraction of male and female earnings inequality from 1994 to 2000. Finally, the proliferation of seasonal, fixed-term, and informal wage and salary work arrangements has been one of the few economically significant factors in explaining changes in male and female earnings inequality over the second half of the 1990s.

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I. INTRODUCTION

Great social inequality has been one of the worrisome features of economic development in Latin America [*Ocampo, 1998*]. As a result, gaining a better understanding of the factors impacting inequality is desirable in order to identify policies that foster broad-based growth [*Solimano et al., 2000; Fields, 2001*].

One of the earlier papers examining some of the variables responsible for social inequality among developing nations was Kuznets' [1955] seminal work. Kuznets examined the role played by economic development, as captured by the shift of labour from a traditional to a modern, more productive and differentiated sector, on income inequality. He found an inverted U-relationship between per capita income and inequality that lead him to argue that economic growth first leads to rising inequality but, over time, it favours falling inequality. Kuznets' hypothesis has been widely tested¹ and, in general, it has been concluded that inequality, like other aspects of economic development, is largely dependent on each country's idiosyncratic characteristics; thus, the importance of country-level analyses.

This study focuses on Chile, one of Latin America's fastest growing economies with one of the highest and more persistent levels of income inequality following Brazil [*Leiva and Agacino, 1995; Hojman, 1996*]. Despite the remarkable poverty reduction achieved by the Chilean economy during a period of fast growth in the 1990s,² income inequality has remained rather high and practically unchanged. CEPAL [2001: 71] reports Gini coefficients of 0.554 for 1990, 0.553 for 1995, and 0.559 for the year 2000.³ This persistent inequality has coincided with a period during which various non-standard wage and salary work arrangements have proliferated. This has been particularly the case for contingent work arrangements of a specific duration – such as seasonal contracts, fixed-term contracts, specific-task or service contracts, and other non-permanent work contracts (described in Table A in the appendix), as well as for wage and salary work without a contract.⁴ Using data from the 1994 and 2000 *Encuestas de Caracterización Socio-Económica Nacional* (CASEN surveys),⁵ Table 1 reflects the marked increase in contingent work in Chile during this time period, which grew by 24 per cent among men and by up to 57 per cent among women.⁶ By the end of the period under examination, 12 to 14 per cent of Chilean men and women employed in wage and salary jobs held a contingent work contract. Similarly, the figures in Table 1 reveal an increase in male and female wage and salary work in the informal sector of 20 per cent among men and of 14 per cent among women during the second half of the 1990s.⁷ As a result, wage and salary work in the informal sector accounted for more than one quarter of male and female wage and salary employment in Chile by the year 2000.

TABLE 1
INCIDENCE OF DIFFERENT TYPES OF WORK CONTRACTS AMONG MALE AND
FEMALE WAGE AND SALARY WORKERS

Type of Work Contracts	Men		Women	
	Year 1994	Year 2000	Year 1994	Year 2000
<i>Formal wage and salary work</i>				
<i>Non-contingent work contracts:</i>				
Permanent job contracts	65.87	58.73	65.24	56.82
<i>Contingent work contracts:</i>				
Specific task contracts	2.91	1.07	0.98	0.37
Seasonal job contracts	5.13	8.92	3.90	8.10
Fixed-term contracts	3.24	3.94	2.95	3.91
Other contracts	0.08	0.04	0.08	0.05
All contingent work contracts	11.29	13.97	7.91	12.43
<i>Informal wage and salary work:</i>				
No work contracts	22.78	27.31	26.85	30.74

Contingent and informal wage and salary work arrangements provide firms with significant tax and dismissal cost advantages, as well as hiring flexibility, relative to permanent work arrangements. Some of the hiring costs confronted by employers consist of workers' salaries and the obligatory social security taxes of 0.9 to 4.3 per cent of paid salaries to insure workers against work injuries (Ley No. 16.744, article 15). In addition, employers face dismissal costs in the form of an advance notice of dismissal and a severance pay. The advance notice of dismissal can be of up to 30 days when the contract termination occurs by mutual agreement and its duration is not predetermined (*Código del Trabajo*, article 162). The severance pay will generally be stipulated by mutual agreement of both parties for each year of service or, in the absence of such a stipulation, the equivalent of the last monthly pay for each year of service (or fraction exceeding six months) with a maximum of 330 days' pay (*Código del Trabajo*, article 163).

These hiring and dismissal costs can be eliminated or reduced by hiring a worker without a contract or on a contingent basis, respectively. Specifically, due to the typically lower earnings of employees in informal and contingent work arrangements (as shown by the forthcoming descriptive and regression-based analyses), employers' hiring costs in terms of paid salaries and social security taxes (based on paid salaries) should be reduced when hiring workers on an informal or contingent basis. Additionally, dismissal costs should be eliminated when hiring workers on an informal basis and significantly reduced when hiring workers on some types of contingent work arrangements. In particular, seasonal and specific task workers do not have the right to a severance pay and, while fixed-term workers do qualify for severance

pay as long as they have been employed for six months, most of them never receive it due to the limited duration of their work contracts.

In light of the observed proliferation of these less costly wage and salary work arrangements in the midst of steadily high levels of income inequality, some researchers have hypothesised that increased employment flexibility may have been one of the factors favoring the persistence of earnings inequality [Beyer *et al.*, 1999]. Indeed, this could be the case if contingent and informal wage and salary work arrangements increasingly clustered at the bottom earnings quantiles, pushing down the lower end of the earnings distribution and, in this manner, contributing to the persistence of earnings inequality.

Nonetheless, linking the evolution of broad measures of income inequality (as those provided by CEPAL) to the type of work contract held by workers may not be appropriate. This is often the case when the correlation between income and labour earnings is not sufficiently high.⁸ Under such circumstances, narrower measures of inequality directly linked to the type of work contract held by workers, such as labour earnings inequality among wage and salary workers, may allow us better to ascertain the potential contribution of work contracts on inequality. In order to assess whether this is the case, Table 2 displays the level of labour earnings inequality for male and female wage and salary workers in Chile as of 1994 and 2000 using data from the CASEN surveys. When strictly focusing on labour earnings inequality among those workers affected by the type of work contract held (that is, wage and salary workers), we find that both male and, to a lesser extent, female earnings inequality actually declined over the second half of the 1990s. Therefore, male and female earnings inequality decreased as these less costly wage and salary work arrangements flourished. Counter to Beyer *et al.*'s [1999] hypothesis, it appears as if increased employment flexibility actually helped lower earnings inequality. This could occur if, for example, employers substituted permanent workers at top earnings quantiles for similar, yet less costly, temporary employees. In that event, reducing the percentage of workers on permanent work contracts at top earnings quantiles could actually lower the ceiling of the earnings distribution, reducing earnings dispersion and inequality.

While much attention has been paid to the role of international trade, 'skill-biased' technological change, and some institutional labour market changes, such as the decline in unionisation rates and real minimum wages, in explaining inequality in Chile,⁹ the potential role of work contracts has not yet been explored. The purpose of this study is to address this gap in the literature on the determinants of inequality among developing countries by examining the contribution of the lack as well as type of work contract held by employees on their earnings inequality in Chile. Given the focus on the role played by

TABLE 2
VARIOUS MEASURES OF REAL HOURLY EARNINGS INEQUALITY AMONG MALE
AND FEMALE WAGE AND SALARY WORKERS

Inequality Indices	Men		Women	
	Year 1994	Year 2000	Year 1994	Year 2000
Gini coefficient	0.4693	0.4262	0.4339	0.4323
Log variance of real hourly earnings	0.5977	0.4662	0.5635	0.5279

Additional inequality measures are available upon request.

work contracts, the analysis is restricted to wage and salary workers, distinguishing between wage and salary workers without a contract ('informal' work) and wage and salary workers with a contract. Within the latter group, the study further differentiates by the type of work contract held, such as: permanent, seasonal, fixed-term, specific-task or service, and other non-permanent work contracts. Using micro-level data from the 1994 and 2000 CASEN surveys, I investigate the role of contingent and informal work in explaining earnings and earnings inequality among wage and salary workers in Chile during the second half of the 1990s. The article first presents some descriptive evidence of the lower employment costs associated with contingent and informal work, such as the lower salaries earned by employees in these more flexible work arrangements. Additionally, I examine the distribution of earnings for wage and salary workers in Chile as of 1994 and 2000 to provide descriptive evidence of the increasing clustering of contingent and informal work arrangements primarily at top, followed by bottom, earnings deciles. Subsequently, the study explores the role of different types of contingent and informal wage and salary work in explaining male and female earnings and the level of earnings inequality in 1994 and 2000 applying the decomposition methodology proposed by Fields [2000, 2002]. Finally, a discussion of the changing contribution of work contracts to earnings inequality among male and female wage and salary workers during the second half of the 1990s concludes the article. The analyses are carried out separately for men and women given the varying incidence of contingent and informal wage and salary work by gender, as well as differences in female labour force participation rates over their life cycle.

The findings reveal that work contracts played an important role in explaining male and female earnings and earnings inequality in Chile during the second half of the 1990s. Male and female workers in most contingent and informal work arrangements earned significantly less than similar counterparts with permanent work contracts. Following occupation, schooling, and labour market participation, contingent and informal work

arrangements accounted for a small, though increasingly important, fraction of the level of earnings inequality among wage and salary workers over the second half of the 1990s. Finally, in conjunction with workers' occupation, firm size, and their labour market participation, the proliferation of seasonal, fixed-term, and informal work arrangements has been one of the few economically significant factors accounting for the decline in earnings inequality from 1994 through the year 2000.

II. WORK CONTRACTS AND EARNINGS INEQUALITY IN CHILE

The magnitude and persistence of income inequality in Chile (as revealed by the CEPAL figures above) have inspired many researchers to examine their determinants during recent decades. These analyses have used a variety of income measures, units of analysis, and approaches. For instance, some studies use inequality measures referred to all income, others focus on earnings to denote wages as well as other sources of labour income, and, yet, other studies use measures of wage inequality.¹⁰ Similarly, the literature employs a variety of units of analysis, such as individuals, households, or families. Finally, the studies in the literature vary greatly in their approaches. One group of studies presents a *theoretical* approach, focusing on the role of the New Economic Model's (NEM) educational, welfare and transfer programmes in impacting earnings and inequality since 1974 [Lusting, 1995; Robbins, 1995; Scott, 1995; Hojman, 1996; Montecinos, 1997; Anitát et al., 1999]. A second group of studies presents an *empirical* approach, using aggregate as well as micro-level data to estimate econometric models examining earnings and inequality in Chile during past decades. Within this group, some analyses display a *macroeconomic* focus, primarily examining the role played by trade liberalisation, economic cycles, and structural changes on earnings and inequality [Mizala and Romaguera, 1996; Beyer et al., 1999]. The other subgroup of empirical papers displays a *microeconomic* focus, emphasising the role of new educational policies, public transfers, and, in some instances, the changing labour market structure on earnings and inequality [Corbo and Stelcner, 1983; Uthoff, 1986; Scott and Litchfield, 1994; Jimenez and Ruedi, 1998].

The present study expands the literature on inequality by examining the potential role that the lack of a work contract and the type of work contract held by employees has played on their earnings and earnings inequality in Chile from 1994 to the year 2000. Given the decrease in male and female earnings inequality at a time when contingent and informal wage and salary work arrangements flourished, the present analysis tests the hypothesis that increased employment flexibility actually contributed to the reduction of earnings inequality. This would be the case if employers increasingly relied

on these less costly employment alternatives when hiring workers at top earnings quantiles, lowering earnings at the higher end of the distribution, and reducing earnings dispersion and inequality. In addition to their lower dismissal costs, the study first ascertains the commonly lower earnings of wage and salary workers in contingent and informal work arrangements compared to permanent employees. Subsequently, I search for changes in the clustering of contingent and informal wage and salary work arrangements along the earnings distribution over the period under consideration. Finally, earnings regressions are estimated and a decomposition analysis performed to quantify the contribution of work contracts to explaining the level and change in earnings inequality among wage and salary workers in Chile over the second half of the 1990s.

III. THE DATA AND SOME DESCRIPTIVE STATISTICS

The data used in this article come from the 1994 and 2000 CASEN surveys. This survey has been carried out every two years since 1985 with the purpose of gaining a better understanding of the socioeconomic situation of households in the country over time.¹¹ The CASEN surveys are national in scope and contain information on housing, health, education, employment, income, and wealth from approximately 45,000 households at the national, regional, and rural–urban levels. The years 1994 and 2000 are the first and last time that the survey included detailed information regarding the type of contract held by working respondents who were wage and salary workers. Therefore, we use data from 1994 and 2000 to assess the potential contribution of non-standard wage and salary work arrangements, such as contingent and informal sector work, on the level and changes in earnings inequality over the second half of the 1990s. Hourly earnings are computed using information on the monthly earnings¹² of wage and salary workers between 16 and 65 years old in their main job and their corresponding hours of work. Hourly earnings are subsequently deflated using the CPI¹³ to facilitate earnings comparisons.¹⁴ A description of the variables, their means, and standard deviations by gender for the years in the sample is provided in Table A and Table B in the appendix, respectively.

By way of introducing the data, Table 3 displays the average hourly earnings of wage and salary workers according to the type of work contract held. With the exception of female specific-task workers,¹⁵ male and female wage and salary workers in contingent and informal work arrangements earned less than their permanent counterparts. Since employers' compulsory social security contributions to insure officially registered employees against work injuries can fluctuate between 0.9 per cent to 4.3 per cent of the paid salaries (Ley No. 16.744, article 15), contingent and informal wage and

salary work arrangements provided employers with valuable savings not only in terms of dismissal costs, but also through lower hiring costs, such as salaries and social security taxes.

Table 4 shows the distribution of male and female workers within each type of work arrangement by earnings quantile in both years of our sample. Several common findings to men and women are worth discussing. First, male and female permanent employment displays the lowest incidence at the bottom earnings decile and often the largest incidence at top earnings quantiles. Second, as of 1994, both male and female seasonal and informal employment displayed a higher incidence at lower earnings quantiles, while specific-task and fixed-term employment was more prevalent at the bottom and top earnings quartiles. Finally, from 1994 to the year 2000, the concentration of male and female employees in contingent or informal wage and salary work arrangements in the top earnings decile increased in conjunction with the percentage of permanent workers in the bottom decile. The increased presence of low-cost employment alternatives for employers at top earnings quantiles, together with the higher incidence of permanent employment in lower earnings quantiles, may have narrowed the earnings gap between wage and salary workers at the top and bottom of the earnings distribution. Nonetheless, we know that the reduction in earnings inequality differed by gender (Table 2). Indeed, among women, we find that the aforementioned equalising trends appear to have been accompanied by a simultaneous growth in the incidence of some contingent (that is, seasonal,

TABLE 3
AVERAGE HOURLY EARNINGS OF MALE AND FEMALE WAGE AND SALARY
WORKERS BY TYPE OF WORK CONTRACT (STANDARD DEVIATIONS IN
PARENTHESES)

Type of work contract	Year 1994		Year 2000	
	Men	Women	Men	Women
Permanent job contract	944.00 (1235.07)	827.09 (798.95)	1033.26 (1607.76)	1052.62 (1081.90)
Specific task contract	663.09 (570.67)	669.69 (766.72)	869.07 (1082.89)	1727.31 (4463.59)
Seasonal job contract	508.68 (722.49)	438.57 (448.47)	587.57 (382.16)	564.61 (466.48)
Fixed-term contract	757.42 (1511.09)	675.01 (817.27)	753.89 (766.31)	785.19 (750.76)
Other contracts	658.93 (505.96)	494.26 (325.22)	990.64 (803.67)	917.98 (1202.77)
No work contracts	504.85 (791.53)	492.26 (771.12)	574.20 (743.81)	624.20 (885.89)

Note: Hourly earnings are in 1998 pesos.

TABLE 4
DISTRIBUTION OF MALE AND FEMALE WAGE AND SALARY WORKERS ACROSS EARNINGS QUANTILES BY TYPE OF WORK CONTRACT

By gender:	Year 1994						Year 2000					
	Perm	Task	Seasonal	Fixed-term	Other contract	No work contract	Perm	Task	Seasonal	Fixed-term	Other contract	No work contract
<i>Men</i>												
Bottom earnings decile	8.64	19.66	29.59	14.22	15.38	40.41	9.31	18.40	16.98	13.20	12.50	34.60
Bottom earnings quartile	19.29	24.79	40.82	33.09	23.08	33.88	23.63	23.11	42.49	36.94	12.50	27.89
Top earnings quartile	41.42	35.04	19.73	30.15	30.77	14.06	36.41	29.72	14.36	21.21	37.50	9.14
Top earnings decile	30.65	20.51	9.86	22.55	30.77	11.65	30.65	28.77	26.16	28.65	37.50	28.37
<i>Women</i>												
Bottom earnings decile	7.45	22.39	16.16	10.24	25.00	37.92	8.68	21.05	19.15	14.81	50.00	37.06
Bottom earnings quartile	23.17	32.84	59.09	38.55	50.00	40.69	19.15	28.95	45.07	35.90	0.00	26.38
Top earnings quartile	42.24	28.36	10.10	30.72	25.00	9.65	42.06	21.05	9.44	24.50	0.00	13.66
Top earnings decile	27.15	16.42	14.65	20.48	0.00	11.75	30.11	28.95	26.30	24.79	50.00	22.90

fixed-term, and *other* contingent) and permanent work arrangements at the bottom and top earnings deciles, respectively. The concurrent concentration of contingent and permanent work arrangements at both ends of the earnings distribution may have contributed to the lower reduction in earnings inequality among wage and salary women. After providing descriptive evidence of the increasing clustering of contingent and informal wage and salary work arrangements primarily at the top earnings decile over the second half of the 1990s, I now describe the methodological framework enabling us to quantify the contribution of work contracts to the level and change in earnings inequality among wage and salary workers in Chile from 1994 through the year 2000.

IV. METHODOLOGY

Some of the differences in earnings between alternative work arrangements can be attributed to workers' educational attainment and to the occupational/industry make-up of each type of work contract. Therefore, it is important to use a regression approach in which we simultaneously account for these differences. In particular, I rely on a methodology proposed by Fields [2000, 2002] to quantify the contribution of a particular type (and lack) of work contract to the overall level of earnings inequality at a point in time and to the overall change in inequality over the second half of the 1990s. To carry the analysis, it is first assumed workers' earnings can be described by a standard semi-logarithmic earnings equation of the form [Mincer, 1974]:

$$\ln Y_i = \varphi(s_i, \exp_i, \exp_i^2, V_i) + \varepsilon_i \quad (1)$$

for $i = 1, \dots$ number of respondents, where Y stands for individual earnings, s represents schooling, $\exp$ indicates the respondent's work experience, and V is a vector containing other personal and job related characteristics affecting earnings, such as the type of work contract held,¹⁶ occupation, and industry. In addition, V includes a set of regional dummies broadly to account for any remaining macroeconomic factors that may have affected individual earnings and earnings inequality.¹⁷

Since the analysis is strictly focused on working individuals, earnings regressions need to correct for sample selection bias; otherwise, the observed earnings differential may overstate or understate the difference in average earnings offers. In particular, if individuals do not participate in the labour market when their earnings fall below a threshold or reservation earnings, respondents in the lower end of the earnings distribution are less likely to work. Their scant work participation will offset their lower average earnings

offers, narrowing the observed earnings gap, and obscuring the role of work contingency on earnings. Therefore, a sample selection equation is first estimated for each year by a standard Probit. The observed selection indicator is a binary variable T_i that equals 1 when the i -th respondent works. Otherwise, $T_i=0$ as follows:

$$P(T_i = 1|W_i) = \Phi(W_i\gamma), \quad (2)$$

where W_i is a vector of observed respondent's and macroeconomic characteristics and γ is a vector of coefficients that are common to all individuals in a given year. The predictions from the standard Probits are then used to compute the inverse Mill's ratio (λ_i), which is subsequently included in the structural earnings regressions to correct for the sample selection bias, yielding consistent estimates.¹⁸ In addition to their functional form, these selection equations are identified by the inclusion of *non-labour income* in the work selection equation as a determinant of the decision to work, while not necessarily of labour earnings.

Following the estimation of the selection equations, we estimate the following earnings structural regression equation as follows:

$$\begin{aligned} \ln Y_{it} &= \varphi(s_{it}, \exp_{it}, \exp_{it}^2, V_{it}, \lambda_{it}) + \varepsilon_t \\ &= \alpha_t + \sum_k \beta_{kt} x_{ikt} + \varepsilon_t = \sum_j a_j z_{ijt} = a'Z, \end{aligned} \quad (3)$$

for $t=1994$ and 2000 .

Fields [2000, 2002] shows that income inequality can be decomposed as follows:

$$\begin{aligned} s_j(\ln Y) &= \text{cov}[a_j Z_j, \ln w] / \sigma^2(\ln w) = \frac{a_j^* \sigma(Z_j, \ln w)}{\sigma(\ln w)}, \\ \text{where : } \sum_j s_j(\ln w) &= 100\%. \end{aligned} \quad (4)$$

The parameter s_i represents the contribution of the j -th explanatory variable to the *level* of earnings inequality at any point in time independent of the inequality measure being used. In addition, Fields points out that it is feasible to assess the contribution of the j -th explanatory variable to the *change* in earnings inequality observed between 1994 and the year 2000 by noting that, for any given measure of inequality $I(\cdot)$:

$$I(\cdot)_{2000} - I(\cdot)_{1994} = \sum_j [s_{j,2000} * I(\cdot)_{2000} - s_{j,1994} * I(\cdot)_{1994}], \quad \text{and} \quad (5)$$

and

$$\Pi_j(I(\cdot)) = \sum_j [s_{j,2000} * I(\cdot)_{2000} - s_{j,1994} * I(\cdot)_{1994}] / [I(\cdot)_{2000} - I(\cdot)_{1994}],$$

where : $\sum_j \Pi_j(I(\cdot)) = 100\%.$ (6)

In what follows, I rely on the inequality decomposition described in equation (4) to quantify the contribution that non-standard wage and salary work arrangements – as captured by a variety of contingent work contracts and wage and salary work in the informal sector – to male and female earnings inequality among wage and salary workers in Chile in 1994 and in the year 2000. Subsequently, given the declining earnings inequality among wage and salary workers, I use equation (6) to measure how much of the change in earnings inequality among wage and salary workers from 1994 to the year 2000 is attributable to the type (and lack) of work contract held by male and female workers.

V. WORK CONTRACTS AND THEIR IMPACT ON EARNINGS AND EARNINGS INEQUALITY

Table 5 uncovers the implications of different types of contingent and informal wage and salary work on employees' earnings in both years of our sample. In addition to the role played by the type of work contract held, the estimated coefficients in Table 5 confirm the importance of employees' personal and work-related characteristics in explaining labour earnings in the direction emphasised by the preceding literature. For instance, as in previous studies, men enjoy a marriage premium.¹⁹ Additionally, educational attainment and work experience are directly related to hourly earnings [*Mincer, 1974*]. Respondents' occupation, industry of employment, and size of the firms where they work at are also statistically significant determinants of labour earnings.²⁰ Moreover, the estimated coefficients for the *urban* dummy in Table 5 corroborate the fact that earnings are frequently higher in urban areas [*Wheaton and Lewis, 2002*]. Finally, the positive and statistically different from zero coefficients on the inverse Mill's ratio confirm the existence of a positive selection into working. In other words, men and women choosing to work earn higher wages than would any randomly selected man or woman from the population. Additionally, while the average selection effect for men (computed as the coefficient times the average of the inverse Mill's ratio displayed in Table B in the appendix) remained practically unchanged during the six-year period under consideration (only changing from 0.26 to 0.27), the average selection effect for women declined from 0.28 to 0.20 as more women joined the labour market.

TABLE 5
COEFFICIENT ESTIMATES FROM MALE AND FEMALE EARNINGS REGRESSIONS DEPENDENT VARIABLE: LOGARITHM OF HOURLY
WAGES (STANDARD ERRORS IN PARENTHESES)

Independent variables	Men		Women	
	Year 1994	Year 2000	Year 1994	Year 2000
Specific task contract	− 0.0641*** (0.0240)	− 0.0606** (0.0298)	− 0.0332(0.0652)	− 0.0533(0.1053)
Seasonal contract	− 0.0995*** (0.0153)	− 0.1247*** (0.0085)	− 0.0606** (0.0275)	− 0.0976*** (0.0149)
Fixed-term contract	− 0.0948*** (0.0217)	− 0.0958*** (0.0138)	− 0.0548** (0.0259)	− 0.0589*** (0.0190)
Other contract	− 0.3694** (0.1511)	− 0.0161(0.1577)	− 0.3360** (0.1540)	− 0.2033(0.1747)
No work contract	− 0.1545*** (0.0103)	− 0.1787*** (0.0074)	− 0.0797*** (0.0149)	− 0.1150*** (0.0112)
Married	0.0779*** (0.0085)	0.0893*** (0.0059)	0.0293(0.0150)	0.0081(0.0120)
Years of schooling	0.0481*** (0.0015)	0.0439*** (0.0011)	0.0588*** (0.0027)	0.0536*** (0.0022)
Recent work injury	− 0.0134(0.0114)	− 0.0108(0.0098)	− 0.0138(0.0137)	− 0.0552*** (0.0125)
Five to 10 years of experience	0.0843*** (0.0161)	0.0874*** (0.0126)	0.0494*** (0.0179)	0.0419*** (0.0153)
11 to 15 years of experience	0.1184*** (0.0173)	0.1290*** (0.0135)	0.0678*** (0.0207)	0.0843*** (0.0171)
16 + years of experience	0.1376*** (0.0181)	0.1082*** (0.0143)	0.0865*** (0.0223)	0.1177*** (0.0203)
Managers & directors	0.9531*** (0.0504)	0.9336*** (0.0416)	0.7317*** (0.0853)	0.7067*** (0.0611)
Professionals	0.8058*** (0.0287)	0.8767*** (0.0214)	0.6071*** (0.0263)	0.7778*** (0.0207)
Technicians	0.4068*** (0.0268)	0.4569*** (0.0194)	0.3292*** (0.0268)	0.4054*** (0.0210)
Office workers	0.1815*** (0.0223)	0.1709*** (0.0168)	0.1936*** (0.0198)	0.1753*** (0.0144)
Agriculture workers	− 0.0002(0.0228)	− 0.0342** (0.0145)	0.0407(0.0728)	− 0.0323(0.0242)
Manufacturing workers	0.0578*** (0.0190)	0.0331** (0.0140)	0.0150(0.0405)	− 0.0995*** (0.0260)
Operatives	0.0456** (0.0196)	0.0128(0.0139)	− 0.0562(0.0372)	− 0.1077*** (0.0283)

(continued)

TABLE 5 (*cont'd*)

Independent variables	Men		Women	
	Year 1994	Year 2000	Year 1994	Year 2000
Low-skill occupations	− 0.1234*** (0.0178)	− 0.1167*** (0.0129)	− 0.1187*** (0.0187)	− 0.0723*** (0.0134)
Agriculture	0.0139(0.0140)	− 0.0163* (0.0098)	0.0130(0.0263)	− 0.0445*** (0.0167)
Mining	0.2801*** (0.0266)	0.3258*** (0.0185)	0.2147** (0.1032)	0.2257*** (0.0797)
Manufacturing	0.0885*** (0.0150)	0.0389*** (0.0110)	0.0217(0.0257)	0.0038(0.0185)
Energy	0.2170*** (0.0367)	0.1419*** (0.0244)	0.0062(0.1316)	− 0.0037(0.0605)
Construction	0.1662*** (0.0159)	0.0907*** (0.0118)	0.0791 (0.0551)	0.0138 (0.0363)
Commerce & Trade	0.2160 (0.0179)	− 0.0084 (0.0128)	0.0019 (0.0188)	− 0.0612*** (0.0130)
Transport & Communication	0.0788*** (0.0190)	− 0.0170 (0.0142)	0.0496 90.0402)	0.0558* (0.0308)
Finance	0.2431*** (0.0266)	0.1173*** (0.0176)	0.2363*** (0.0278)	0.1376*** (0.0209)
Other Activities	0.2051*** (0.0503)	0.1973*** (0.0553)	0.1212*** (0.0452)	0.1317** (0.0622)
Medium Firm	0.0708*** (0.0137)	0.0757*** (0.0067)	0.0804*** (0.0209)	0.0989*** (0.0115)
Large Firm	0.1423*** (0.0095)	0.1660*** (0.0069)	0.1707*** (0.0147)	0.1534*** (0.0110)
Urban	0.1298*** (0.0101)	0.0485*** (0.0063)	0.0875*** (0.0137)	0.0235** (0.0098)
Inverse Mill's Ratio	0.5567*** (0.0451)	0.6004*** (0.0365)	0.7516*** (0.0719)	0.5817*** (0.0767)
Observations	20,319	33,250	10,192	16,773
R ²	0.4698	0.5088	0.5022	0.5069
F-Statistic	324.79	566.26	225.02	353.12

***denotes statistical significance at the 1% level, **indicates statistical significance at the 5% level, and *represents statistical significance at the 10% level.

Note: The regression include a constant term and regional dummies. Permanent work contracts, less than five years of potential work experience, service-related occupations, service industry, and small firms are used as reference categories.

Nonetheless, given the focus of this article, the discussion herein is centered on the coefficient estimates for each type of contingent and informal work arrangement. According to the estimates in Table 5, men and women in most contingent and informal work arrangements earned significantly less than similar permanent counterparts. The exceptions are women with specific-task work contracts, as well as male and female wage and salary workers in other contingent work contract as of 2000. In both instances, it may be due to small cell-sizes. As shown in Table 1, the percentage of wage and salary workers with specific-task and *other* contingent contracts significantly declined over the second half of the 1990s to account for less than 0.5 per cent and 0.05 per cent of female and of all wage and salary workers, respectively, by the year 2000.

Looking more closely by contract type, we observe that the wage gap between men with specific-task work contracts and men with permanent work contracts narrowed from 6.4 per cent to 6 per cent during the second half of the 1990s. A much more significant decline is observed among men and women in *other* contingent work contracts relative to their permanent counterparts. However, due to the limited number of individuals in this category and the lack of accurate information regarding the type of contingent work arrangement included in this category, we should be cautious when interpreting this coefficient.

In contrast, the wage penalty endured by men and women with seasonal, fixed-term, and informal jobs – work categories of rising prevalence from 1994 to the year 2000 (Table 1) – increased. Specifically, the wage gap between men and women with seasonal contracts and their counterparts with permanent work contracts widened by 25 per cent among men (from 10 per cent to 12 per cent) and nearly doubled among women (from 6 per cent to 10 per cent). Similarly, the earnings gap between men and women with fixed-term contracts and their permanent counterparts slightly increased during the second half of the 1990s. Furthermore, increasing wage gaps are also found between male and female wage and salary workers without a work contract and their permanent counterparts. The wage penalty borne by informal workers increased by 16 per cent in the case of men (from 15.5 to 18 per cent) and by 44 per cent among women (from 8 to 11.5 per cent).

Overall, the estimated coefficients in Table 5 indicate that the type of work arrangement held by workers played a significant role in explaining earnings. However, they do not allow us to quantify the contribution of each type of work contract to the level or change in earnings inequality. This is accomplished in the following sections using Fields' decomposition analysis.

Work Contracts and their Contribution to Male and Female Earnings Inequality

As shown in Table 2, the distribution of labour earnings for wage and salaried workers in Chile became more equal from 1994 to the year 2000, particularly

among men. During the period under examination, the Gini coefficient among men declined by 0.0431 and the log variance of male real hourly earnings decreased by 0.1315. This change in inequality is large by international standards [Atkinson, 1997; Fields, forthcoming]. However, as discussed earlier, female earnings inequality did not change as much. In particular, the Gini coefficient for female wage and salary workers declined by 0.0016, whereas the log variance of real hourly earnings decreased by 0.0367.

Table 6 shows the factor inequality weight and, hence, the contribution of the each type of contingent and informal work arrangement to the level of male and female earnings inequality as of 1994 and 2000. After the residual, occupation and schooling were the most important factors accounting for both male and female labour earnings inequality over time, with factor inequality weights greater than ten per cent. Other important variables were regional dummies (between 3 per cent and 5 per cent), firm size (between 2 per cent and 4 per cent), and industry of employment (between 1.3 per cent and 2.6 per cent). However, the type of contingent work contract held by wage and salary workers had a negligible contribution to male and female earnings inequality, with shares that were virtually zero. The contribution of informal wage and salary work to earnings inequality was, however, larger, with factor inequality weights ranging from 1.6 per cent for women in 1994 to 3.4 per cent for men as of the year 2000. Altogether, these less costly wage and salary work alternatives to permanent work contracts accounted for anywhere between two per cent and four per cent of male and female wage and salary workers' earnings inequality over the second half of the 1990s. Furthermore, the factor inequality weights corresponding to the type of wage and salary work arrangement held by workers grew noticeably during the period under consideration, while that of other worker personal (such as marital status and schooling) and location characteristics (such as regional and urban dummies) either remained practically unchanged or even diminished. In particular, during the six-year period between 1994 and the year 2000, the contribution of contingent work arrangements to male and female earnings inequality more than doubled, while the factor inequality weights of informal wage and salary work grew over 40 per cent. As a result, the average contribution of contingent and informal wage and salary work arrangements to male and female earnings inequality rose by more than 50 per cent, indicative of the potentially increasingly important role of work contracts in explaining labour income inequality.

Work Contracts and their Contribution to the Change in Male and Female Earnings Inequality over the Second Half of the 1990s

While informative, factor inequality weights do not allow us to assess the contribution of the type (or lack) of work contract held on the observed decline

TABLE 6
THE CONTRIBUTION OF EACH EXPLANATORY VARIABLE TO EARNINGS INEQUALITY AND TO THE CHANGE IN MALE AND FEMALE
EARNINGS INEQUALITY, 1994–2000

Variables	Men				Women			
	Factor inequality weight of each variable		Contribution of each variable to the change in inequality as measured by:		Factor inequality weight of each variable		Contribution of each variable to the change in inequality as measured by:	
	Year 1994	Year 2000	Gini	Log variance	Year 1994	Year 2000	Gini	Log Variance
Specific task contract	4.44E-05	– 2.73E-05	0.0008	0.0003	0.0001	– 1.39E-05	0.0258	0.0014
Seasonal contract	0.0024	0.0047	– 0.0203	– 0.0057	0.0011	0.0040	– 0.8070	– 0.0411
Fixed-term contract	– 2.81E-05	0.0004	– 0.0043	– 0.0016	1.60E-05	0.0002	– 0.0490	– 0.0025
Other contract	0.0000	– 2.87E-06	0.0005	0.0002	0.0001	0.0000	0.0274	0.0015
All contingent work contracts	0.0025	0.0051	– 0.0233	– 0.0068	0.0013	0.0041	– 0.8027	– 0.0407
No work contract	0.0229	0.0337	– 0.0834	– 0.0152	0.0156	0.0220	– 1.8151	– 0.0800
All contingent and no work contracts	0.0254	0.0388	– 0.1067	– 0.0220	0.0169	0.0262	– 2.6177	– 0.1207
Married	0.0081	0.0085	0.0042	0.0067	0.0044	0.0009	1.0161	0.0573
Years of schooling	0.1294	0.1363	0.0609	0.1048	0.1784	0.1593	5.6209	0.4626
Recent work injury	– 2.50E-06	2.77E-05	– 0.0003	– 0.0001	– 0.0001	0.0002	– 0.0777	– 0.0042
Experience	0.0003	0.0008	– 0.0082	– 0.0027	3.10E-04	– 0.0001	0.1261	0.0069
Occupation	0.1774	0.2125	– 0.1689	0.0531	0.2047	0.2444	– 11.1019	– 0.3857
Industry	0.0209	0.0259	– 0.0292	0.0029	0.0132	0.0145	– 0.3381	– 0.0051
Firm size	0.0195	0.0319	– 0.1024	– 0.0242	0.0459	0.0313	4.1961	0.2626
Region	0.0502	0.0317	0.2334	0.1160	0.0389	0.0299	2.5932	0.1723
Urban	0.0244	0.0104	0.1630	0.0742	0.0077	0.0024	1.4964	0.0854
Inverse Mill's Ratio	– 0.0107	0.0092	– 0.2070	– 0.0812	– 0.0126	– 0.0030	– 2.7485	– 0.1555
Residual	0.5551	0.4940	1.1614	0.7727	0.5023	0.4941	2.8351	0.6241
Sum	1	1	1	1	1	1	1	1

in the level of earnings inequality among wage and salary workers in Chile over the second half of the 1990s. This is also done in Table 6, which displays the contribution of each of the variables included in the log earnings regressions to the *change* in male and female earnings inequality from 1994 to 2000 as measured by the Gini coefficient and the log variance of labour income.

First of all, it is worth noting that many of the factors found to play an important role in accounting for the level of earnings inequality did not have an economically significant contribution to the change in earnings inequality. In particular, despite having sizeable effects, changes in marital status, schooling, experience, and firm size (among women), or regional and urban dummies, among other ones, were in the direction of increasing earnings inequality at a time when inequality actually decreased.

Looking at the contribution of each type of wage and salary work arrangement, we find that seasonal, fixed-term, and informal jobs – the three categories with an increasing predominance over the second half of the 1990s (Table 1), were the ones to display an economically significant *and* growing contribution to the change in male and female earnings inequality over the period under consideration. Overall, along with changes in occupation and firm size, the type of wage and salary work arrangement held was one of the few variables having any appreciable role in determining the change in male earnings inequality over the second half of the 1990s, accounting for 11 per cent of the fall in the Gini coefficient and for 2 per cent of the fall in the log-variance. Likewise, the type of work contract predicted a fall in female inequality, as reflected by percentage contributions of – 262 and – 12 to the change in female inequality as measured by the Gini coefficient and the log-variance, respectively. As a result, following changes in female labour force participation (as captured by the inverse Mill's ratio) and occupational segregation, contingent and informal wage and salary work was the most important determinant in the observed reduction in female earnings inequality.

VI. CONCLUSION

The purpose of this study is to further our understanding of the factors contributing to inequality in Chile. In particular, the analysis examines the potential role played by labour market flexibility, as captured by the use of contingent and informal wage and salary work arrangements, on male and female earnings and earnings inequality in Chile during the second half of the 1990s. During this period of economic growth for the Chilean economy, wage and salary employment in contingent work arrangements in Chile grew by 24 per cent among men and by up to 57 per cent among women, accounting for 12 to 14 per cent of wage and salary workers by the year 2000.

Simultaneously, male and female wage and salary employment in the informal sector grew by 20 per cent among men and 14 per cent among women, exceeding one quarter of Chilean male and female wage and salary employment by the end of the 1990s.

The following empirical findings are worth emphasising. First, the analysis reveals the significantly lower earnings of male and female workers in most contingent and informal work arrangements relative to similar counterparts with permanent work contracts. The exceptions are women with specific-task work contracts, as well as male and female wage and salary workers in other contingent work contract as of 2000. The percentage of wage and salary workers in each of these two categories significantly declined over the second half of the 1990s to account for less than 0.5 per cent and 0.05 per cent of female and of all wage and salary workers, respectively, by the year 2000.

Second, through their growing concentration at top earnings quantiles, particularly among men, contingent and informal work arrangements accounted for anywhere between two per cent and 4 per cent of the level of earnings inequality among Chilean wage and salary workers over the second half of the 1990s. In particular, during the six-year period being examined, the average contribution of contingent and informal wage and salary work arrangements to male and female earnings inequality rose by more than 50 per cent, indicative of the potentially increasingly important role of work contracts in explaining labour income inequality.

Finally, along with workers' occupation, firm size, and their labour market participation, the type (and lack) of contract held by wage and salary workers has been one of the few variables having any appreciable role in determining the observed decline in both male and female earnings inequality during the time period examined. This is particularly true for seasonal, fixed-term, and informal work arrangements, which were also the three types of work arrangements with a growing incidence among men and women employed as wage and salary workers during the second half of the 1990s.

In sum, contingent and informal wage and salary work arrangements did significantly affect male and female earnings and earnings inequality in Chile during the second half of the 1990s. These findings unveil the potential role of employment flexibility – captured by a variety of low-cost contingent and informal wage and salary work arrangements – as an institutional feature of worldwide labour markets contributing to recent trends in inequality.

NOTES

1. See, for instance, Anand and Kanbur [1993], Randolph and Lott [1993], and Bigsten *et al.* [2003].

2. During this time period, poverty incidence was reduced from approximately 38.6 per cent in 1990 to 20.6 per cent in the year 2000 [Valenzuela and Venegas, 2002].
3. Alternative inequality indexes, such as the Theil index, are also available in this report.
4. This category will also be referred to as 'wage and salary work in the informal sector' or 'informal work' in the sense that it is work undeclared to appropriate government authorities and, consequently, unregulated and untaxed.
5. The years 1994 and 2000 are the first and last time that this survey – the only source of representative information on the type of work contract held by workers in Chile – included detailed information regarding the type of contract held by working respondents.
6. Table 1 also uncovers the distinct employment dynamics within contingent work. For instance, while the percentage of male and female workers with specific task contracts decreased by approximately 62 to 63 per cent from 1994 to the year 2000, that of employees with seasonal contracts doubled among women while it increased by 74 per cent among men. These different employment patterns by type of contingent work contract warrant their distinction in the empirical analysis.
7. The growth rates of both contingent and informal work are much larger rates of growth than those in overall employment, which increased by 3 per cent among women and declined by 8 per cent among men.
8. In the case of Chile, labour earnings accounted for approximately 80 per cent of household income in male-headed households and 60 per cent in female-headed households as of the year 2000 [author's tabulations using the CASEN 2000].
9. Some of these studies, to be discussed in what follows, include Corbo and Stelcner [1983], Uthoff [1986], Scott and Litchfield [1994], Mizala and Romaguera [1996], Jimenez and Ruedi [1998], and Beyer *et al.* [1999].
10. To avoid repeating income/earnings/wage inequality for the different papers cited, I will simply use the term 'inequality'.
11. Due to budgetary reasons, the survey was not conducted in 2002.
12. The latter includes salary as well as commissions, bonuses, and other forms of payment typically used in some industries and occupations.
13. The CPI data come from the *Instituto Nacional de Estadística* website: <http://www.ine.cl/>
14. The data were carefully examined with the purpose of eliminating unreliable earnings observations. However, given the reliability shown by the data, the analysis is carried out with all the applicable earnings observations, allowing for a more in-depth and unrestricted analysis of earnings inequality.
15. Specific-task workers is a category also found to earn significantly more than permanent workers in other countries (see, for instance, Hipple and Stewart [1996] for an analysis of the differences in earnings of workers in contingent work arrangements in the US). At any rate, as shown earlier in Table 1, this is a work category that declined over the second half of the 1990s to account for only 0.37 per cent of all female wage and salary workers by the year 2000.
16. At this point in the article, it is worth mentioning that, according to a well-substantiated body of research, the type of work contract is believed to be primarily determined by employers' need to meet short-run fluctuations in demand, substitute workers on leave, avoid regulatory restrictions on dismissals that increase the cost of hiring permanent workers relative to contingent workers and, in a few instances, to save on training costs and benefits [Delsen, 1995; Lee, 1996; Houseman, 1997; Mangan, 2000; and Autor, 2003]; but rarely to save on workers' wages. Therefore, in accordance with these findings, workers' earnings are considered to be determined by the type of work contract held by the worker, and not vice versa.
17. Other macroeconomic factors previously examined as contributors to earnings inequality, such as trade liberalisation, technological change, or de-unionisation are not incorporated to the analysis due to the lack of variation across regions.
18. Results from the selection regressions are included in Table C in the appendix.
19. Empirical research has shown that marriage and the presence of children in the household are two factors impacting on men's earnings. Korenman and Neumark [1991], Jacobsen and

Rayack [1996], Loh [1996], and Hersch and Stratton [2000] find a marriage and family premium for men that ranges between 10 and 15 per cent.

20. See Gerlach and Schmidt [1990], Morissette [1993], or Ringuede [1998] for empirical evidence on the positive effect of firm size on workers' hourly earnings.

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APPENDIX
TABLE A1
VARIABLE DESCRIPTION

Variables	Description
Log Real Hourly Earnings	Log of the real hourly earnings (in 1998 pesos).
Permanent Contract	Dummy variable for having an open-ended or indefinitely-lived work contract.
Specific Task Contract	Dummy variable for having a specific task job contract (also called <i>por obra o servicio</i>).
Seasonal Contract	Dummy variable for having a seasonal job contract signed for a specific time of the year. This contract is also called <i>temporal</i> .
Fixed-Term Contract	Dummy variable for having a fixed-term job contract signed for a specified period of time. This contract is also called <i>a plazo fijo</i> .
Other Contract	Dummy variable for having any other type of contract, for example: a training contract, a contract in the process of being formalised, or any other non-specified contract.
No Work Contract	Dummy variable for lacking a work contract.
16 to 25 Years Old	Dummy variable for being 16 to 25 years old.
26 to 35 Years Old	Dummy variable for being 26 to 35 years old.
36 to 45 Years Old	Dummy variable for being 36 to 45 years old.
46 to 65 Years Old	Dummy variable for being 46 to 65 years old.
Married	Dummy variable for being married
Family Size	Number of people in the household.
Years of Schooling	Variable indicating the number of years of schooling.
Non-labour Income	Monthly non-labour income in 1998 pesos.
Recent Work Injury	Dummy variable for recently suffering an accident or injury.
Less than Five Years of Experience	Less than five years of potential work experience measured as: (age-years of education-6).
Five to 10 Years of Experience	Five to ten years of potential work experience.
11 to 15 Years of Experience	11 to 15 years of potential work experience.
16+ Years of Experience	16 plus years of potential work experience.
Managers/Directors	Dummy variable for managerial and directing occupations.
Professionals	Dummy variable for professional occupations.
Technicians	Dummy variable for technical occupations.
Office Workers	Dummy variable for administrative and office workers.
Service Workers	Dummy variable for service-related occupations.
Agriculture Workers	Dummy variable for agriculture and mining occupations.
Manufacturing Workers	Dummy variable for manufacturing workers and other manufacturing occupations.
Operatives	Dummy variable for operatives.
Low-skill Occupations	Dummy variable for low-skill occupations positions.
Agriculture	Dummy variable for the agriculture industry.
Mining	Dummy variable for the mining industry.
Manufacturing	Dummy variable for the manufacturing industry.
Energy	Dummy variable for the energy related industry.
Construction	Dummy variable for the construction industry.

(continued)

APPENDIX
TABLE A1 (*cont'd*)

Variables	Description
Commerce & Trade	Dummy variable for the commerce and trade related industry.
Transport & Communication	Dummy variable for the transportation and communication industry.
Services	Dummy variable for financial, insurance, real estate, personal, and social services.
Other Activities	Dummy variable for other industries.
Small Firm	Dummy variable for the worker being employed by a firm with fewer than 10 workers.
Medium Firm	Dummy variable for the worker being employed by a firm with 10 to 49 workers.
Large Firm	Dummy variable for the worker being employed by a firm with more than 50 workers.
Regional Dummies	Thirteen dummy variables for each of the thirteen Chilean regions.
Urban	Dummy variable for living in an urban area, defined as a concentrated group of housing with at least 2,000 inhabitants or 1,001 to 2,000 inhabitants if a minimum of 50 per cent of the population works in the secondary or tertiary sectors.

TABLE A2
MEANS AND STANDARD DEVIATIONS

Variables	Men				Women			
	Year 1994		Year 2000		Year 1994		Year 2000	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Log Real Hourly Earnings	6.2832	0.7731	6.4614	0.6828	6.2312	0.7506	6.4710	0.7266
Permanent Contract	0.6587	0.4742	0.5873	0.4923	0.6524	0.4762	0.5682	0.4953
Specific Task Contract	0.0291	0.1680	0.0107	0.1030	0.0098	0.0987	0.0037	0.0610
Seasonal Contract	0.0513	0.2207	0.0892	0.2850	0.0390	0.1935	0.0810	0.2728
Fixed-Term Contract	0.0324	0.1769	0.0394	0.1945	0.0295	0.1693	0.0391	0.1939
Other Contract	0.0008	0.0277	0.0004	0.0197	0.0008	0.0284	0.0005	0.0231
No Work Contract	0.2278	0.4194	0.2731	0.4456	0.2685	0.4432	0.3074	0.4614
16 to 25 Years Old	0.2299	0.4208	0.1840	0.3875	0.2573	0.4371	0.2114	0.4083
26 to 35 Years Old	0.3241	0.4680	0.3020	0.4591	0.3277	0.4694	0.3214	0.4670
36 to 45 Years Old	0.2355	0.4243	0.2728	0.4454	0.2435	0.4292	0.2719	0.4449
46 to 65 Years Old	0.2105	0.4076	0.2412	0.4278	0.1716	0.3770	0.1954	0.3965
Married	0.5920	0.4915	0.5453	0.4979	0.3943	0.4887	0.3775	0.4848
Family Size	4.6887	2.0456	4.6208	1.9635	4.6043	2.1485	4.5715	2.0540
Years of Schooling	8.8098	4.1855	9.0563	4.0457	10.3852	4.1629	10.6472	3.9749
Non-labour Income	20878.6500	77938.4800	28902.5700	189484.8000	14431.2800	57480.6200	17054.6800	58768.0800
Recent Work Injury	0.1545	0.3614	0.0880	0.2833	0.1955	0.3966	0.1327	0.3392
Less than Five Years of Experience	0.0946	0.2926	0.0826	0.2752	0.1533	0.3603	0.1270	0.3329
Five to 10 Years of Experience	0.1824	0.3861	0.1571	0.3639	0.2044	0.4033	0.1909	0.3930
11 to 15 Years of Experience	0.1497	0.3568	0.1357	0.3425	0.1458	0.3529	0.1416	0.3487
16+ Years of Experience	0.5734	0.4946	0.6246	0.4842	0.4965	0.5000	0.5405	0.4984
Managers/Directors	0.0115	0.1067	0.0111	0.1050	0.0080	0.0892	0.0076	0.0866
Professionals	0.0526	0.2232	0.0449	0.2071	0.1242	0.3299	0.1132	0.3168
Technicians	0.0473	0.2122	0.0471	0.2119	0.0810	0.2728	0.0753	0.2640
Office Workers	0.0522	0.2224	0.0476	0.2129	0.1546	0.3615	0.1620	0.3685
Service Workers	0.0685	0.2526	0.0693	0.2540	0.1826	0.3864	0.2108	0.4079

(continued)

TABLE A2 (*cont'd*)

Variables	Men				Women			
	Year 1994		Year 2000		Year 1994		Year 2000	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Agriculture Workers	0.0645	0.2457	0.1305	0.3369	0.0079	0.0888	0.0373	0.1895
Manufacturing Workers	0.1625	0.3690	0.1549	0.3618	0.0265	0.1605	0.0274	0.1633
Operatives	0.1347	0.3414	0.1449	0.3520	0.0268	0.1614	0.0200	0.1401
Low-skill Occupations	0.4038	0.4907	0.3471	0.4760	0.3871	0.4871	0.3444	0.4752
Agriculture	0.3458	0.4756	0.3562	0.4789	0.1227	0.3281	0.1222	0.3275
Mining	0.0499	0.2178	0.0350	0.1837	0.0039	0.0620	0.0034	0.0583
Manufacturing	0.1439	0.3510	0.1332	0.3398	0.0890	0.2848	0.0757	0.2645
Energy	0.0146	0.1201	0.0125	0.1111	0.0028	0.0528	0.0034	0.0583
Construction	0.1125	0.3159	0.1167	0.3211	0.0096	0.0975	0.0108	0.1034
Commerce & Trade	0.0840	0.2774	0.0950	0.2932	0.1505	0.3575	0.1655	0.3717
Transport & Communication	0.0789	0.2696	0.0745	0.2626	0.0299	0.1704	0.0261	0.1593
Finance	0.0321	0.1763	0.0379	0.1909	0.0520	0.2221	0.0537	0.2254
Services	0.1312	0.3376	0.1362	0.3430	0.5298	0.4991	0.5352	0.4988
Other Activities	0.0072	0.0843	0.0029	0.0536	0.0098	0.0983	0.0040	0.0634
Small Firm	0.2753	0.4467	0.3326	0.4712	0.4269	0.4947	0.4479	0.4973
Medium Firm	0.1195	0.3244	0.2861	0.4519	0.0888	0.2845	0.2230	0.4163
Large Firm	0.6052	0.4888	0.3813	0.4857	0.4843	0.4998	0.3291	0.4699
Region I	0.0212	0.1441	0.0243	0.1538	0.0228	0.1494	0.0281	0.1653
Region II	0.0461	0.2096	0.0301	0.1709	0.0340	0.1813	0.0255	0.1576
Region III	0.0386	0.1926	0.0339	0.1811	0.0310	0.1733	0.0309	0.1730
Region IV	0.0604	0.2383	0.0411	0.1984	0.0683	0.2522	0.0424	0.2015
Region V	0.1405	0.3475	0.0951	0.2934	0.1565	0.3634	0.1075	0.3098
Region VI	0.0372	0.1891	0.0878	0.2831	0.0343	0.1819	0.0786	0.2692
Region VII	0.1238	0.3293	0.1114	0.3146	0.1009	0.3013	0.0883	0.2838
Region VIII	0.1873	0.3901	0.1653	0.3714	0.1353	0.3420	0.1355	0.3423
Region IX	0.0265	0.1605	0.0801	0.2714	0.0265	0.1605	0.0687	0.2529

(continued)

TABLE A2 (*cont'd*)

Variables	Men				Women			
	Year 1994		Year 2000		Year 1994		Year 2000	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Region X	0.0411	0.1986	0.0789	0.2697	0.0393	0.1944	0.0742	0.2622
Region XI	0.0155	0.1235	0.0121	0.1092	0.0153	0.1226	0.0137	0.1162
Region XII	0.0182	0.1338	0.0126	0.1114	0.0182	0.1338	0.0137	0.1162
Metropolitan Region	0.2437	0.4293	0.2274	0.4191	0.3176	0.4656	0.2927	0.4550
Urban	0.6368	0.4809	0.5995	0.4900	0.7661	0.4233	0.7416	0.4378
Inverse Mill's Ratio	0.4584	0.1533	0.4455	0.1487	0.3692	0.1852	0.3361	0.1803

TABLE A3
PROBIT ESTIMATES OF THE LIKELIHOOD TO BE WORKING (ROBUST STANDARD ERRORS IN PARENTHESES)

Independent Variables	Men		Women	
	Year 1994	Year 2000	Year 1994	Year 2000
16 to 25 Years Old	0.6643*** (0.0235)	0.7015*** (0.0314)	0.7207*** (0.0381)	0.7592*** (0.0366)
26 to 35 Years Old	0.5159*** (0.0191)	0.4756*** (0.0245)	0.4836*** (0.0315)	0.4789*** (0.0274)
36 to 45 Years Old	0.2979*** (0.0189)	0.2483*** (0.0199)	0.2395*** (0.0305)	0.2956*** (0.0255)
Married	0.0617*** (0.0155)	0.0725*** (0.0149)	− 0.3066*** (0.0233)	− 0.2607*** (0.0203)
Family Size	0.0039(0.0034)	0.0076** (0.0033)	0.0146** (0.0055)	0.0207*** (0.0050)
Years of Schooling	0.0106*** (0.0018)	0.0068** (0.0029)	0.0424*** (0.0027)	0.0440*** (0.0026)
Non-labour income	− 1.03e-06*** (1.14e-07)	− 5.89e-07*** (2.69e-07)	− 1.76e-06*** (2.32e-07)	− 2.30e-06*** (2.83e-07)
Recent Work Injury	0.0451** (0.0186)	0.0016(0.0208)	− 0.0378(0.0269)	− 0.0304(0.0273)
Region I	− 0.1432*** (0.0469)	− 0.4467*** (0.0353)	− 0.1486** (0.0713)	− 0.4509*** (0.0521)
Region II	0.0613* (0.0367)	− 0.0818** (0.0368)	− 0.4245*** (0.0550)	− 0.2323*** (0.0582)
Region III	− 0.0229(0.0378)	− 0.0429(0.0357)	− 0.1916*** (0.0638)	− 0.0601(0.0599)
Region IV	− 0.1793*** (0.0298)	− 0.2683*** (0.0305)	− 0.0889* (0.0485)	− 0.1506*** (0.0490)
Region V	− 0.0899*** (0.0229)	− 0.0672*** (0.0235)	0.0003(0.0359)	− 0.0898*** (0.0354)
Region VI	0.1948*** (0.0423)	0.1257*** (0.0259)	− 0.0299(0.0651)	0.0819* (0.0436)
Region VII	0.0038(0.0248)	0.0835*** (0.0250)	− 0.1115*** (0.0408)	− 0.0268(0.0396)
Region VIII	− 0.1461*** (0.0210)	0.0392* (0.0207)	− 0.1565*** (0.0357)	− 0.0776*** (0.0322)
Region IX	− 0.4051*** (0.0382)	− 0.1913*** (0.0247)	− 0.0889(0.0708)	− 0.1672*** (0.0401)
Region X	− 0.0490(0.0361)	− 0.3967*** (0.0235)	− 0.0269(0.0597)	− 0.0969*** (0.0389)
Region XI	− 0.0453(0.0562)	− 0.4408*** (0.0511)	− 0.1819** (0.0873)	− 0.1410* (0.0807)
Region XII	0.0953* (0.0559)	− 0.1727*** (0.0537)	− 0.0877(0.0839)	0.0290(0.0906)
Urban	0.1956*** (0.0153)	0.0175(0.0165)	0.1141*** (0.0268)	0.0370(0.0236)
No. of Observations	40,872	50,739	16,796	22,819
Log Likelihood	− 23,445.21	− 28,658.37	− 8,404.8142	− 10,757.56
Wald Chi-Squared	2,227.55	2,543.24	1,442.13	1,793.91

Note: *** denotes statistical significance at the 1% level, ** indicates statistical significance at the 5% level, and * represents statistical significance at the 10% level. The regressions include a constant term. Forty-six to 65 years old individuals and the metropolitan region are used as reference categories.