PRICE DIFFERENCES BETWEEN DUAL-CLASS STOCKS: EVIDENCE FROM MEXICO

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ABSTRACT

Recent literature suggests that there may exist a discount on superior voting shares of Mexican firms, which is inconsistent with the private benefits of control. We evaluate the price differences of dual-class stocks with different voting rights for a sample of firms trading in the Mexican stock exchange. We find an average voting premium of 2.25% for the period between September 1991 and July 2004. We examine the change in the average voting premium over time. A structural break analysis shows a negative voting premium in the period between August 1997 and November 2000. This can be explained by liquidity differences, as we find that on average inferior voting shares are less liquid compared to their superior voting counterparts. Our results indicate that liquidity is an important determinant of relative prices between dual-class stocks in the Mexican market.

Keywords: *Dual-class Shares, Voting Rights, Structural Breaks, Stock Market Liquidity.*

1. INTRODUCTION

In many countries, firms issue dual class shares with different voting rights which separate owners from controllers of the firm. A large strand of the finance literature has linked the price discrepancy of dual-share classes with different voting rights to the private benefits of control. The control premium hypothesis implies that shares with higher voting rights sell at a premium over shares with lower voting rights to capture the possible additional payment that vote holders could receive in presence of a control contest.

Numerous papers have studied the value of a voting right by examining whether shares with superior voting rights command a premium over shares with inferior voting rights. For instance, Zingales (1994) finds that for the case of Italy shares with superior voting rights trade at an 82% premium. A voting premium has also been found to be 46% in Israel (Levy, 1982), 26% in Germany (Hoffmann-Burchardi, 1999), 23% in Canada (Robinson and White, 1995), 20% in Switzerland (Horner, 1988), 13% in the United Kingdom (Megginson, 1990), and 5% in the United States (Lease et al., 1983).

In a more recent paper, Pinegar and Ravichandran (2003) examine the relative prices of sibling American Depositary Receipts (ADRs), where the siblings are distinguished for having different voting rights. Among firms from other countries, their focus is on 5 Mexican firms that list both high and low voting shares as ADRs in the U.S. They find the superior voting ADRs sell at a 6% mean (18% median) discount. Further, when they look at the home market prices of these 5 sibling ADRs, they find that the superior voting shares also sell at a 2% mean discount (12% median discount) in Mexico. Although the price similarities between ADRs and home-market shares are not unexpected if arbitrage is possible, the issue about the control discount for Mexican firms still remains to be explained. The evidence from the Mexican ADRs found by Pinegar and Ravichandran (2003) is a puzzle because it contradicts the well-known control premium hypothesis, which relates the voting premium to the size of the private benefits of control which can be positive or even zero, but not negative.

This paper addresses the issue of whether shares with superior voting rights command a premium over shares with inferior voting rights in Mexico, for home-market dual-share class stocks listed in the Mexican Stock Exchange (MSE). The paper analyzes the voting premium on a sample of Mexican firms to evaluate if the documented discount on superior voting ADR shares exists for home-market shares that trade in the Mexican Stock Exchange. We view the price differences between dual class shares as having two opposite forces: a control premium effect that drives up the voting premium and a liquidity effect that drives it down. A price discount on superior voting shares is consistent with the liquidity effect being stronger than the control premium effect.

Our results show that the voting premium for Mexican firms is 2.25% on average for the full sample period. A time series analysis shows that there are five years in the sample over which shares with high voting rights sell at a discount compared to shares with low voting rights in Mexico. In order to determine the appropriate sub-periods of time over which to average the voting premium, we test for structural breaks in the data. We identify four structural breaks in the average voting premium series that suggests five sub-periods for the data. We find a negative voting premium for one of the sub-periods analyzed. This puzzling finding can be explained, at least in part, by the superior liquidity of inferior voting shares in Mexico.

2. DATA

Using Datastream and information collected directly from the Mexican Stock Exchange, we detect all firms trading in Mexico with dual-class shares. We identify 19 firms with dual share classes listed on the Mexican Stock Exchange that have at least two share classes with different voting rights, and which have data available for both share classes from Datastream, which gives us 38 series to analyze. Due to data restrictions, the sample period is between 1991 and 2004. We also extract from Datastream the data on prices and trading volume of the high and low voting rights shares in the Mexican Stock Exchange. A description of the sample is shown in Table I which presents the firms' code in the MSE, name, industry, the sample period for each firm, and the different share classes of each firm that are considered in this paper. Information on different voting rights is gathered by using the Bolsa Mexicana de Valores (BMV), definitions of share classes provided by the Comision Nacional Bancaria y de Valores (National Commission on Banks and Securities), as well as by analyzing each company's annual reports. A detailed list of share classes applicable to this study is provided in the Appendix.

TABLE I
FIRMS WITH DUAL-CLASS SHARES

Code	*Name*	*Sector*	*Start date*	*End date*	*Share Classes*
AMX	America Movil	Comunications	2/7/2001	7/9/2004	A, L
CEMEX	Cemex, SA de CV	Construction	4/3/1992	9/1/1999	B, CPO
CERAMIC	Internacional de Ceramica	Construction	9/2/1991	7/9/2004	UB, ULD
COMERCI	Controladora Comercial Mexicana	Retail	9/9/1996	10/26/2001	UB, UBC
DESC	DESC	Conglomerate	9/2/1991	4/8/2003	B, C
FEMSA	Fomento Economico Mexicano	Beverages	5/11/1998	7/9/2004	UB, UBD
GFBITAL	Grupo Financiero Bital	Financial Services	10/13/1993	11/20/2002	L, O
GFGBM	Grupo Financiero GBM Atlantico, SA de CV	Financial Services	3/23/1994	10/31/1997	L, O
GFMEXI	Grupo Financiero Asemex Banpais SA de CV	Financial Services	9/2/1991	2/16/1995	B, C
GMD	Grupo Mexicano de Desarrollo, SA	Conglomerates	12/15/1993	3/28/2001	B, L
HYLSAMX	Hylsamex, SA de CV	Steel	2/25/2004	7/9/2004	CPO, B
LIVEPOL	El Puerto de Liverpool	Retail	6/11/1992	7/9/2004	C1, 1

TABLE I (continued)
FIRMS WITH DUAL-CLASS SHARES

Code	*Name*	*Sector*	*Start date*	*End date*	*Share Classes*
MADISA	Maquinaria Diesel	Auto	1/21/1999	7/9/2004	B, L
NADRO	Nadro, SA de CV	Phamaceuticals	3/4/1992	12/27/1999	B, L
POSADAS	Grupo Posadas	Construction	3/25/1992	7/9/2004	A, L
TELMEX	Telefonos de Mexico	Telecom	9/2/1991	7/9/2004	A, L
TLEVISA	Grupo Televisa, SA	Media	12/14/1993	7/9/2004	A, CPO
TMM	Grupo TMM, SA	Transporte	9/2/1991	9/10/2002	A, L
WALMEX	Wal-Mart de Mexico	Retail	9/2/1991	4/8/2003	V, C

3. IS THERE A VOTING PREMIUM FOR FIRMS LISTED ON THE MSE?

A first measure of the price differential is calculated in the spirit of Neumann (2003). The voting premium for firm i at time t is calculated as:

$$VP_{it} = \frac{P_{it}^{s} - P_{it}^{i}}{P_{it}^{i}} \tag{1}$$

Where P_{it}^{s} is the price of the superior voting shares of firm i at time t, and P_{it}^{i} is the price of firm i's inferior-voting shares at time t. The average voting premium for firm i during the period t_1 to t_2 is given by:

$$VP_{i,t_1-t_2} = \sum_{t_1}^{t_2} \frac{VP_{i,t}}{\left(t_2 - t_1\right)} \tag{2}$$

To measure the average voting premium for our sample period and firms, we first calculate the average voting premium for each year as in (2) and then average across all the years in the sample.

Notwithstanding, not all the companies have exactly the same differences in voting rights for their pair of dual class shares and hence aggregating across firms might be misleading. For example, while for company DESC, Series B has one vote and Series C has zero votes, for company FEMSA Series UB has five votes and Series UBD has only one vote. If we calculate the voting premium as in (1), we could be underestimating or overestimating the voting premium depending of the specific characteristics pertaining to the composition of the shares of each firm. To refine the computation of the voting premium so that it has a more straightforward interpretation, we normalize it to exactly one vote of difference between the two share classes. The normalized voting premium is thus:

$$NVP_{it} = \frac{1}{n^{s} - n^{i}} \left(\frac{P_{it}^{s} - P_{it}^{i}}{P_{it}^{i}} \right) \tag{3}$$

Where n^{s} is the number of votes of the superior voting shares and n^{i} is the number of votes of the inferior voting shares. The number of votes of superior and inferior share classes is collected from the firms' annual reports.

Table II presents the results of our estimations of the voting premium estimated as in (1) and the normalized voting premium estimated as in (3). We find a very small positive voting premium for our

sample firms. The voting premium is, on average, 2.25% (median 1.38%). Additionally, about half (56.16%) of all observations have a positive voting premium. The numbers using the normalized voting premium are very similar. On average, the normalized voting premium is 2.92% (median 1.04%) with 56.16% of observations having a positive normalized voting premium.

TABLE II
VOTING PREMIUM FOR MEXICAN FIRMS

	All Firms	**Excluding those with Share type A offerings**
Voting Premium		
Average Voting Premium	2.25%	1.86%
Median Voting Premium	1.38%	1.95%
% Observations with VP>0	56.16%	57.89%
Normalized Voting Premium		
Average Normalized Voting Premium	2.92%	0.91%
Median Normalized Voting Premium	1.04%	0.66%
% Observations with NVP>0	56.16%	52.52%

We re-do the analysis excluding firms that issued share type A offerings. According to the Comision Nacional Bancaria y de Valores of Mexico, type A series are common shares exclusive for Mexican investors, which have full voting rights and can only be bought by foreigners through ADRs. We exclude them in the second column of Table II to guarantee that our results are not being driven by the foreign ownership restrictions that Type A shares convey. As can be seen from the table, the results are similar as with the full sample of firms: there seems to be a small but positive voting premium for dual shares of Mexican firms listed in the Mexican Stock Exchange.

4. TIME SERIES ANALYSIS OF THE VOTING PREMIUM

Previous literature suggests that firms with high voting rights might sell at a discount compared to firms with low voting rights in Mexico. We examine the time series properties of the voting premium for our sample firms to determine if the results could be influenced by the time period chosen. Table III presents the average and median yearly voting premium (Panel A) and the normalized voting premium (Panel B). The average and median yearly voting premiums are calculated by first obtaining the per-firm estimate and then calculating the statistic for all firms in a particular year. Table III shows the results for both the full sample and the sub-sample that excludes firms with share type A offerings. From Panel A, we observe that the voting premium ranges from a low of -6.44% in 1999 to a high of 15.52% in 2001. The 6.44% discount in 1999 indicates that on average that year, firms with high voting rights sold at a price that was 6.44% lower than firms with low voting rights. We find a voting discount in 5 out of the 14 sample years. When we compare Panels A and B, we observe the results for the average voting premium are consistent among measures and hold even when type A offerings are excluded from the sample. The median voting premium varies among years, and ranges from 0% in 2004 to 5.88% in 2001. Similarly, the percentage of observations with a positive voting premium range from 44.97% in 2004 to 63.98% in 1991.

Given the wide variation in the voting premium for Mexican firms over time, it may be misleading to get an estimate of the average voting premium by summarizing over large periods of time. To find the appropriate sub-periods over which to summarize the data we take the approach of looking for structural breaks in the data.

TABLE III
VOTING PREMIUM BY YEAR

Panel A. Voting Premium

	All Firms			Excluding those with Share type A offerings		
Year	Average Voting Premium	Median Voting Premium	% observations with VP>0	Average Voting Premium	Median Voting Premium	% observations with VP>0
1991	2.53%	1.13%	63.98%	3.45%	1.30%	58.33%
1992	0.93%	0.95%	55.57%	2.63%	1.51%	59.40%
1993	1.53%	1.33%	58.85%	4.07%	3.16%	68.60%
1994	-0.08%	0.22%	51.35%	-0.99%	0.21%	51.44%
1995	7.55%	1.25%	54.22%	4.17%	1.62%	55.05%
1996	0.55%	1.06%	55.93%	1.67%	1.82%	60.49%
1997	-1.11%	0.94%	54.69%	0.96%	1.49%	60.19%
1998	-3.98%	0.90%	53.51%	-2.80%	2.54%	59.97%
1999	-6.44%	1.22%	55.59%	-4.94%	2.19%	58.28%
2000	-2.02%	1.01%	54.97%	-5.22%	0.00%	47.95%
2001	15.52%	5.88%	62.58%	13.79%	7.00%	66.51%
2002	8.90%	1.68%	58.82%	6.31%	2.27%	54.89%
2003	6.78%	1.79%	61.18%	2.31%	2.13%	61.06%
2004	0.79%	0.00%	44.97%	0.63%	0.00%	48.30%

Panel B. Normalized Voting Premium

	All Firms			Excluding those with Share type A offerings		
Year	Average Voting Premium	Median Voting Premium	% observations with VP>0	Average Voting Premium	Median Voting Premium	% observations with VP>0
1991	2.23%	1.03%	63.98%	-0.44%	-0.07%	44.44%
1992	1.00%	0.85%	55.57%	0.31%	0.30%	51.49%
1993	1.54%	1.30%	58.85%	3.21%	1.52%	63.59%
1994	0.96%	0.21%	51.35%	-1.90%	-0.61%	45.90%
1995	11.16%	1.24%	54.22%	4.91%	0.00%	49.53%
1996	1.24%	1.03%	55.93%	2.34%	0.57%	55.74%
1997	-0.78%	0.75%	54.69%	1.02%	0.69%	55.68%
1998	-4.73%	0.79%	53.51%	-3.64%	1.81%	56.80%
1999	-7.80%	1.03%	55.59%	-6.20%	1.19%	54.81%
2000	-1.72%	0.91%	54.97%	-6.85%	0.00%	41.44%
2001	17.21%	2.94%	62.58%	11.63%	2.94%	61.77%
2002	10.59%	1.33%	58.82%	4.50%	0.00%	47.23%
2003	8.70%	1.12%	61.18%	2.04%	0.85%	58.62%
2004	1.20%	0.00%	44.97%	1.86%	0.00%	48.30%

4.1 Structural Breaks in the Average Voting Premium

To get an insight of the voting premium over time, we want to average the voting premium across sub-periods of time. Determining the sub-periods to be used is important. To correctly determine the possible sub-periods over which to average the voting premium, a structural breaks test is performed. We consider the possibility of several structural breaks, and let the data tell us the number of structural breaks needed as well as their location by using the methodology of Bai and Perron (1998, 2003).

4.1.1 Methodology

We test for the presence of multiple structural changes in the mean of the voting premium series by following Bai and Perron (1998, 2003), hereinafter (BP). To estimate a pure structural change model consider the following linear regression with *m* breaks (the voting premium is allowed to have up to *m*+1 different means):

$$y_t = z_t^{'}\delta + u_t \qquad t = T_{j-1}+1,\ldots,T_j \tag{4}$$

for $j = 1,\ldots,m+1$. In our empirical application, y_t is the average voting premium at time *t*, u_t is the disturbance at time t; the indices ($T_1,\ldots, T_m$), are the break points which are explicitly treated as unknown. Since we are interested only in abrupt changes in the mean of the series, the model only has a constant as a regressor, $z_t = \{1\}$.

The objective is to estimate the unknown parameters δ and the breakpoints $(T's)$. For each possible set of break dates ($T_1,\ldots, T_m$) there is a least-squares estimate of δ. The associated least squares estimates of δ and break dates ($T_1,\ldots, T_m$) are those that minimize the sum of square residuals out of all the potential set of break dates.

To decide whether or not structural breaks exist and to determine the number of structural changes, BP proposed three different tests:

a) A test of no break versus a fixed number of breaks. It consists of a *supF* type test with no structural break (*m*=0) as the null hypothesis against the alternative of some fixed number of breaks (*m*=*k*).
b) Double maximum tests. If the interest is not to pre-specify a particular number of breaks, BP design two tests with the null hypothesis of no structural breaks against the alternative of an unknown number of breaks given some upper bound *M*. The double maximum tests are labeled the UD*max* and the WD*max*.
c) A test of μ versus $\mu+1$ breaks. BP proposed a sequential methodology of tests labeled $\sup F_T(\mu+1 \mid \mu)$ that consist of up to $(\mu+1)$ tests, beginning with the null hypothesis of no structural change versus the alternative hypothesis of one structural change. To conclude for a rejection in favor of the model with $(\mu+1)$ breaks, the overall minimal value of the sum of squared residuals of this model must be smaller than the overall minimal value of the sum of squared residuals of the μ break model. This procedure repeats until it is not possible to reject the null hypothesis.

More details on these tests are provided in Bai and Perron (1998, 2003).

4.1.2 Empirical application

Before implementing the methodology of BP, it is necessary to provide evidence about the stationarity of the series under analysis. To this end, we perform several popular unit root tests: the Augmented Dickey-Fuller (ADF) (1979), the Elliot et al. (ERS) (1996) , the Phillips-Perron (PP) (1988), the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) (1992) and the tests of Ng and Perron (MZ_a, MZ_t, MSB, MPT) (2001). In performing the tests only a constant was included and the number of lags was automatically selected by the Schwarz Information Criterion (SIC). The statistics of these tests are reported in Table IV.

The results of all tests suggest that both series, the Average Voting Premium (AVP) and Average Normalized Voting Premium (ANVP) follow a stationary process.

TABLE IV
UNIT ROOT TESTS

Series	ADF[a]	ERS[a]	PP[a]	KPSS[b]	MZ_a[a]	MZ_t[a]	MSB[a]	MPT[a]
AVP	-3.97**	-3.76**	-3.58**	0.35	-27.29**	-3.69**	0.13**	0.90**
ANVP	-3.47**	-3.39**	-3.22*	0.34	-22.41**	-3.34**	0.14**	1.09**

[a] The null hypothesis is unit root. [b] The null hypothesis is stationarity. The symbols ** and * denote rejection of the null hypothesis at the 1% and 5% level respectively.

Once we have confirmed the series are stationary, we can proceed to test for the presence of multiple structural changes in the mean of the voting premium series. As noticed by BP, this method becomes promptly computationally excessive when $m > 2$, therefore, to be able to estimate the model we use the weekly average voting premium instead of using daily data. We allow for a maximum of five breaks, we use a trimming of 0.15, and since the sample size is n = 718 each partition has a minimum of 108 observations. The results are shown in Table V. We only present the results for the average voting premium, but the results for the normalized average voting premium are qualitatively similar.

TABLE V
EMPIRICAL RESULTS OF STRUCTURAL BREAKS METHODOLOGY

Tests

$SupF_T(1)$	$SupF_T(2)$	$SupF_T(3)$	$SupF_T(4)$	$SupF_T(5)$	UDmax	WDmax
8.42*	14.13*	18.01*	16.13*	12.90*	18.01*	28.32*

Sup*F*(2|1)	Sup*F*(3|2)	Sup*F*(4|3)	Sup*F*(5|4)
13.64*	11.57*	11.49*	0.23

Number of breaks selected

Sequential	LWZ	BIC
4	4	4

Output from the estimation of the model selected by BIC

$\hat{\delta}_1$	$\hat{\delta}_2$	$\hat{\delta}_3$	$\hat{\delta}_4$	$\hat{\delta}_5$
0.0327	0.0035	-0.0440	0.1289	0.0504
(0.00)	(0.08)	(0.00)	(0.00)	(0.00)

$\hat{T}_1$	$\hat{T}_2$	$\hat{T}_3$	$\hat{T}_4$
11/24/95	08/22/97	11/24/00	08/30/02

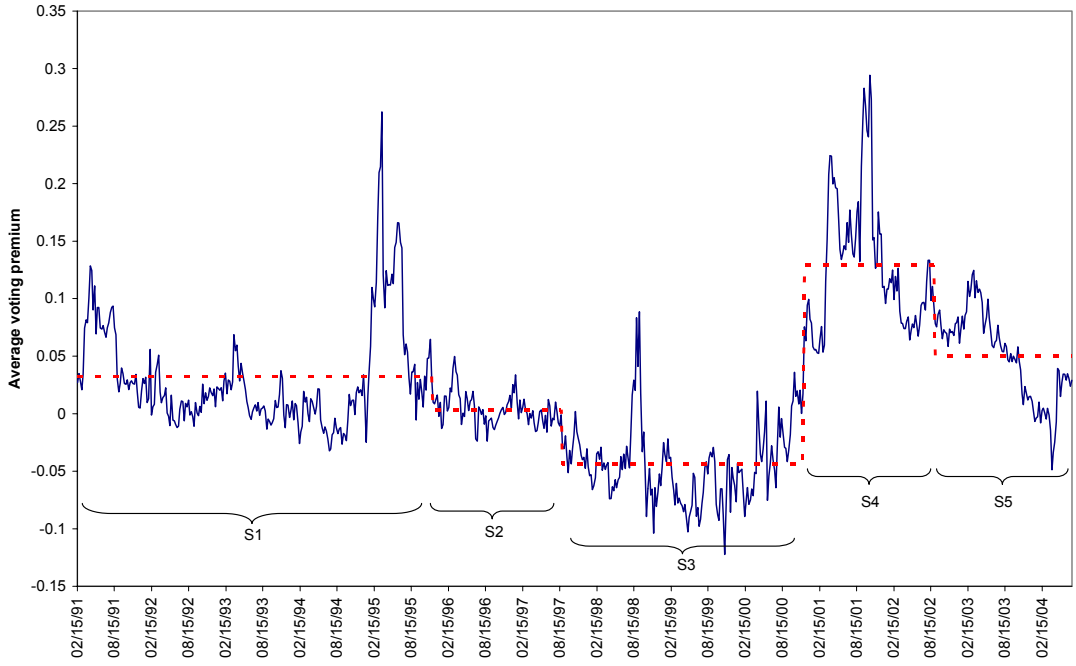
* Significant at the 5% level. P-values are in parentheses.

The sup$F_T(k)$ tests in the first row of Table V are significant for all k between 1 and 5, which implies that all the tests reject the null hypothesis of no structural break. Consequently, these tests suggest that there is at least one break. Moreover, the Double maximum tests labeled UDmax and WDmax also indicate the existence of some unknown positive number of breaks. The tests of μ versus $\mu+1$ structural breaks have the following results. The Sup$F$(2|1), Sup$F$(3|2) and Sup$F$(4|3) take the values of 13.64, 11.57 and 11.49, respectively. All of them are significant at the 5% level. The Sup$F$(5|4) has a value of 0.23, which means that we cannot reject the null of four breaks in favor of the alternative of 5 breaks. Altogether, the results entail that the sequential procedure proposed by BP suggests the presence of four structural breaks in the mean of the series.

The results also show that the Bayesian Information Criterion (BIC) by Yao (1988) and the Schwarz Criterion (LWZ) by Liu et al. (1997) select the same number of breaks. The break dates $(T's)$ are estimated at 11/24/95, 08/22/97, 11/24/00, and 08/30/02. The estimated means values over each segment are 0.0327, 0.0035, -0.0440, 0.1289 and 0.0504 which are all statistically different from zero.

Figure 1 presents a graph of the average voting premium series and the estimated values of the mean voting premium calculated over the five sub-periods estimated with the BP methodology. The largest voting premium occurred in sub-period 4, between November 2000 and August 2002 during which the voting premium was on average 12.89%, an estimate much closer to the estimates of the voting premium for other countries. Sub-periods 1, 2 and 5 which range in time from September 1991 to August 1997 and from August 2002 to July 2004 present a small average voting premium which ranges from 0.35% to 5%.

FIGURE 1
AVERAGE VOTING PREMIUM



In contrast, during the third sub-period, from August 1997 to November 2000, we find a negative voting premium of 4.40%. These time patterns might explain the results in Pinegar and Ravichandran (2003) since their sample period ends in 1998. One possibility is that during 1997, with the Asian financial crisis, liquidity became a more important factor for investors. If shares with inferior voting rights are more

liquid compared to shares with superior voting rights, and if liquidity becomes important to investors during this time period given the ongoing financial crisis, then we could at least partially explain the finding that shares with inferior voting rights (the more liquid ones) trade at a premium over shares with superior voting rights (the less liquid shares). Of course, this explanation rests on the assumption that inferior voting shares are more liquid than superior voting shares, which will be analyzed in the next section.

Most literature links the price differentials of share classes with different voting rights with the private benefits of control. The voting premium should be positive to reflect the possibility that holders of shares with superior voting rights could receive an additional payment if there was a control contest. If both shares carry the same cash flow rights, an investor would be willing to pay a positive amount or at least nothing for the right to hold the share with superior voting rights. The voting premium should be thus a positive amount or zero in the worst case. A negative voting premium is thus a puzzle. However, a negative voting premium can be explained if shares with high voting rights have higher trading costs compared to shares with low voting rights. One such measure of trading costs is liquidity. It is important in our case, thus, to examine the liquidity of superior and inferior voting shares. If superior voting shares entail higher trading costs they might be sold at a lower price explaining our findings of a low or negative voting premium.

5. COULD IT BE DIFFERENCES IN LIQUIDITY?

Smith and Amoako-Adu (1995) and Pinegar and Ravichandran (2003), among others, point out that differences in liquidity (relative volume) are a determinant of the relative prices between superior and inferior voting shares. In order to gauge on the relative liquidity of dual-class shares we start by computing a relative volume statistic similar to that in Zingales (1995). Relative volume for firm i on day t is estimated as $RV_{it} = Vol^{s}_{it} / Vol^{i}_{it}$, where Vol^{S}_{it} refers to the volume of the superior voting shares of firm i on day t, and Vol^{i}_{it} refers to the volume of inferior voting shares of firm i on day t. Next, we create an indicator variable that equals 1 if the relative volume measure for firm i on day t is less than one, indicating that inferior voting shares were more liquid than superior voting shares, and equals zero otherwise. We use this dummy variable to calculate the percentage of observations with relative volume less than one.

The results for the full sample are presented in Panel A of Table VI. We find the median relative volume for the full sample to be 0.94. This indicates that shares with inferior voting rights trade more frequently compared to shares with superior voting rights. The Wilcoxon statistic and its respective p-value indicate that the median relative volume is statistically different from 1. In addition, 53% of observations have relative volume less than one, the t-statistic and p-value indicate that this is statistically higher than 50% which we would have if the liquidity of both share classes was the same. Overall, results indicate that shares with high voting rights trade less frequently compared to shares with low voting rights, which might explain, at least in part, why the voting premium for firms trading in Mexico is so small and even negative during particular periods of time.

We next analyze the relative volume statistics by sub-period according to the results obtained in Section 4. S1-S5 in Panel B of Table VI refers to those five sub-periods. The table reports the percentage of observations with relative volume less than one in the last column. To calculate the percentage of observations with relative volume less than one, we first find the percentage for each firm and period, and then average across firms in each sub-period. The table also reports once more the average voting premium during the 5 sub-periods for reference.

The results show that the relative liquidity of inferior voting shares increased monotonically from sub-period 1 to 4, and then fell during sub-period 5. Comparing with the average voting premium statistic, the average voting premium fell from sub-period 1 to 3, and then increased in sub-period 4 only to fall again in sub-period 5. An observation of the first 3 sub-periods suggests that as inferior voting shares became more liquid relative to superior voting shares, their share prices increased also relative to the share prices of their higher-voting counterparts. This suggests that liquidity explains, at least in part, the relative prices of dual-class shares in Mexico. We learn that liquidity is not the only determinant of the

price differences, since in sub-periods 4 and 5 superior voting shares sell at a premium over inferior voting shares, even though inferior voting shares trade more frequently. This is consistent with the existence of private benefits from control.

TABLE VI
RELATIVE VOLUME STATISTICS

Panel A. Full Sample

Median Relative Volume	0.94	Percent less than one	0.53
Wilcoxon statistic for median different from one	25.70	t-statistic for percent equal to 0.5	7.47
p-value	0.00	p-value	0.00

Panel B. By Sub-periods of time

Sample	From Date	To Date	Average VP	Relative Volume Percentage less than one
S1	09/02/91	11/24/95	3.27%	51.54%
S2	11/25/95	08/22/97	0.35%	52.76%
S3	08/23/97	11/24/00	-4.40%	53.29%
S4	11/25/00	08/30/02	12.89%	71.42%
S5	08/31/00	07/09/04	5.04%	63.49%

6. CONCLUSIONS

This paper studies whether shares with superior voting rights command a premium over shares with inferior voting rights in Mexico. Prior literature using ADRs suggests that the voting premium in Mexico could be negative. Our results indicate that the findings of a negative voting premium for Mexican firms could be a result of the time periods examined. In particular, we find a small 2.25% average voting premium for all firms in our sample. When we subdivide the sample by years, we find voting discounts on 5 of the 14 years in our sample. The negative voting premium is inconsistent with the control premium hypothesis but can be explained by superior voting shares carrying higher trading costs compared to inferior voting shares. We find that inferior voting shares tend to be more liquid than superior voting shares in Mexico. This suggests that liquidity is an important determinant of the almost non-existent voting premium in Mexico. Our results also suggest that another determinant of the price differences of dual-class shares could be the private benefits of control.

APPENDIX
SHARE CLASSES IN MEXICO

In Mexico, the Comision Nacional Bancaria y de Valores (National Commission on Banks and Securities) is the regulatory authority on banks, stock brokers, and securities. It makes a distinction among share classes according to the rights that the share class confers to its holder. The Comision Nacional Bancaria y de Valores (CNBV) makes the following distinction of share classes:

A Series: Common shares exclusive for Mexican investors. These have full voting rights and can only be bought by foreign investors through American Depositary Receipts.

B Series: Common shares of free subscription. These can be bought by Mexican or foreign investors and they carry full voting rights.

C Series: Open to all investors, but it restricts voting rights for foreign investors.

L Series: Common shares with limited voting rights, open to both Mexican and foreign investors.

In addition, the Law of the MSE establishes the following series for financial institutions:

O Series: Common shares for financial institutions, with full voting rights.

Other share classes are also issued by Mexican firms. If we could not find information about them on the CNBV or the MSE, annual reports were used to determine their voting rights. The following is a list of shares also used in the sample:

V Series: Common stock, open to both Mexican and foreign investors, with full voting rights.

UB Series: Tied units that represent shares type B. For example, for Controladora Comercial Mexicana one UB share ties four B shares together. For Fomento Economico Mexicano one UB share ties five B shares together.

UBC Series: Tied units that represent a union of type B and C shares. For the only company in our sample that issues UBC shares, Controladora Comercial Mexicana, one UBC share is equal to three B shares linked with one C share.

D Series: Shares available to both Mexican and foreign investors, with limited voting rights and preferential dividend treatment.

UBD Series: Tied units that represent a combination of share series B and D.

ULD Series: Tied units that represent a combination of share series L and D.

1 Series: Shares with full voting rights.

C-1 Series: Shares with no voting rights.

CPO Series: CPOs (Certificados de Participacion Ordinaria) are of free subscription, open to both Mexican and non-Mexican investors, and have limited voting rights. We analyzed company's annual reports to determine what a CPO represented for each firm. For example, while for Hylsamex one CPO is like one B share with no voting rights, for Cemex one CPO represents two shares of series A plus one share of series B, where the CPO has no voting rights on the A shares.

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