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Accruals for latin american firms

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ACCRUALS FOR LATIN AMERICAN FIRMS

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ABSTRACT

The relationships among earnings, accruals, and cash flows for selected Latin American countries (Mexico, Chile, and Argentina) are investigated in this study from 1990 to 2009. We find a negative relationship between accruals and cash flow across decile portfolios. More importantly, firms in decile portfolio 10 reporting relative high level of earnings relative to assets, 6.5%, have the worst level of cash flows (negative 9.7%). Results are compared to previous results for U.S. firms. Given the level of sophistication of these capital markets, results for Latin American firms are less stable than for the U.S.Results disaggregated by years show that high-accruals portfolios consistently report relative high levels of earnings but low levels of cash flow. Further, the gap between earnings and cash flow is higher after 2000. This relationship is of economic importance given that investors are very oriented towards firms yielding high earnings and might fail to realize that earnings are not always accompanied by strong levels of cash flows.

INTRODUCTION

The relationships among earnings, accruals, and cash flows have proved to be of economic importance. Earnings are comprised of two components: accruals and cash flow. For the most part, the quality of earnings on the income statement is more a function of the accruals and less so cash flows. Consequently the literature continues to see more discussion of cash flows versus accruals. Trejo-Pech, Weldon, House and Gunderson (2009), pp.521, state:

"A recent Wall Street Journal (2008) article discusses the relationship between earnings quality, cash flow, and accruals. Matthew Rothman of Lehman Brothers talks about the company's investment strategy of screening stocks based on changes in accruals. In the same article Richard Sloan, of Barclays Global Investors, notes that investors should "expect to see more strains on companies with rising accrual." Mr. Sloan's comment is not particularly surprising given that Sloan (1996), over a decade ago, wrote what many consider a seminal article on the impact of accruals on stock returns."

Sloan (1996) analyzes the U.S. market from 1962 to 1991, and documents a systematic relationship between current period's accruals and future period's stock returns. He further argues that few investors pay attention to this relationship, opening the possibility for arbitrage. This possibility of arbitrage is termed the accrual anomaly in the financial and accounting economics literature.

Several studies have replicated, extended, and challenged the accrual anomaly. However, a complete explanation for this problem has yet to be provided. Khan (2008), (pp72), illustrates the importance of this research problem:

> "[The accrual anomaly] is especially troubling because it implies that the market misunderstands a reported financial accounting number… It is hard to imagine how a number that is misunderstood could be very useful"

We are interested in the stream of research that examines the accrual anomaly in countries other than in the U.S. LaFond (2005); Pincus, Rajgopal and Venkatachalam (2007); and Kaserer and Klingler (2008)

have investigated the accrual anomaly in an international context but none of these studies have investigated the accrual anomaly in Latin American countries.

LaFond (2005) was the first to provide evidence that the accrual anomaly is present in non-U.S. markets. He also finds that the accrual anomaly is not related to differences in legal systems nor it is associated with the level of investor protection and it is present in countries with both high and low accrual intensive accounting systems. In contrast, Pincus, Rajgopal and Venkatachalam (2007) find that stock prices overweight more accruals in countries with a common law tradition relative to a code law tradition, where extensive use of accrual accounting is allowed, in the presence of weaker outside shareholder rights, and in countries where there is a low ownership concentration. Kaserer and Klinger (2008) focus their study on accounting standards and find that the overreaction to accrual based information is most likely related to firms complying with international accounting standards (that tend to be US-GAAP based) than for firms that follow a more conservative system like German-GAAP. Overall, the international evidence gives us with the opportunity to shed light on results by accruals for Latin American firms. Although the study does not attempt to test the accrual anomaly, it starts by investigating the relationships among accruals, cash flows, and earnings for Latin America firms. These relationships form the basis of the accrual anomaly problem.

Data

Data from Economatica, the largest subscription-based financial database for Latin American publicly traded firms, are used in this study. Economatica also includes information from a few firms that are private but that report their financial statements to a local regulatory agency. Private firms were excluded from the sample. Financial firms were also excluded since their financial statements differ from those of the rest of industries.

Economatica includes firms from Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela in a standardized format, which allows comparison across firms, countries, and industries. Trailing twelve months (ttm) financial statements data in US dollars as of the end of each quarter were used. All empirical variables as defined in equations (1) and (2) in the following section were calculated in the study. All variables were considered critical in the sense that firm-trailing twelve month (firm-ttm) observations with missing values on any of the variables defined in this study were eliminated from the sample. In addition, as the estimation of most variables required the estimation of changes from period *t-1* to period *t*, when data on the appropriate sequence was not available to estimate such change, the firm-ttm observation was eliminated from the sample.

After filtering the data following the criteria outlined above, firms from Venezuela, Peru, and Colombia were eliminated. The firm-ttm observations for those countries were far lower than the number of observations for the rest of the countries. Thus, the final sample includes firms from Mexico, Argentina, and Chile from 1990 to the third quarter of 2009. The final sample includes 14,039 firm-ttm observations as shown in Table 2.

Empirical Measures Of Accruals And Earnings

Earnings (*Ear*) represent the sum of a cash flow (*CF*) and an accrual (*Acc*) component. Cash flow is measured as,

$$CF = Ear - Acc, \qquad (1)$$

where the variable earnings, *Ear,* is operating income.   Some studies measure earnings differently. To mention a few of them: Freeman, Ohlson and Penman (1982), use net income; Dechow (1994); and Moehrle, Reynolds- Moehrle and Wallace (2003) use net income excluding

extraordinary items and discontinued operations. We follow the literature related to accruals and use operating income.   Operating income excludes non-recurring items such as extraordinary items, discontinued operations, special items and non operating income, taxes, and interest expenses.

Accruals, *Acc,* is measured following Chan, Chan, Jegadeesh and Lakonishok (2006) as,
$$Acc = \Delta AR + \Delta INV + \Delta OCA - \Delta AP - \Delta OCL - DA \qquad (2)$$
where *AR* is accounts receivable, *INV* is inventories, *OCA* is other current assets, *AP* is accounts payable, *OCL* is other current liabilities; and DA is depreciation and amortization.

All variables are divided by total assets to control for scale differences. Alternative investment bases have been used in the literature including sales, beginning of period assets, ending of period assets, book value of net assets generating the accruals, and market capitalization. Accruals results have been reported to be insensitive to the choice of investment base.

Two issues related to the measurement of accruals must be mentioned. As defined in this study, variable accruals relates to *operating* cash flow as opposed to free cash flow to equity. This follows the implementation of accruals introduced by Healy (1985) and Sloan (1996) and used in most recent studies. Richardson, Sloan, Soliman and Tuna (2005) measure total accruals (related to free cash flow to equity), but their suggestion has not been repeated in the literature. Secondly, accruals are measured indirectly from the balance sheet instead of taking it directly from the statement of cash flow. This is common in research on the accrual anomaly with the notable exception of Kraft, Leone and Wasley (2006).

RESULTS

Descriptive Statistics- Table 1 presents the means of selected financial characteristics by country and for Latin America as a group.

Table 1 : Descriptive statistics for Latin American selected countries, 1990-2009

	ARG	**CHI**	**MEX**	**LAT**
Assets	365,892.3	334,798.2	1,901,297.4	1,208,624.0
AR	26,937.7	35,434.8	159,139.5	103,329.7
INV	21,416.9	30,706.1	146,324.9	94,026.5
AP	24,658.1	24,774.4	109,933.7	72,094.9
Leverage	34%	23%	31%	30%
EBIT	26,745.2	22,457.3	318,463.6	187,414.8

Notes: *Table 1 provides means of selected financial items.* **Assets** *is total assets,* **AR** *is account receivables,* **INV** *is inventories,* **AP** *is accounts payable, Leverage is total debt with cost divided by the sum of total debt with cost and the book value of equity, and* **EBIT** *is earnings before interest and taxes. With the exception of leverage all values are expressed in thousands of US dollars (exchange rates as given by Economatica as of the end of each month).* **ARG** *stands for Argentina,* **CHI** *for Chile,* **MEX** *for Mexico, and* **LAT** *for Latin America as a group.*

Earnings, Accruals, and Cash Flow- Table 2 provides information on the components of earnings and accruals for Latin America by countries, for Latin America as a group, and for the U.S. from a previous study by Chan, Chan, Jegadeesh and Lakonishok (2006).

Panel A of Table 2 shows statistics on earnings, accruals and cash flow. On average, Latin American firms yield very low earnings compared to the U.S. (0.060 compared to 0.121). The difference on reported earnings is consistent on both the accrual and cash flow component of earnings (i.e., accruals for Latin America are lower than the U.S., and cash flow for Latin America are lower than the U.S. as

well). Thus, for a given level of reported earnings U.S. firms generate more cash flows and accruals than the average Latin American firm.

For Latin American countries, Mexico reports the highest and most stable level of earnings, but not the highest cash flow. As expected given the level of sophistication of these capital markets, results for Latin America as a group, presented in panel A of Table 2, are less stable (as measured by the coefficient of variation) than the U.S. market.

Table 2: Earnings, cash flow, and accruals for Latin America by selected countries for the 1990-2009 period, and for the USA

Item	ARG	CHIL	MEX	LAT	USA
Observations	**1,423**	**4,813**	**7,803**	**14,039**	**NA**
Panel A - Earnings and components					
Accruals					
Mean	(0.049)	(0.033)	(0.025)	(0.030)	(0.012)
σ	0.065	0.213	1.150	0.866	0.102
Cash Flow					
Mean	0.106	0.077	0.096	0.090	0.133
σ	0.105	0.258	1.191	0.901	0.141
Earnings					
Mean	0.057	0.044	0.070	0.060	0.121
σ	0.088	0.147	0.106	0.121	0.126
Panel B - Accruals components					
ΔAR					
Mean	(0.002)	(0.002)	0.001	(0.000)	0.030
σ	0.052	0.162	0.042	0.101	0.073
ΔOCA					
Mean	(0.001)	(0.001)	0.001	(0.000)	0.026
σ	0.040	0.101	0.042	0.068	0.071
ΔAP					
Mean	(0.001)	(0.001)	(0.000)	(0.000)	0.004
σ	0.017	0.033	0.041	0.037	0.023
ΔOCL					
Mean	(0.002)	(0.001)	0.001	0.000	0.014
σ	0.041	0.112	0.038	0.073	0.045
DA					
Mean	(0.000)	(0.002)	(0.011)	(0.006)	0.013
σ	0.029	0.104	1.147	0.857	0.038
	0.047	0.032	0.036	0.036	0.045
	0.030	0.099	0.046	0.068	0.028

*Notes: The Latin America sample covers the 1990-2009 period. USA results from a previous study Chan, Chan, Jegadeesh and Lakonishok (2006) for 1971 to 1995. **ARG** is Argentina, **CHI** is Chile, **MEX** is Mexico, and **LAT** stands for all Latin America. Earnings is estimated as operating income, Accruals as defined in equation (2), and Cash Flow is a proxy for cash flow from operations as defined in equation (1).ΔAR is change in account receivables, ΔINV is change in inventories, ΔOCA is change in other current assets, ΔAP is change in accounts payable, ΔOCL is change in other current liabilities, and **DA** is depreciation and amortization. All variables are divided by total assets to control for scale differences.*

Presented in Panel B of Table 2 are the accruals decomposed according to equation (2). As expected, depreciation and amortization (*DA*) is the largest component of accruals across all countries, but it is the most stable component of accruals as well. This is explained by the nature of this item related to permanent assets. Excluding depreciation and amortization, net operating working capital relative to total

assets, defined as $\Delta AR+\Delta INV-\Delta AP$, is the main component of accruals. Net operating working capital for Latin America as a group is 0% relative to total assets, compared to 4.3% for the U.S. This difference could be of economic importance since it represents, for Latin American firms, cash that does not need to be tied to operations compared to the average U.S. firm. This amount for the U.S. represents almost one third of average reported earnings. Results for Latin America are consistent across countries.

Accruals Portfolios: To better understand the relationships among accruals, cash flow, and earnings across firms and countries, results are analyzed by portfolios of accruals. Every year, all firms in the sample are ranked according to the magnitude of accruals and assigned to one of ten decile portfolios.

Provided in Table 3 are the means of earnings, accruals, and cash flow along with a proxy for size by accrual portfolio for Latin America. Decile portfolio one (Decile Port1) contains firms with the lowest level of accruals, portfolio two contains firms with the second lowest level of accruals, up to portfolio ten, which contains firms with the highest level of accruals.There is a negative relationship between accruals and cash flow across decile portfolios. As one moves from decile portfolio one with a mean of -0.19 for accruals to portfolio ten with a mean of 0.159, cash flow *monotonically* decreases from 0.215 to -0.097. With regards to earnings and accruals, although the relationship tends to be positive (i.e., forcing the negative relationship between accruals and cash flow), this is not always the case. However, firms with very low accruals (decile port1) report low levels of earnings, 0.25, compared to very high accruals firms (decile port10), 0.062.

Of economic importance is the fact that Latin American firms reporting the lowest level of earnings (0.025) report the highest level of cash flow. More importantly, firms reporting a relative high level of earnings (0.062 in decile portfolio 10) have the worst cash flow (negative 0.097). Thus, disaggregating the sample by level of accruals provides new insights not shown otherwise. Figure 1 illustrates this result.

Table 3: Mean of accruals, earnings, cash flow, and sales for Latin American firms, 1990-2009

| Portfolio	Accruals	Earnings	Cash Flow	Sales
Decile Port1	(0.190)	0.025	0.215	8.013
Decile Port2	(0.081)	0.064	0.146	8.098
Decile Port3	(0.060)	0.070	0.130	8.065
Decile Port4	(0.048)	0.070	0.118	8.079
Decile Port5	(0.038)	0.071	0.109	8.064
Decile Port6	(0.029)	0.065	0.094	8.056
Decile Port7	(0.020)	0.064	0.085	8.055
Decile Port8	(0.009)	0.056	0.065	8.044
Decile Port9	0.007	0.052	0.045	7.870
Decile Port10	0.159	0.062	(0.097)	7.990

*Notes: **Decile Port1** is decile portfolio one, which contains firms with the lowest magnitude of accruals. **Decile Port2**, portfolio two contains firms with the second lowest level of accruals, up to **Decile port10** ten, which contains firms with the highest level of accruals. **Sales** is the natural logarithm of total revenues. Countries included in the Latin America sample are Mexico, Chile, and Argentina.*

The properties of earnings and its components was first shown in decile portfolios by Dechow (1994) and Sloan (1996) for the U.S. market. This has been replicated in the same format by Chan, Chan, Jegadeesh and Lakonishok (2006); Kothari, Loutskina and Nikolaev (2006); and Trejo-Pech, Weldon and House (2008) among others. There is a difference of the results for Latin American compared to those results for the U.S. The relationship between accruals and earnings for U.S. firms is consistently positive across decile portfolios.

Table 3 provides *sales*, defined as the natural logarithm of sales, as a control variable to proxy size. Consistent with previous studies cited before, sales across portfolios follow an inverted U shape. Portfolios in the extremes (decile portfolio 1, decile portfolio 9, and decile portfolio 10) contain the smallest firms across portfolios. Size has been shown to have predictive value (i.e., the Fama and French 3-Factors Asset Pricing Model (Fama and French (1993)) includes size –proxy by market capitalization, as one the factors to predict returns).

Table 4 shows that these results are consistent when the data is disaggregated by country. Again, except for minor differences, results for Latin American firms are similar to those reported by previous studies for the U.S. market. These simple properties of earnings and its components form the basis for the hypothesis formulated by Sloan (1996) that earnings attributable to the accrual component of earnings are less persistent into the future than earnings attributable to the cash flow performance of earnings. With further development, this generates the so called fixation hypothesis by Sloan (1996), which states that investors are earnings-oriented and do not recognize the information on accruals when implementing their trading strategies. The fixation hypothesis then predicts that realized returns are systematically different from expected returns (i.e. expectations fixated on earnings), and that opens the possibility for arbitrage.

Figure 1: Earnings, accruals, and cash flows for Latin American countries by accruals portfolios: 1990-2009. Variable Accruals was forced to change monotonically across portfolios.
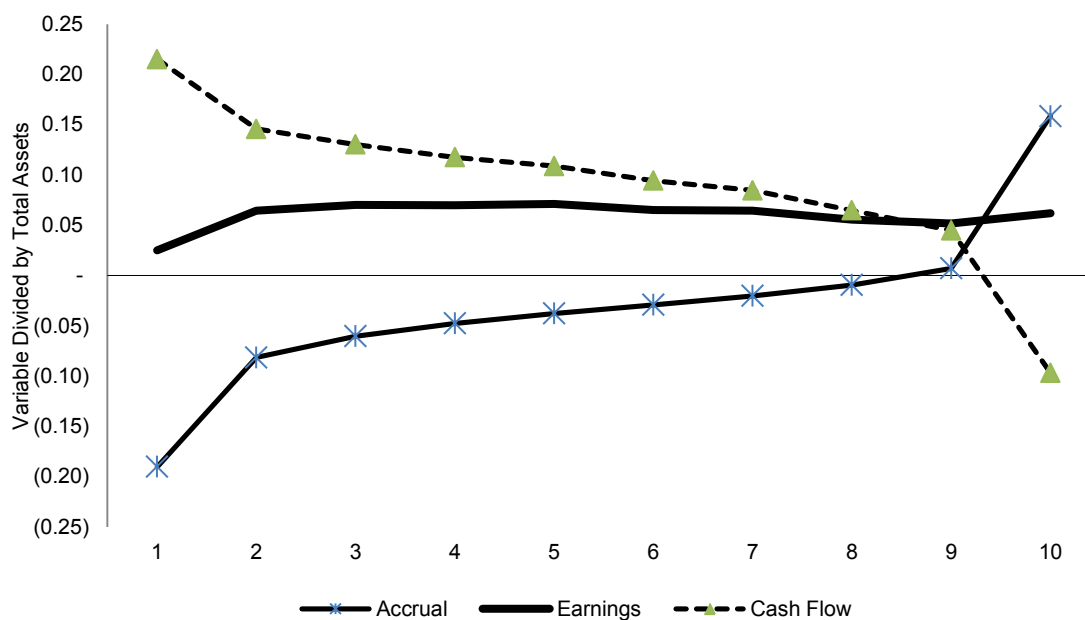
Notes: 1 to 10 represent accruals decile portfolio 1 (lowest magnitude of accruals) to portfolio 10 (highest magnitude of accruals)

Firms With Extreme Magnitude Of Accruals

The accrual anomaly problem referred to above has centered its attention on firms with extreme levels of accruals (i.e., decile portfolios 1 and 10 or quintile portfolios 1 and 5). While the behavior of firms with extreme high accruals for U.S. firms has been consistently explained, the behavior of extreme low accrual firms is an empirical problem not solved yet (for recent empirical results refer to Kothari, Loutskina and Nikolaev (2006), Kraft, Leone and Wasley (2006), and Trejo-Pech, Weldon, House and Gunderson (2009)). In accordance to this, the study groups results by quintiles portfolios. Table 5 provides results

for quintile 1 (low-accruals portfolio), quintile 5 (high-accruals portfolio), and the average of quintiles 2, 3, and 4 (mid-accruals portfolio). To investigate if these results have changed over the period analyzed, results by year are provided as well.

Results presented in Table 5 show that consistently high-accruals portfolios report relative high levels of earnings but low levels of cash flow. Further, the gap between earnings and cash flow is higher after 2000. This simple relationship is of economic importance given that investors are very oriented towards firms yielding high earnings and might fail to realize that earnings are not always accompanied by a strong level of cash.

Table 4 : Mean of accruals, earnings, cash flow, and sales for Latin American firms by Country, 1990-2009

Item/Dec Portfolio	1	2	3	4	5	6	7	8	9	10
					Mexico					
Accruals	(0.19)	(0.08)	(0.06)	(0.05)	(0.04)	(0.03)	(0.02)	(0.01)	0.01	0.22
Earnings	0.03	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.08
Cash Flows	0.22	0.16	0.14	0.13	0.12	0.11	0.10	0.08	0.06	(0.14)
Sales	12.08	12.73	12.91	12.96	12.99	12.60	12.57	12.23	11.95	12.02
					Chile					
Accruals	(0.19)	(0.07)	(0.05)	(0.04)	(0.03)	(0.02)	(0.01)	(0.01)	0.01	0.10
Earnings	0.01	0.06	0.06	0.06	0.06	0.05	0.05	0.03	0.03	0.04
Cash Flows	0.21	0.13	0.11	0.10	0.09	0.07	0.06	0.03	0.02	(0.06)
Sales	10.09	11.04	11.03	10.92	11.04	10.46	10.00	9.68	10.09	10.48
					Argentina					
Accruals	(0.16)	(0.09)	(0.07)	(0.06)	(0.05)	(0.04)	(0.03)	(0.02)	(0.01)	0.04
Earnings	0.06	0.04	0.05	0.05	0.06	0.06	0.06	0.07	0.05	0.07
Cash Flows	0.22	0.13	0.12	0.12	0.11	0.10	0.09	0.09	0.06	0.02
Sales	11.15	11.43	11.31	11.52	11.65	11.52	11.57	11.40	11.07	10.66

Notes: 1 (10) represents decile portfolio with the lowest (highest) magnitude of accruals. Sales are defined as the natural logarithm of total revenues.

Results in Table 5 also show that in 16 out of the 19 years analyzed, low-accruals or high-accruals portfolios contain the smallest firms. This is consistent with results not tabulated of volatility for the variables analyzed in this study by portfolios (i.e., extreme accruals portfolios present the highest volatility measured by the coefficient of variation).

Table 5: Mean of accruals, earnings, cash flow, and sales for Latin American firms by year for low-accrual, high-accrual, and mid-accrual portfolio

Panel A Low Accruals

Year	Accruals	Earnings	Cash Flow	Sales
1990	(0.090)	0.104	0.194	12.880
1991	(0.107)	0.090	0.198	12.260
1992	(0.090)	0.090	0.179	12.673
1993	(0.093)	0.067	0.160	12.408
1994	(0.142)	0.054	0.196	11.846
1995	(0.183)	(0.013)	0.170	12.059
1996	(0.101)	0.070	0.171	11.755
1997	(0.109)	0.048	0.157	11.689
1998	(0.116)	0.062	0.178	11.494
1999	(0.124)	0.043	0.167	11.365
2000	(0.135)	0.038	0.173	11.322
2001	(0.135)	0.010	0.144	11.016
2002	(0.146)	0.014	0.159	11.195
2003	(0.132)	0.024	0.156	11.367
2004	(0.138)	0.024	0.163	11.572
2005	(0.207)	0.049	0.256	11.900
2006	(0.107)	0.068	0.175	12.027
2007	(0.162)	0.067	0.229	12.147
2008	(0.130)	0.081	0.211	12.226
2009	(0.137)	0.032	0.169	11.266
1990-2009	(0.136)	0.045	0.180	11.667

Panel B Mid Accruals

Year	Accruals	Earnings	Cash Flow	Sales
1996	(0.032)	0.082	0.114	12.700
1997	(0.030)	0.073	0.103	12.490
1992	(0.027)	0.064	0.091	12.460
1993	(0.026)	0.067	0.093	12.268
1994	(0.026)	0.067	0.093	12.424
1995	(0.040)	0.072	0.111	12.135
1996	(0.029)	0.077	0.106	11.818
1997	(0.027)	0.073	0.100	11.791
1998	(0.034)	0.073	0.107	11.593
1999	(0.033)	0.066	0.100	11.555
2000	(0.036)	0.067	0.102	11.702
2001	(0.039)	0.056	0.095	11.763
2002	(0.041)	0.053	0.094	11.508
2003	(0.035)	0.058	0.093	11.610
2004	(0.033)	0.070	0.103	11.795
2005	(0.034)	0.070	0.105	11.958
2006	(0.034)	0.073	0.107	12.059
2007	(0.030)	0.061	0.091	12.159
2008	(0.036)	0.065	0.101	12.274
2009	(0.038)	0.067	0.105	11.337
1990-2009	(0.034)	0.066	0.100	11.857

*Notes: **Low Accruals** contains firms categorized in the quintile 1, **High Accruals** contains firms categorized in quintile 5, and **Mid Accruals** contains the average of quintiles 2, 3, and 4. All variables are in Table 5 are defined previously.*

Table 5 : Continued

Year	Accruals	Earnings	Cash Flow	Sales
Panel C High Accruals				
2002	0.039	0.129	0.090	12.304
2003	0.052	0.082	0.030	12.178
1992	0.035	0.085	0.050	12.348
1993	0.066	0.092	0.026	12.238
1994	0.069	0.069	0.000	12.035
1995	0.055	0.065	0.010	11.283
1996	0.042	0.121	0.078	11.369
1997	0.056	0.079	0.023	11.217
1998	0.078	0.062	(0.016)	10.951
1999	0.031	0.057	0.026	11.123
2000	0.538	0.032	(0.506)	10.794
2001	0.039	0.035	(0.004)	10.806
2002	0.048	0.032	(0.016)	10.852
2003	0.046	0.029	(0.017)	10.750
2004	0.040	0.061	0.021	11.330
2005	0.041	0.067	0.026	11.511
2006	0.043	0.047	0.004	11.762
2007	0.044	0.077	0.033	11.834
2008	0.043	0.049	0.007	12.025
2009	0.025	0.059	0.034	11.134
1990-2009	0.083	0.057	(0.026)	11.318

CONCLUSIONS

This study investigates the nature of the relationships among earnings, accruals, and cash flows for Latin American firms. In particular, publicly traded firms from Mexico, Chile, and Argentina are examined. Results are compared to previous results for U.S. firms. From the selected Latin American countries, Mexico reports the highest and most stable level of earnings, but not the highest cash flow. When results for Latin America as a group are compared to results for U.S. firms, as expected given the level of sophistication of these capital markets, results for Latin America are less stable than the U.S. firms.

We decompose accruals and find that depreciation and amortization (*DA*) is the largest component of accruals across all Latin American countries, but it is the most stable component of accruals as well. This is explained by the nature of this item related to permanent assets. Excluding depreciation and amortization from accruals, net operating working capital relative to total assets, defined as $\Delta AR + \Delta INV - \Delta AP$, is the main component of accruals. Net operating working capital for Latin America as a group is 0% relative to total assets, compared to 4.3% for the U.S. This difference could be of economic importance since it represents, for Latin American firms, cash that does not need to be tied to operations compared to the average U.S. firm. This amount for the U.S. represents almost one third of average reported earnings. Results for Latin America are consistent across countries.

We categorize firms in decile portfolios formed by sorting firms each year by the magnitude of accruals. We find a negative relationship between accruals and cash flow across decile portfolios. Of economic importance is the fact that Latin American firms reporting the lowest level of earnings (0.025) report the highest level of cash flow. More importantly, firms reporting a relative high level of earnings (0.062 in decile portfolio 10) have the worst cash flow (negative 0.094). Thus, disaggregating the sample by level of accruals provides new insights not shown otherwise.There is a difference between the results for Latin American firms compared to results for the U.S. The relationship between accruals and earnings for U.S. firms is consistently positive across decile portfolios, while this relationship is not clear for Latin American firms. The negative relationship between accruals and cash flow and the tendency for a positive relationship between accruals and earnings form the basis for the hypothesis formulated by Sloan (1996)

that investors are earnings-oriented and do not recognize the information on accruals when implementing their trading strategies. Future research for Latin America firms would incorporate stock prices returns to test the accrual anomaly problem, initiated by Sloan, and recently investigated in the international context. The results, disaggregated by years, show that high-accruals portfolios consistently report relative high levels of earnings but low levels of cash flow. Further, the gap between earnings and cash flow is higher after the year 2000. This simple relationship is of economic importance given that investors are very oriented towards firms yielding high earnings and might fail to realize that earnings are not always accompanied by a strong level of cash.

REFERENCES

Chan, Konan, Louis Chan, Narasimhan Jegadeesh, and Josef Lakonishok, 2006, Earnings Quality and Stock Returns, *Journal of Business* 79, 1041-1082.

Dechow, Patricia, 1994, Accounting Earning and Cash Flows as Measures of Firm Performance. The Role of Accounting Accruals *Journal of Accounting and Economics* 18, 3-42.

Fama, Eugene F. , and Kenneth R. . French, 1993, Common Risk Factors in the Returns on Stocks and Bonds, *Journal of Financial Economics* 33, 3-56.

Freeman, Robert, James Ohlson, and Stephen Penman, 1982, Book-rate-of-return and Prediction of Earnings Changes: An Empirical Investigation, *Journal of Accounting Research* 20, 639-653.

Healy, Paul M., 1985, The effect of bonus schemes on accounting decisions, *Journal of Accounting and Economics* 7, 85-107.

Kaserer, Christoph, and Carmen Klingler, 2008, The Accrual Anomaly Under Different Accounting Standards -Lessons Learned from the German Experiment, *Journal of Business Finance & Accounting* 8, 837-859.

Khan, Mozaffar, 2008, Are accruals mispriced? Evidence from tests of an Intertemporal Capital Asset Pricing Model, *Journal of Accounting and Economics* 45, 55-77.

Kothari, S.P., Elena Loutskina, and Valeri Nikolaev 2006, Agency Theory of Overvalued Equity as an Explanation for the Accrual Anomaly, (October 2006). Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=871750.

Kraft, Arthur, Andrew Leone, and Charles Wasley, 2006, An Analysis of the Theories and Explanations Offered for the Mispricing of Accruals and Accrual Components, *Journal of Accounting Research* 44, 297-339.

LaFond, Ryan, 2005, Is the Accrual Anomaly a Global Anomaly?, *MIT Sloan Research Paper No. 4555-05 (August 11, 2005).* Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=782726.
Moehrle, S., J Reynolds- Moehrle, and J. Wallace, 2003, Dining at the Earnings Buffet, Harvard Business School Publishing - Business Horizons.

Pincus, Morton, Shivaram Rajgopal, and Mohan Venkatachalam, 2007, The Accrual Anomaly: International Evidence, *The Accounting Review* 82, 169-203.

Richardson, Scott A., Richard G. Sloan, Mark T. Soliman, and Irem Tuna, 2005, Accrual reliability, earnings persistence and stock prices, *Journal of Accounting and Economics* 39, 437-485.

Sloan, Richard G., 1996, Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings?, *Accounting Review* 71, 289-315.

Trejo-Pech, Carlos J., Richard N. Weldon, and Lisa A. House, 2008, Earnings, Accruals, Cash Flows, and EBITDA for Agribusiness Firms, *Agricultural Finance Review* 68, 301-319.

Trejo-Pech, Carlos, Richard N. Weldon, Lisa A. House, and Michael Gunderson, 2009, The Accrual Anomaly Financial Problem in the Food Supply Chain, *Agribusiness: An International Journal* 25, 520-533.