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The Comparative Financial Managerial Performance of U.S. Firms and Chinese Firms

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Abstract

This paper evaluates the relative financial managerial performance of thirty matched-pairs of U.S. firms and Chinese (CN) firms.

In this study, financial managerial performance is measured in terms of profitability, debt management, and asset management.

Paired comparison is employed and eight hypotheses are tested on the basis of defined ratios. Because matched pairs are used, an appropriate test is the Wilcoxon matched-pairs signed-ranked test.

All the data for the study were compiled by the author from *Mergent on Line.* These include the most recent five-year time-series data that were available in 2012 for all the eight ratios that were tested.

The analysis presented in this paper indicates the absence of any statistically significant differences between the two sets of firms with regard to most of the ratios examined, suggesting that the U.S and the Chinese firms are similar to each other with respect to their financial managerial performance. The only exception is

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that CN firms have higher return on equity (ROE) ratios than the United States firms.

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1 Introduction

Following its economic liberalization in 1978, China's economy has grown about a hundredfold [1]. Today, with an annual average GDP growth of more than 10%, fueled by exports and rising domestic demand, China has become the most attractive foreign direct investment (FDI) destination and hosts the largest number of foreign affiliates in the world. This position is followed by India, Brazil, the United States and the Russian Federation [2]. According to the IMF, the Chinese economy is expected to grow at an average annual rate of 9.5% between 2011 and 2015 [3].

The emergence of China as the fastest growing economy during the past three decades has given rise to numerous studies, examining the elements that have contributed to such an impressive performance. An area of research that has attracted the attention of scholars is to compare the financial ratios of Chinese firms versus firms in other nations. Chinese firms have been compared to United States firms [4], Latin American firms [5], and Japanese firms [6].

In a recent study, Liu and O'Farrell [7] extend Fuglister's [4] research with updated data and examine a sample of randomly selected Chinese firms from three manufacturing industries that receive the highest cumulative U.S. FDI with matched samples of U.S. companies.

Although Liu and O'Farrell's [7] study sheds some light on differences in

financial ratios between U.S. and Chinese firms, it is limited in scope by concentrating only on manufacturing sectors, ignoring other economic sectors that may account for the relative differences/similarities between Chinese and U.S. firms.

The purpose of this research is to extend Liu and O'Farrell's [4] research by employing ratio analysis and examining the relative financial managerial performance of the U.S. and Chinese firms by matching firms from all the industrial sectors.

In this study, financial managerial performance is defined in terms of profitability, debt management, and asset management. Profitability is measured by return on assets, return on equity, and return on investment. Debt management is measured by long-term debt to equity and total debt to equity. Asset management is measured by total asset turnover, receivable turnover, and inventory turnover.

The following eight financial ratios are used in the analysis:

1. ROA: Return on Assets $= \dfrac{Net\ \ Income}{Asset}$

2. ROE: Return on Equity $= \dfrac{Net\ \ Income}{Common\ \ Equity}$

3. ROI : Return on Investment $= \dfrac{Net\ \ Income}{Investment}$

4. LTDE: LT Debt to Equity $= \dfrac{Long-Term\,Debt}{L-T\ Debt+\Pr eferred\ Stock+Common\,Stock}$

5. TDTE: Total Debt to Equity $= \dfrac{Total\ Liabilities}{Share\,holder's\ \ Equity}$

6. TATO: Total Asset Turnover $= \dfrac{\mathrm{Re}venue}{Assets}$

7. RTO: Receivable Turnover = $= \dfrac{Net\ \ Credit\ \ Sales}{Average\ Account\ \ \mathrm{Re}ceivable}$

8. ITO: Inventory Turnover $= \frac{Sales}{Inventory}$

2 The Limitations of the Study and the Sample Size

The problems of measurement in comparative analysis have been discussed by a number of researchers (see [8] & [9]). Measurement problems, as related to firm comparison, center around two main issues. First, the choice of industries, and second the kind of data. As for the first issue, ideally the two groups of firms should be similar with regard to product heterogeneity and size. They should also operate in a similar environment and market structure. However, the limitations of the sample size in most of the empirical studies call for restriction in choosing firms for comparison.

The second question has to do with accounting differences that exist between countries. These differences might lead to biases in the measurement of the ratios employed in the analysis. For example, measurement's problem could arise because the two countries may use different procedures for the valuation of income producing assets which affects income statements. In one country, marketable securities may be treated at the lower of cost or market value (LCM), whereas cost method could be utilized in another country. These differences might affect comparability of the two countries with regard to asset turnover, and profitability ratios.

In the case of our study, China (CN) has fully adopted IFRS since January 1, 2007 while the U.S. adheres to GAAP in financial reporting. Besides the potential differences in ratio comparison, the research findings are limited by the uncertain reliability of data in the case of Chinese firms. Given such limitations, the findings should be interpreted with caution.

Following the most acceptable criteria set by empirical studies, each pair

of firms chosen in this study consists of one U.S. firm and one CN firm producing similar products and having approximately the same size.

All the data for the study were compiled by the author from *Mergent on Line.* These include the most recent five-year time-series data for all the eight ratios that were available in 2012. Table 1 shows the industrial sectors and the number of matched pairs that were selected from each industry.

Table 1: The Industrial Sectors and the Number of Matched Pairs of Firms From Each Industrial Sector Included in the Study

Industrial Sectors	**Number of Pairs**
Mining and Construction	2
Manufacturing	14
Transportation, Communication & Utilities	2
Wholesale & Retail Trade	2
Finance, Insurance & Real Estate	2
Services	7
Public Administration and Non-Classifiable	1
Total Number of Pairs	**30**

3 The testing of hypotheses

Paired comparison is used to compare the relative financial managerial performance of U.S. and CN firms. Eight hypotheses are tested on the basis of ROA, ROE, ROI, LTDE, TDTE, TAT, RTO, and ITO. In all of these cases the null hypothesis states that there is no difference between U.S. and CN firms with regard to the ratio that is being compared. The alternative hypothesis explains that these ratios are different. Because matched pairs are used, an appropriate test is

the Wilcoxon Matched-pairs Signed-ranked test. This test is ideal because it is a nonparametric test, not requiring a large sample size. The Wilcoxon test gives more weight to pairs that show a large difference than pairs indicating small ones. In this manner the Wilcoxon test is similar to the t-test but it deals with ordinal data. This test is one of the most powerful non-parametric tests. Even for small samples its power is about 95 percent of that of the t-tests (see [10], [11], & [12]).

To conduct the Wilcoxon test, first the differences between each pair, with regard to the ratios that are being compared, are computed. Then these differences are ranked on the basis of their absolute values. Next, the sums of the ranks of the positive and negative differences are used as the test statistics T-, and T+, respectively. Finally, the appropriate absolute T value in each table is chosen as the test statistic and is compared to the critical value given in the table of critical values for the Wilcoxon test, for the number of observations (N).

3.1 Profitability

The results of the tests for profitability, measured by ROA, ROE, and ROI, are shown in Tables 2 through 4. The values of the test statistic (T) in these tables indicate that all the null hypotheses of similarities of between ROA (Table 2) and ROI (Table 4) cannot be rejected at the 5% level of significance. ROA similarities mean that U.S. firms and CN firms are similar in terms of efficiency by which they use assets to generate profit. The similarities of ROI means that the U.S. firms and Chinese firms are similar with regard to the efficiency by which they manage the invested capital to generate profit.

The null hypothesis that ROE of U.S. firms and Chinese firms does not differ is rejected at 5% level of significance, indicating that CN firms have higher ROE ratios as compared to U.S. firms. This means Chinese firms are more efficient than the U.S. firms in terms of generating income for their shareholders.

3.2 Debt Management

The results of the tests for debt management, measured by LTDE and TDTE are shown in Tables five and six, respectively. The values of the test statistic (T) in these tables indicate that all the null hypotheses of similarities of between the U.S. firms and Chinese firms with regard LTDE (Table 5) and TDTE (Table 6) cannot be rejected at the 5% level of significance. This implies that U.S. firms and CN firms are similar with regard to the efficiency by which they manage their total debt and long term debts.

3.3 Asset Management

The results of the tests for asset management, measured by TATO, RTO, ITO are shown in Tables seven through nine, respectively. The values of the test statistic (T) in these tables indicate that all the null hypotheses of similarities between the U.S. firms and Chinese firms with regard to TATO (Table 7), RTO (Table 8), and ITO (Table 9) cannot be rejected at the 5% level of significance. This implies that U.S. firms and Chinese firms are similar with regard to the efficiency by which they manage their assets.

4 Concluding Remarks

This study evaluates the relative financial managerial performance of U.S. firms, and Chinese firms, using a sample of five-year time-series data for a set of 30 matched firms that are chosen from seven industries.

To the extent that the data are not biased in the context of the limitations set in this study, the foregoing analysis suggests although Chinese firms are more efficient than the U.S. firms in terms of ROE, they are similar in terms of the other

two profitability ratios of ROA and ROI.

The result of the analysis of this study also indicates that there are no significant differences between the U.S. firms and Chinese firms with regard to their efficiency by which they manage their debts and assets.

In an earlier study Liu and O'Farrell examine the potential differences in financial ratios between Chinese and U.S. companies with 60 matched-pairs of companies from three major manufacturing industries that are most attractive to U.S. investors for the year 2006. They conclude that Chinese firms have lower long term debt to total capital, and asset turnover ratios, but higher duration of payables.

This study differs from their study in two ways. First their sample includes only one industrial sector, that is manufacturing, but this study includes all the industrial sectors. Second, each matched pair examined in their study is based on one-year data in 2006, but this study employs all the five-year data that were available in 2012.

This study examined the comparative financial managerial performance of the CN and the U.S. firms in terms of profitability, debt management and asset management, portraying the relative effectiveness of the executives of these firms in managing their finances. It would be helpful to compare production efficiencies of the CN firms with the U.S. firms to see if CN firms are as efficient as their counterparts in the U.S. in managing their production process. This would require the measurement of total factor productivity, capital productivity and labor productivity and could be the subject of further research in this area.

Table 2: The Wilcoxon Test for the Comparison of ROA Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} ROA_{ki}^{U.S.}$	$\sum_{i=1}^{n} ROA_{ki}^{CN}$	D	PRS	NRS
1	28.51	4.03	24.48	14	
2	4.43	14.18	-9.75		21
3	-3.15	6.90	-10.05		20
4	32.77	-0.02	32.79	10	
5	4.76	23.38	-18.62		16
6	10.24	12.77	-2.53		28
7	-117.85	27.20	-145.05		4
8	-42.54	26.72	-69.26		6
9	4.33	6.38	-2.05		29
10	68.89	-13.10	81.99	5	
11	-317.71	26.86	-344.57		1
12	-0.80	26.61	-27.41		12
13	19.65	4.70	14.95	18	
14	3.07	6.19	-3.12		26
15	-4.52	2.19	-6.71		24
16	-54.45	98.70	-153.15		3
17	2.13	7.64	-5.51		25
18	9.12	24.19	-15.07		17
19	22.37	8.51	13.86	19	
20	2.22	37.57	-35.35	8	
21	-23.62	7.59	-31.21		11
22	25.32	6.47	18.85	15	
23	5.90	15.14	-9.24		23
24	-3.83	5.79	-9.62		22
25	-24.96	9.32	-34.28	9	
26	-129.79	-441.18	311.39	2	
27	1.57	3.35	-1.78		30
28	-32.59	5.83	-38.42		7
29	6.00	-19.24	25.24	13	
30	7.71	5.03	2.68	27	
				T+ =140	**T- =325**

$ROA_{ki}^{U.S.} = ROA$ of the *k*th U.S. firm in the ith year; $ROA_{ki}^{CN} = ROA$ of the *k*th CN firm in the ith year; i = 1...5; k = 1...30

RD = Rank of DK; DK = $\sum_{i=1}^{n} ROA_{ki}^{U.S.} - \sum_{i=1}^{n} ROA_{ki}^{CN}$;

PRS = Positive rank sum; NRS = Negative rank sum.

Table 3: The Wilcoxon Test for the Comparison of ROE Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} ROE_{ki}^{U.S.}$	$\sum_{i=1}^{n} ROE_{ki}^{CN}$	D	PRS	NRS
1	79.46	9.49	69.97	10	
2	24.65	27.10	-2.45		24
3	-13.92	9.61	-23.53		14
4	76.84	-0.27	77.11	9	
5	19.54	57.49	-37.95		13
6	13.69	21.62	-7.93		20
7	-284.63	41.27	-325.90		3
8	-50.26	48.03	-98.29		7
9	7.51	177.63	-170.12		5
10	175.56	-60.56	236.12	4	
11	-512.40	49.71	-562.11		2
12	-2.50	56.89	-59.39		12
13	*	19.38			
14	6.39	11.81	-5.42		21
15	(6.28)	2.79	-9.07		19
16	-98.05	3380.26	-3478.31		1
17	7.39	22.50	-15.11		17
18	29.79	32.17	-2.38		25
19	38.56	21.70	16.86	16	
20	3.62	86.84	-83.22		8
21	*	43.80			
22	178.31	58.01	120.30	6	
23	11.53	22.53	-11.00		18
24	-5.70	13.96	-19.66		15
25	-40.71	26.48	-67.19		10
26	-688.65	*			
27	4.88	9.03	-4.15		23
28	*	14.40			
29	13.17	*			
30	24.48	19.77	4.71	22	
				T+ = 67	**T- = 257**

*Data not available

$ROE_{ki}^{U.S.} = ROA$ of the *k*th U.S. firm in the ith year; $ROE_{ki}^{CN} = ROA$ of the *k*th CN firm in the ith year; *i* = 1...5; *k* = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} ROE_{ki}^{U.S.} - \sum_{i=1}^{n} ROE_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum.

Table 4: The Wilcoxon Test for the Comparison of ROI Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} ROI_{ki}^{U.S.}$	$\sum_{i=1}^{n} ROI_{ki}^{CN}$	D	PRS	NRS
1	80.59	14.49	66.10	7	
2	24.69	27.85	(3.16)		22
3	12.05	12.07	(0.02)		25
4	56.08	13.01	43.07	9	
5	25.39	48.37	(22.98)		12
6	6.76	14.41	(7.65)		20
7	(257.63)	46.08	(303.71)		2
8	(37.72)	55.59	(93.31)		5
9	8.62	19.95	(11.33)		17
10	182.55	(7.48)	190.03	3	
11	*	35.23			
12	8.80	49.99	(41.19)		10
13	1.55	(16.75)	18.30	14	
14	9.36	12.29	(2.93)		23
15	(4.66)	5.23	(9.89)		18
16	(104.68)	(5.27)	(99.41)		4
17	29.45	21.29	8.16	19	
18	37.24	21.15	16.09	15	
19	51.16	22.76	28.40	11	
20	13.01	97.73	(84.72)		6
21	(35.47)	*			
22	64.70	368.63	(303.93)		2
23	12.76	(0.49)	13.25	16	
24	(3.82)	(0.49)	(3.33)		13
25	(21.37)	24.56	(45.93)		8
26	(224.67)	*			
27	8.69	6.23	2.46	24	
28	*	10.74			
29	10.68	*			
30	11.77	15.68	(3.91)		21
				T+=118	**T- = 208**

*Data not available

$ROI_{ki}^{U.S.} = ROI$ of the *k*th U.S. firm in the *i*th year; $ROI_{ki}^{CN} = ROI$ of the *k*th CN firm in the *i*th year; *i* = 1...5; *k* = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} ROI_{ki}^{U.S.} - \sum_{i=1}^{n} ROI_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum.

Table 5: The Wilcoxon Test for the Comparison of LTDTE Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} LTDTE_{ki}^{U.S.}$	$\sum_{i=1}^{n} LTDTE_{ki}^{CN}$	D	PRS	NRS
1	2.18	0.31	1.87	6	
2	5.18	0.99	4.19	4	
3	5.69	*		3	
4	2.64	0.57	2.07	5	
5	9.15	1.58	7.57	1	15
6	0.07	0.42	-0.35		
7	0.08	0.01	0.07	14	
8	0.57	0.04	0.53	11	
9	0.02	2.21	-2.19		18
10	0.87	0.10	0.77	9	
11	0.76	0.51	0.25	13	
12	0.74	0.08	0.66	10	
13	18.63	*			
14	0.68	0.15	0.53	12	
15	0.15	*			
16	0.48	*			
17	0.46	*			
18	3.99	*			
19	*	3.11			
20	1.74	0.79	0.95	7	
21	*	*			
22	12.73	6.47	6.26	2	
23	0.85	*			
24	0.13	*			
25	0.00	0.46	-0.46		16
26	*	*			
27	0.90	0.04	0.86		
28	*	0.57			
29	0.40	*			
30	2.37	3.27	-0.90		17
				T + = 97	**T- = 66**

*Data not available

$LTDTE_{ki}^{U.S.} = LTDTE$ of the *k*th U.S. firm in the *i*th year; $LTDTE_{ki}^{CN} = LTDTE$ of the *k*th CN firm in the *i*th year; *i* = 1...5; *k* = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} LTDTE_{ki}^{U.S.} - \sum_{i=1}^{n} LTDTE_{ki}^{CN}$; PRS=Positive rank sum; NRS = Negative rank sum

Table 6: The Wilcoxon Test for the Comparison of TDTE Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} TDTE_{ki}^{U.S.}$	$\sum_{i=1}^{n} TDTE_{ki}^{CN}$	D	PRS	NRS
1	2.30	3.56	-1.26		12
2	5.25	1.72	3.53	5	
3	5.74	*		3	
4	2.72	5.80	-3.08		7
5	9.22	2.78	6.44	2	
6	0.15	1.70	-1.55		11
7	0.16	0.10	0.06	22	
8	0.84	1.23	-0.39		16
9	0.04	28.51	-28.47		1
10	1.22	4.27	-3.05		8
11	1.37	1.69	-0.32		17
12	0.99	1.42	-0.43		15
13	20.68	*			
14	0.80	0.55	0.25	18	
15	0.18	0.01	0.17	20	
16	2.23	*			
17	1.62	0.57	1.05	13	
18	4.75	0.24	4.51	4	
19	*	6.07			
20	1.74	1.06	0.68	14	
21	*	*			
22	19.27	*			
23	0.88	1.00	-0.12		21
24	0.16	2.29	-2.13		10
25	0.00	2.77	-2.77		9
26	6.08	*			
27	0.91	0.69	0.22	19	
28	*	0.93			
29	0.45	*			
30	2.45	5.68	-3.23		6
				T+=120	**T- =133**

*Data not available

$TDTE_{ki}^{U.S.} = TDTE$ of the *k*th U.S. firm in the *i*th year; $TDTE_{ki}^{CN} = TDTE$ of the kth CN firm in the ith year; *i* = 1...5; *k* = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} TDTE_{ki}^{U.S.} - \sum_{i=1}^{n} TDTE_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum

Table 7: The Wilcoxon Test for the Comparison of TATO Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} TATO_{ki}^{U.S.}$	$\sum_{i=1}^{n} TATO_{ki}^{CN}$	D	PRS	NRS
1	5.26	3.13	2.13	13	
2	2.89	3.71	-0.82		20
3	1.77	3.71	-0.04		27
4	3.25	3.72	-0.47		22
5	1.61	4.81	-3.20		6
6	2.34	1.41	0.93	18	
7	3.53	1.65	1.88	14	
8	4.59	2.24	2.35	12	
9	7.67	1.06	6.61	2	
10	7.70	0.82	6.88	1	
11	*	1.94			
12	1.51	2.96	-1.45		15
13	1.50	0.53	0.97	17	
14	0.50	0.72	-0.22		25
15	0.40	0.24	0.16	26	
16	3.51	0.69	2.82	9	
17	3.14	2.27	0.87	19	
18	3.53	1.01	2.52	11	
19	8.11	1.67	6.44	3	
20	4.01	4.98	-0.97		17
21	3.95	0.76	3.19	7	
22	3.72	*			
23	5.49	1.01	4.48	4	
24	5.14	2.24	2.90	8	
25	4.36	1.62	2.74	10	
26	0.78	*			
27	0.47	1.14	-0.67		21
28	4.74	0.27	4.47	5	
29	0.71	0.26	0.45	23	
30	0.66	0.90	-0.24		24
				T+ = 202	**T- = 177**

*Data not available

$TATO_{ki}^{U.S.} = TATO$ of the *k*th U.S. firm in the *i*th year; $TATO_{ki}^{CN} = TATO$ of the kth CN firm in the ith year; *i* = 1...5; *k* = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} TATO_{ki}^{U.S.} - \sum_{i=1}^{n} TATO_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum

Table 8: The Wilcoxon Test for the Comparison of RTO Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} RTO_{ki}^{U.S.}$	$\sum_{i=1}^{n} RTO_{ki}^{CN}$	D	PRS	NRS
1	39.45	31.75	7.70	17	
2	22.23	68.77	(46.54)		7
3	20.31	8.23	12.08	11	
4	25.00	29.78	(4.78)		21
5	21.02	16.07	4.95	20	
6	15.69	13.16	2.53	23	
7	*	7.30			
8	27.22	29.96	(2.74)		22
9	1,847.15	3.78	1,843.37	1	
10	208.11	5.87	202.24	4	
11	*	16.28			
12	24.60	13.20	11.40	13	
13	40.54	4.19	36.35	9	
14	7.12	4.19	(5.39)		19
15	11.90	3.71	8.19	16	
16	13.56	19.86	(6.30)		18
17	10.28	66.87	(56.59)		6
18	31.43	350.15	(318.72)		2
19	255.75	16.61	239.14	3	
20	182.34	33.05	149.29	5	
21	488.00	*			
22	13.61	*			
23	153.93	*			
24	59.09	19.57	39.52	8	
25	32.42	7.94	24.48	10	
26	6.93	*	*		
27	6.85	4.65	2.20	24	
28	13.02	4.65	11.62	12	
29	9.26	0.54	8.72	15	
30	20.95	11.16	9.79	14	
				T+ = 205	**T- = 95**

*Data not available

$RTO_{ki}^{U.S.} = RTO$ of the *k*th U.S. firm in the *i*th year; $RTO_{ki}^{CN} = RTO$ of the *k*th CN firm in the *i*th year; *i* = 1...5; *k* N= 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} RTO_{ki}^{U.S.} - \sum_{i=1}^{n} RTO_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum.

Table 9: The Wilcoxon Test for the Comparison of ITO Ratios of U.S. and CN Firms

PAIR	$\sum_{i=1}^{n} ITO_{ki}^{U.S.}$	$\sum_{i=1}^{n} ITO_{ki}^{CN}$	D	PRS	NRS
1	47.16	29.69	17.47	11	
2	34.89	24.19	10.70	16	
3	10.20	7.81	2.39	220	
4	15.53	27.93	-12.40		14
5	20.44	12.47	7.97	17	
6	16.24	3.30	12.94	13	
7	*	9.02			
8	16.19	4.10	12.09	15	
9	23.82	3.28	20.54	10	
10	8.29	12.03	-3.74		20
11	*	5.23			
12	8.45	7.47	0.98	23	
13	8.75	8.45	0.30	24	
14	*	2.64			
15	32.84	5.95	26.89	90	
16	121.16	27.42	93.74	3	
17	98.05	13.65	84.40	5	
18	137.09	42.21	94.88	2	
19	19.01	16.06	2.95	21	
20	8.59	98.86	-90.27		4
21	94.78	*			
22	21.70	*			
23	11.86	17.89	-6.03		18
24	9.59	13.43	-3.84		19
25	19.13	3.96	15.17	12	
26	9.73	*			
27	39.04	72.62	-33.58		7
28	12.68	138.46	-125.78		1
29	67.50	2.73	64.77	6	
30	15.29	47.43	-32.14		8
				T+ = 209	**T- = 91**

*Data not available

$ITO_{ki}^{U.S.} = ITO$ of the *k*th U.S. firm in the *i*th year; $ITO_{ki}^{CN} = ITO$ of the *k*th CN firm in the ith year; i = 1...5; k = 1...30, RD = Rank of DK; $DK = \sum_{i=1}^{n} ITO_{ki}^{U.S.} - \sum_{i=1}^{n} ITO_{ki}^{CN}$; PRS = Positive rank sum; NRS = Negative rank sum.

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