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Operating Efficiency and Firm Valuation: Evidence from India

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ABSTRACT
We examine the impact of operating efficiency on firm valuation. The study spans ninety firms spread over six major industrial sectors in India from 2005 through 2012. Six key ratios are considered for their possible impact on the enterprise value. Through panel data analysis, we find that gross profits, return on capital employed asset turnover and to some degree, sales have a significant impact on the enterprise value at the inter-industry level. In the collective sample, all six ratios pertaining to operating efficiency and profitability have a significant effect on enterprise value. We also note that with the infrastructure sector as the reference point, the role of banking sector is significantly positive in value creation. Further, value creation is more attendant to present performance rather than what might have happened in the past.
Keywords: Operating efficiency, Panel Data Analysis, EV/EBITDA, Enterprise Value, Firm Value

1.Introduction

Firms continuously try to scout and opt for opportunities of achieving competitive advantage in an increasingly complex and competitive environment through organic and inorganic growth. Since it is sometimes considered a faster way to grow, corporate restructuring (inorganic growth) has emerged as a popular strategy among big and medium size corporate houses. The importance of a firm's valuation in this context cannot be overstated, for it establishes the price of a target firm, which, if not determined correctly, would lead to a loss to the acquiring or the target firm.

Our goal in this paper is to see how a firm's operating efficiency affects its value. Seetharaman and Raj (2011) report a strong positive correlation between EPS and the stock price of Public Bank Barhad, a listed bank in Malaysia. We, however, avoid conventional measures like Earnings-per-Share (*EPS*) and Price-to-earnings (*P/E*) because when the total income of a firm is derived primarily from non-operating sources, the reality about a firm's operational efficiency may be obscured, if not hidden altogether. Naik (2007) had also considered variables like operating profit and expenses in his study on the operating efficiency of banks.

Jin and Jin (2008) report a positive correlation between operating performance and stock price change among the top 10% performers on the Shanghai Stock Exchange in the first two years of research period but in the latter period of two years, operating performance is inversely proportional to stock price change. Their principal finding is that operating performance generally declined as the stock prices went up. Similarly, Kirkwood and Nahm (2006) report that changes in firm efficiency are reflected in stock returns. Beccalli, Casu and Girardone, (2006) also find that changes in efficiency are reflected in changes in stock prices and that the stocks of cost efficient banks tend to outperform their inefficient counterparts. Earlier, Chu and Lim (1998) had also found that percentage changes in the prices of the bank shares reflect percentage changes in profit.

In this paper, we propose the use of Enterprise Value (*EV*) as a proxy for firm's value. We believe that rather than valuing only the underlying stock of a firm, the valuation measure should be more broad based. *EV* values a firm based on its entire capital structure that includes a firm's debt, cash and minority interests. As *EV* takes debt into account; it relates the total value of a firm to a measure of operating earnings generated (such as earnings before interest, taxes, depreciation, and amortization). This should represent a more accurate picture of a firm's value in terms of its theoretical takeover price. Also the Stock Price is much more volatile than Enterprise value. Two firms may have same or nearly same stock price even though they have been leveraged differently. Buying the stock of firm with debt means investor is also taking over the liabilities of company along with assets.

As noted earlier, most studies, which examine value creation and operational efficiency in the banking sector [Ioannidis*et al* (2007), Becalli*et al* (2006), Chu and Lim (1998)]. We expand the scope of our work beyond the banking sector by introducing Information Technology (IT), Pharmaceuticals, Fast Moving Consumer Goods (FMCG), Automobile and Infrastructure sectors in our analysis.

The remainder of the paper is organized as follows: Section II reports the data and methods. Section III presents the main findings. Section IV concludes the paper.

2.Data and Methods

We employ panel data analysis to analyze the impact of operating efficiency on the valuation of firms. Six industrial sectors from the Indian economy are considered for analysis. Data for 90 firms (15 firms from each sector with largest market capitalization, where possible[1]) from the year 2005 through 2012 have been collected from the *Capitaline Database* and annual reports of sample firms. A list of firms comprising the sample is placed at Appendix 1.

Enterprise Value (*EV*) as a measure of firm value is the dependent variable.

The independent variables include:

i) $\frac{EV}{EBITDA}$, where *EV* is the Enterprise value and *EBITDA* is the Earnings before Interest, Tax, Depreciation and Amortization

The rationale behind using $\frac{EV}{EBITDA}$ over *P/E* is that *EBITDA* is before tax earnings whereas *EPS* is post tax earnings. Additionally, $\frac{EV}{EBITDA}$ considers debt and cash position on the balance sheet of company whereas *P/E* does not consider cash position on the balance sheet of company. Going forward, we refer to this ratio is R_1

ii) Return on Capital Employed (*ROCE*). We will call this ratio R_2

iii) $\frac{EV}{S}$, where *S* is the Sales. This ratio is named R_3

iv) $\frac{CFOA}{S}$, where *CFOA* is the cash flow from operating activities. This relationship is named R_4 and likewise the next two are R_5 and R_6

v) Fixed Asset Turnover Ratio (*FATO*), and

vi) Net Profit Margin (*NPM*)

A brief description of these variables is given in Appendix 2

The following general OLS model can be used to study the effect of identified independent variables (ratios) on the dependent variable (*EV*):

$$EV_i = \alpha + \sum_{j=1}^{J} \beta_j R_{j,i} + \varepsilon_i \quad (1)$$

Where EV_i is the Enterprise value of the i^{th} entity and *j* are the various ratios.

As mentioned earlier, we decided to use panel data. The motivation was to avoid endogeneity among independent variables. Endogeneity can arise if *one;* the direction of causality is from the dependent variable to independent variables, in which case, the model would be mis-specified or *two*; the causality is bi-directional. The *third* possibility for endogeneity would be the presence of another variable affecting both the independent and dependent variables and the resulting effect would be present in the error term of equation (1), leading to inconsistent and biased coefficient estimates.

[1]Strictly adhering to large-cap firms was not possible due to missing data for some firms and differences in their financial years.

By construction, the identified independent variables appear exogenous. The possibility of either *EV* affecting various ratios or a bi-directional causality between EV and various ratios is not likely.

However, there could be unobservable or non-quantifiable factors like the difference in corporate culture, the quality of management and business practices at the industry or firm level. Further, *EV* could change with time. We hypothesize the Enterprise Value (*EV*) should be more closely related with either the current operational efficiency or at best by the carry-forward effect of being efficient in the past. However, the farther we go back in time, the relationship between *EV* and past efficiency should be penalized in that the current value of the firm should not be a result of being efficient (or inefficient) in the distant past. To account for such unobservables and to avoid the *omitted variable bias*, we decided to use dummy variables for firms/industries and time. To carry out the analysis, the *fixed effects model* was chosen. We understand that in using the *fixed effects model*, we are implicitly assuming that though the firms/industries have their unique attributes, this heterogeneity is constant over time. While this may not be true, we considered mitigating variable endogeneity to be more crucial and therefore, our choice of the *fixed effects model*. To put our minds at rest, we used the Hausman test to see whether a *random effects model* would be preferable and as reported in the next section, the result was negative. As such, we initiated the analysis as per the model specified in equation 2 though the dummy variables for industries had to be dropped during inter-industry analysis due to collinearity.

$$EV_{it} = \alpha + \beta_1 R_{1t} + ... + \beta_j R_{jt} + \chi_2 D_{2t} + ... + \chi_k D_{kt} + \delta_2 T_2 + ... + \delta_t T_t + \mu_{it} \quad (2)$$

where EV_{it} is the enterprise value of the i^{th} entity in time *t*. *D* are the dummy variables for industries and *T* are the dummy variables for time.

3.Results and Discussion

We ran regressions on the panel data using both the *fixed and random effects*. While using *fixed effect model*, apart from the list of independent variables, we used dummy variables for time as well as firms.

The analysis was two-fold: *One*, at an aggregate level, which included all industries (all 90 firms together) and *two,* at the inter industry level, where firms from each industry were studied separately from others.

In case of the aggregate sample (all industries collectively), we used dummy variables for time and industries.

When working with individual industries, we debated on whether to include dummy variables for firms that comprise the industry group in question. Since each group had fifteen firms, it would mean giving up valuable degrees of freedom. Further, we expected that due to a broad pervasive similarity amongst firms within an industry, there would be excessive collinearity and our initial analysis did, in fact, confirm this. When included, they had to be omitted due to collinearity and we proceeded further with dummy variables only for time in case of individual industry groups.

Though we decided to use the *fixed effects model* for reasons discussed in the previous section, we employed the generally accepted Hausman test to supplement our decision. The null hypothesis was that both estimation methods (*fixed and random effects*) are similar. The results indicated that for all the industries and for the aggregate sample, *fixed effect model* should be used. The results of the Hausman test are placed at Table 1 in Appendix 3.

Before proceeding further, we decided to check for any multi-collinearity between independent variables. This was done by using the Variance Inflation Factors (VIF), where values greater than 10 indicate a strong probability of occurrence of multi-collinearity. We did not find any evidence of multi-collinearity in the aggregate sample and individual industry groups. Table 2 in Appendix 2 presents the VIF values. We also checked for normality of the residual by using the Shapiro-Wilk test with a null hypothesis that the residuals are uniformly distributed. Table 2 (Appendix 3) shows that they were generally normal with *p*-values above 0.05

The key results of the *fixed effects model* are reported in the following paragraphs.[2]

Through Table 1, we present an overview of r^2 generated by the model, both for the aggregate sample and for individual industry groupings.

[2]Detailed Regression output is available on request

Table - 1: Model r^2

		Industry						
	Model Statistics	**Aggregate**	**Automobile**	**Banking**	**FMCG**	**Infrastructure**	**IT**	**Pharmaceuticals**
r^2	Within	0.7408	0.878	0.9001	0.867	0.8811	0.8684	0.8058
	Between	0.8333	0.1338	0.1005	0.5037	0.0501	0.8453	0.7224
	Overall	0.6885	0.1588	0.1651	0.4271	0.3036	0.7273	0.4799
	F Value	108.42	50.93	63.75	46.13	52.45	44.69	29.36
	Prob> F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Within r^2 refers to the observation of effects over time within firms; *between* r^2 refers to the observation of effects between firms at any one point in time. The r^2 values for the aggregate sample suggest that all independent variables account for 68% overall variation in the Enterprise Value (EV), 83% variation within companies over time and 74% variation between companies at one point in time. The model fit according to r^2 appears to be good in majority cases except Automobile and Banking industries.

Table 2 presents the coefficients from the *fixed effects model*.

We instantly take note of the fact that though the majority of independent variables establish a significant causal relationship with *EV* at the collective level, there are industry level peculiarities in terms of how a particular variable does or does not affect the *EV*.

Value creation in the automobile sector stands out as one that is significantly affected by most independent variables, though it does not seem to care much for the net profit margins. A broader overview reveals that the market does not seem to read too much into the net profit margin for most industrial sectors except the FMCG and Infrastructure sectors.

In the banking sector, variables related to profitability like ROCE have a more significant relationship with *EV* as compared to efficiency ratios. This is expected as most efficiency related variables are related to sales, whereas the banking sector would be more concerned with capital requirements, understanding and managing risk to ensure survival and profitability.
The FMCG industry is characterized by fast turnover and relatively low cost products. The fixed asset turnover ratio (FATO) is therefore a significant factor in its value creation, as are the gross and net profits.

Table - 2: Regression Coefficients

EV	Automobile	Banking	FMCG	Infra	IT	Pharma	Aggregate
R_1	0.2**	1.43*	0.644**	0.582**	-0.116	0.319*	0.712**
R_2	0.134*	2.013**	0.0122	0.358**	0.0599	0.422**	0.883**
R_4	-0.091**	0.019	0.031	0.031	0.995**	0.017	-0.132**
R_3	0.481**	-0.015	-0.043	0.059	-0.101**	0.377**	0.625**
R_5	0.395**	0.209	-0.263*	-0.344**	0.537**	-0.176*	0.328**
R_6	-0.041	-0.047	0.226**	0.372**	-0.039	-0.044	-0.1631*
dummy2005	-1.000**	-0.871**	-1.33**	-2.05**	-0.806**	-1.044**	-1.406**
dummy2006	-0.773**	-0.817**	-0.974**	-1.437**	-0.558**	-0.704**	-1.279**
dummy2007	-0.695**	-0.628**	-0.849**	-0.971**	-0.404**	-0.548**	-0.95**
dummy2008	-0.611**	-0.461**	-0.623**	-0.587**	-0.245*	-0.484**	-0.614**
dummy2009	-0.600**	-0.393**	-0.724**	-0.656**	-0.149	-0.516**	-0.337**
dummy2010	-0.21**	-0.19**	-0.405**	-0.261*	-0.011	-0.213**	-0.355**
dummy2011	-0.0935	0.024	-0.203*	-0.121	-0.015	-0.087	-0.153
dummyauto	-	-	-	-	-	-	-0.094
dummybanking	-	-	-	-	-	-	3.65**
dummyFMCG	-	-	-	-	-	-	-0.96**
dummyPharma	-	-	-	-	-	-	-0.549**
dummyIT	-	-	-	-	-	-	-1.524**
Constant	4.06	4.59	6.02	4.83	0.703	3.82	1.266

** Significant at 1% level of significance * Significant at 5% level of significance

It is interesting to note that the whereas the sales related efficiency ratios like $\frac{CFOA}{S}$ and $\frac{EV}{S}$ have the least explanatory power in most industry groups, they emerge as significant in case of IT sector while surprisingly, none of the profitability ratios emerge significant.

Table 2 also shows that while the gross profit measure $\frac{EV}{EBITDA}$ has a positive relationship with *EV*, the net profit margin mostly comes up as negative and insignificant factor. ROCE has a strong positive impact on *EV* for most industries while the nature of FATO and $\frac{EV}{S}$ is mixed. Overall, sales related efficiency ratios do not appear to have a significant relationship with *EV* at individual industry level.

As surmised earlier in the paper, the passage of time has a negative and significant relationship with enterprise value (*EV*). A look at the dummy variables for time shows that the value of a firm/industry should be a result of its current performance and business practices rather than past events. The coefficients keep getting more negative as we move back in time.

At the collective level, we note that banking sector has a significantly positive contribution to *EV* during the time frame studied, while other sectors show a significant but negative effect (except automobile sector), infrastructure sector being the reference point.

4.Conclusion

We set out to examine the impact of operating efficiency on firm valuation. Enterprise value was used as a measure of firm value and apart from the dummy variables for entities and time, six ratios that gauge the operating efficiency and to some extent, profitability of a firm were used as dependent variables. In order to

ensure exogeneity, we used the *fixed effects model* to carry out the analysis on the panel data for 90 companies, subdivided into six industrial sectors in India. At the aggregate level, all variables significantly affected the enterprise value. However, inter-industry attributes varied across industries. Gross profitability, return on capital employed and fixed assets turnover emerged as the factors that have a significant impact on the enterprise value in the inter-industry scenario while net profit margin and sales related ratios did not appear to have a major impact on the firm's value. Enterprise value and time were negatively related, indicating that it is the recent, instead of past performance, that impacts value. In the overall scenario, banking sector had a positive and significant contribution towards value creation.

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Appendix 1
Sample Composition

IT Sector		**Pharmaceutical Sector**	**Banking Sector**
S. No	**Companies**	**Companies**	**Banks**
1	TCS	AurbindoPharma	Axis Bank
2	Infosys	Biocon	HDFC Bank
3	NIIT Tech	Dr. Reddy	ICICI Bank
4	KPIIT Cummins	Cipla	SBI
5	CG - Vak	Glenmark	PNB
6	Geo Metric	Lupin	UBI
7	Sonata Software	Sun Pharma	OBC
8	Tata Elxsi	UniChem Lab	Bank of Baroda
9	Zen Technologies	Torrent Pharma	Canara Bank
10	Dan Law Technologies	Coral Laboratories	Vijay Bank
11	Spanco Ltd	Novartis	Dena Bank
12	Intel Vision Software	Venus Remedies	IDBI
13	Blue Star Infotech	ShasunPharma	Indian Overseas Bank
14	Ace Software	Auro Laboratories	Corporation Bank
15	Zenith Computers	Nectar	Kotak Mahindra Bank

Automobile Sector		Infrastructure Sector	FMCG Sector
S. No	**Companies**	**Companies**	**Companies**
1	Ashoka Leyland	Anant Raj	ITC
2	BEML Ltd	Ansal Properties & Infra	Britannia
3	Hero Motor Corp	Era Infra	Colgate Palmolive
4	M&M	Ganesh Housing	Godfrey Philips
5	Tata Motors	GVK Power & Infra	Godrej Consumers
6	Swaraj ISUZU	Hindustan Construction	Dabur
7	Force Motors	IVRCL	Emami
8	TVS	Jai Prakash Associates	United Brewries
9	Maharashtra Scooters	JMC Projects	RadicoKhaitan
10	Maazda	Madhucon Infra	Ruchi Soya
11	Maruti	Nagarjuna Construction	Kohinoor Foods
12	CEAT India	Patel Enggineering	DFM Foods
13	Majestic Auto	Reliance Infrastructure	Asian Paints
14	TVS Srichakra	Simplex Infrastructure	Agro Tech Foods
15	VST Tillers	SPML Infra	Marico

Appendix 2
Description of Variables

1. Enterprise Value (*EV*) = Equity Value + Net Debt + Preferred Stock + Minority Interest
   where,
   Equity Value = Equity value of firm is also known as Market capitalization of a firm.
   Market Capitalization = Total no. of outstanding share × Current share price
   Net Debt = Total Debt – Cash & Cash equivalents (Marketable securities, Treasury bills)
   Minority Interest = Interest on Non – Controlling shareholders
   (Minority interest is the percentage of the subsidiary's book value of equity that the parent firm does not own)
   Preferred stock = It is not convertible into common stock.

2. $\frac{EV}{EBITDA}$

   This ratio represents the relationship between gross profit and enterprise value of a firm

3. Return On Capital Employed (ROCE)
   Return on Capital Employed represents the efficiency of company in terms of profitability of a firm expressing its operating profit as a percentage of capital employed.

   $$ROCE = \frac{\text{Operating Profit}}{\text{Capital Employed}}$$ where, Capital Employed = Total Assets – Current Liabilities

   High value of return on capital employed represents that firm is highly efficient to generate more revenue per rupee of capital employed.

4. Enterprise Value/Sales (EV/S)
   It shows the total value of firm to its sales. It represents the cost of buying a firm's sales. This ratio is very useful during corporate restructuring of firm

$$\frac{EV}{S} = \frac{\text{Equity Value + Net Debt + Preferred Stock + Minority Interest}}{\text{Sales}}$$

Or

$$\frac{EV}{S} = \frac{\text{Equity Value + (Total Debt - Cash/Cash Equivalents) + Preferred Stock + Minority Interest}}{\text{Sales}}$$

5. $\frac{CFOA}{S}$

Cash flow from operating activities/sales ratio represents the efficiency of company in terms of amount of cash generated by the company from its core business as a percentage of its sales.

$$CFOA = \frac{\text{Net Cash Flow from Operating Activities}}{\text{Sales}}$$

6. Fixed Asset Turnover Ratio (FATO)

It represents the firm's operating efficiency in terms of converting fixed assets into sales. High fixed asset turnover ratio represents that company is highly efficient in managing its fixed assets.

$$FATO = \frac{\text{Net Sales}}{\text{Total Fixed Assets}}$$

7. Net Profit Margin (NPM)

This ratio shows the efficiency of company in converting its sales into profitability.

$$NPM = \frac{\text{Profit after Tax}}{\text{Sales}} \text{ x } 100$$

A higher net profit margin ratio represents that a company is more efficient at converting sales into actual profit.

Appendix 3

Table 1: Hausman Test

	Industry						
Test Statistics	**Aggregate**	**Automobile**	**Banking**	**FMCG**	**Infrastructure**	**IT**	**Pharmaceuticals**
Chi^2	174.96	35.35	60.39	64.71	44.31	33.66	51.33
$P > Chi^2$	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 2: Collinearity, Residual Normality and Coefficient Significance

	INDUSTRY																											
Variables	AUTOMOBILE				BANKING				FMCG				INFRA				IT				PHARMA				AGGREGATE			
	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test	VIF	t	p>t	shapiro Wilk Test
EV				0.124				0.97				0.087				0.604				0.502				0.184				0.319
EVEBITDA	1.94	4.73	0.000	0.102	6.73	2.5	0.014	0.072	1.39	7.19	0.000	0.063	2.08	6.1	0.000	0.423	4.24	-1.66	0.100	0.314	3.6	2.29	0.024	0.827	2.25	6.62	0.000	0.122
ROCE	2.73	2.5	0.014	0.243	5.05	3.36	0.001	0.143	1.52	0.24	0.813	0.0872	6.23	3.17	0.002	0.205	3.75	0.93	0.353	0.104	4.01	5.07	0.000	0.223	2.08	11.03	0.000	0.134
EVS	2.11	7.59	0.001	0.439	5.5	-0.08	0.935	0.255	1.73	-0.49	0.623	0.0726	4.37	0.53	0.598	0.671	1.32	3.08	0.003	0.215	3.82	5.29	0.000	0.125	5.64	6.38	0.000	0.384
CFOAS	3.41	-3.51	0.102	0.086	1.14	1.14	0.255	0.239	1.62	0.92	0.360	0.164	1.61	2.03	0.035	0.163	7.87	11.33	0.000	0.065	1.15	0.72	0.476	0.206	1.38	-2.83	0.000	0.263
FATO	3.41	5.64	0.000	0.183	2.45	2.27	0.016	0.157	1.49	2.43	0.017	0.0741	1.89	-3.1	0.302	0.261	2.14	6.32	0.000	0.491	1.35	2.35	0.021	0.103	3.2	4.34	0.000	0.168
NPM	2.5	-1.12	0.264	0.153	1.52	-0.49	0.627	0.134	1.56	3.36	0.001	0.192	5.52	6.04	0.000	0.282	2.94	-0.86	0.392	0.179	3.52	-0.8	0.425	0.064	2.02	2.36	0.019	0.218
dummyauto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.89	-0.61	0.545	0.000
dummybanking	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.01	15.64	0.000	0.000
dummyFMCG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.06	-5.82	0.000	0.000
dummyPharma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.79	-3.59	0.000	0.000
dummyIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.75	-10.11	0.000	0.000
dummy2005	1.81	-15.12	0.000	0.000	3.06	-9.51	0.000	0.000	1.87	-14.48	0.000	0.000	2.15	-16.84	0.000	0.000	1.96	-8.25	0.000	0.000	1.93	-12.72	0.000	0.000	1.77	-8.27	0.000	0.000
dummy2006	1.95	-10.88	0.000	0.000	2.73	-9.35	0.000	0.000	1.88	-11.13	0.000	0.000	2.32	-9.35	0.000	0.000	2.08	-5.36	0.000	0.000	1.84	-8.69	0.000	0.000	1.84	-7.36	0.000	0.000
dummy2007	1.88	-10.33	0.000	0.000	2.33	-7.81	0.000	0.000	1.87	-9.53	0.000	0.000	2.02	-6.98	0.000	0.000	1.94	-4.15	0.000	0.000	1.78	-6.94	0.000	0.000	1.79	-5.56	0.000	0.000
dummy2008	1.78	-9.39	0.000	0.000	1.7	-7.28	0.000	0.000	1.83	-7.03	0.000	0.000	2.18	-3.95	0.000	0.000	1.90	-2.61	0.011	0.000	1.79	-6.14	0.000	0.000	1.77	-3.62	0.000	0.000
dummy2009	1.79	-9.09	0.000	0.000	1.78	-5.69	0.000	0.000	1.84	-7.76	0.000	0.000	2.14	-5.41	0.000	0.000	1.87	-1.57	0.120	0.000	1.83	-6.42	0.000	0.000	1.79	-1.96	0.000	0.000
dummy2010	1.82	-3.12	0.002	0.000	1.86	-3.02	0.003	0.000	1.76	-4.82	0.000	0.000	1.99	-2.16	0.033	0.000	1.91	-0.12	0.902	0.000	1.76	-2.73	0.008	0.000	1.77	-2.08	0.038	0.000
dummy2011	1.79	-1.42	0.158	0.000	2.06	0.31	0.759	0.000	1.77	-2.43	0.017	0.000	1.88	-1.09	0.279	0.000	1.81	-0.16	0.872	0.000	1.76	-1.13	0.26	0.000	1.76	-0.90	0.368	0.000

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