

INTERNATIONAL HELLENIC UNIVERSITY

Thessaloniki - Friday, 10 February 2012

EFFICIENT CORPORATE GOVERNANCE MECHANISMS

An Application to the Shipping Business

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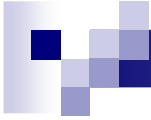
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Outline

- **Corporate Governance in Shipping**
- **Key Hypotheses of Interest**
- **Empirical Findings**

The working paper draws upon the Ph.D. research work under progress with Michael TSATSARONIS, Ph.D. Candidate in Finance.



Global shipping IPO activity intensified

Shipping Issues listed in global stock markets

Period: 1/1/1984-31/12/2007

Stock Exchange	Number of Issues	Issues Number before 2000	Issues Number after 2000
Brussels S.E., Belgium	2	0	2
OTC, Bermuda	4	2	2
Shanghai S.E., China	1	0	1
Copenhagen S.A., Denmark	5	1	4
Helsinki S.E., Finland	3	2	1
Berlin S.E., Germany	4	1	3
Athens S.E., Greece	6	5	1
Hong Kong S.E., Hong Kong	5	0	5
Bombay S.E., India	6	1	5
Oslo S.E., Norway	15	1	14
Singapore S.E., Singapore	7	4	3
Stockholm S.E., Sweden	5	3	2
London S.E., UK	6	1	5
NYSE, USA	30	9	21
NASDAQ, USA	25	3	22
Other S.E.s	19	5	14
Total Issues	143	38	105

Source: adjusted from A. Merikas et al. (2008).





Investors interested in shipping stocks

2004-2006:

extraordinary IPO wave (mainly NYSE & NASDAQ)

2005: 'Year of Shipping IPOs'

→ 12 shipping IPOs

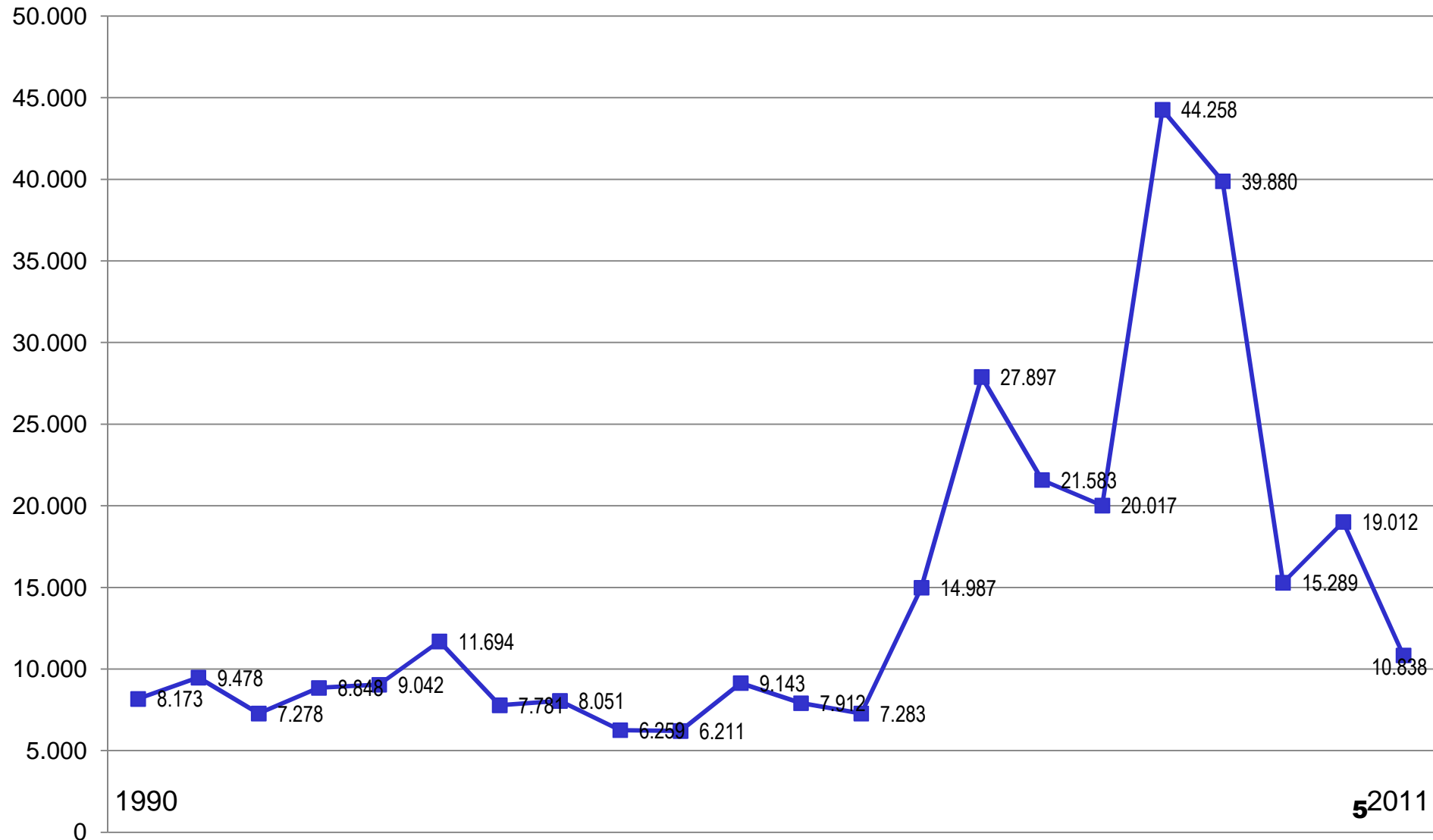
- supported by record levels in **FREIGHT** rates
- international investors: shipping stocks **fashionable !**

T. Syriopoulos (2010): 'Shipping Finance and International Capital Markets
in C. Grammenos (2nd ed.): The handbook of Maritime Economics and Business



Clarksea Index Bulker Earnings (\$/day)

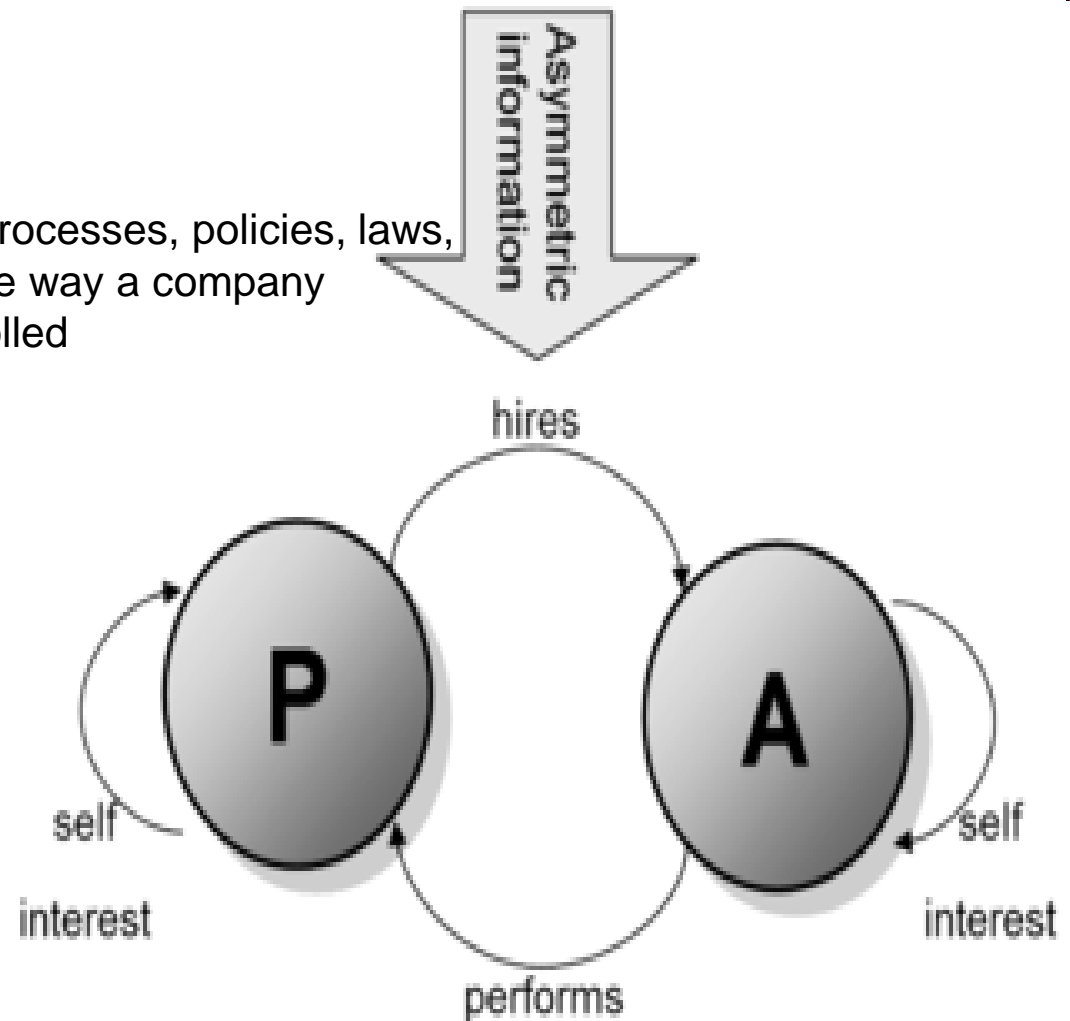
2008: global economy – capital markets – shipping markets → collapsed

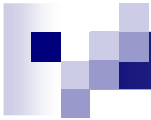


Corporate Governance

- a multi-faceted complex concept
- **Corporate governance** = set of processes, policies, laws, customs & institutions affecting the way a company is directed, administered or controlled

- CG important to...
...to introduce **mechanisms**
in order to reduce
the **principal – agent conflict**





Internal CG mechanisms

- ✓ **independent BoD Members**
- ✓ **CEO (No) Duality** (balance of power)
- ✓ **BoD members' ownership stakes**
- ✓ managerial remuneration (stock options)
- ✓ internal control & audit procedures
(Committees)

External CG mechanisms

- ✓ market competition
- ✓ financial evaluation
- ✓ government regulations
- ✓ takeovers (market for corporate control)





CG & financial performance

- Efficient CG mechanism anticipated to have positive correlation with:
 - ✓ improved operating & financial performance
 - ✓ stock price performance
 - ✓ higher corporate value
- Firms with weak CG mechanisms → less effective in robust financial results & ensuring value max
- High risk of takeover bids (market for corporate control)

Gompers, Ishii & Metrick (2003), *Quarterly Journal of Economics*

Bebchuck, Cohen & Ferrell (2004), *Harvard Law School*

Syriopoulos & Theotokas (2007), *Maritime Policy & Management*





CG in Shipping – under reshaping....

- **Past:**
 - **'family-run'** governance structure of shipping firms

- **Current:**
 - **'publicly listed'** firms with strict cor gov compliance
 - ✓ - expansion of shareholder base
 - ✓ - gradual separation of ownership & management
 - ✓ - transparency – disclosure – accountability issues

- **efficient CG mechanisms for shipping firms ?**





Past Research on CG in Shipping

few studies on CG in shipping:

- **RANDOY, T., DOWN, J. & JENSSEN, J. (2003),**
Corporate governance and board effectiveness in maritime firms,
Journal of Maritime Economics and Logistics, 5, 23-39
- **SYRIOPOULOS, T. & THEOTOKAS, I. (2007),**
Value creation through corporate destruction? Corporate governance in shipping takeovers,
Maritime Policy & Management, 34, 225-242
- **SYRIOPOULOS, T., KOUFOPOULOS, D., LAGOUDIS, I. & THEOTOKAS, I. (2010),**
Corporate Governance and Board Practices by Greek Shipping Management Companies,
Corporate Governance: International Journal of Business in Society, 10(3), 261-278
- **SYRIOPOULOS, T. & TSATSARONIS, M. (2011),**
The corporate governance model of the shipping firms: Financial performance implications,
Maritime Policy & Management, forthcoming





Past Research on CG in Shipping

**SYRIOPOULOS, T. & TSATSARONIS, M. (2011),
The Corporate Governance Model of the Shipping Firms: Financial Performance Implications,
Maritime Policy & Management, 21, 40-54.**

The corporate governance model of the shipping firms is under extensive dynamic adjustment. Core reasons for that include the corporate transformation of the shipping firms from private and family-run into publicly listed and multi-shareholder entities and a number of strict stock market listing requirements, related to corporate governance in particular. Despite these profound shifts, relevant empirical research in this field remains thin. This study undertakes an updated empirical investigation to assess the impact of key corporate governance mechanisms on the financial performance of the shipping firms; namely, **(1) the presence of managerial executives (CEOs) related to the founding family; (2) the ownership concentration (shares held) by Board of Directors members; and, (3) the participation of independent members in the Board of Directors.** A carefully selected sample of Greek shipping companies listed on US equity markets is employed as a case study. The study concludes that shipping firms follow their own corporate governance model that has idiosyncratic divergences from conventional governance approaches. A comparison between Greek and Scandinavian shipping firms indicates some differing financial performance response to common corporate governance practices.





- **CEO Duality & financial performance**





Earlier study on CG in shipping...

- **Hypothesis 1: management & founding family**

‘Managerial Executives directly associated with the founding-owning family (founding family CEOs) have a positive impact on the financial performance of the shipping firms’

- **Hypothesis 2: ownership concentration**

‘Ownership concentration by the BoD has a positive but declining impact on the financial performance of the shipping firms’

- **Hypothesis 3: independent BoD members**

‘The independent Board of Directors members exert a positive impact on the financial performance of the shipping firms’





CEO Duality Hypothesis

- important internal CG mechanism

CEO duality applies in case the two top management positions in a firm
- CEO & BoD Chairman - served by same person

- alternative approach : **No CEO Duality** – ‘good’ CG practice

separation of CEO & BoD Chairman responsibilities
between two different persons





Agency Theory:

- CEO duality → adverse implications for firm's financial performance (Jensen, 1993)
 - jointed responsibilities of CEO & BoD Chairman by same person... discourage effective monitoring & control of CEO performance
 - promotion of selfish managerial interests against shareholders
 - manipulation of BoD decisions - managerial opportunism - agency frictions
 - superior performance of No CEO duality firms (Rechner & Dalton, 1991)





Stewardship Theory:

- CEO duality → strong, unambiguous leadership, integrated command chain
- better, faster and more efficient decisions
- CEO, a good 'steward' of corporate assets (Brickley et al., 1997)
- no frictions induced by CEO motivations (Lam & Lee, 2007)
- positive impact on financial performance - better than No CEO duality firms (Donaldson & Davis, 1991; Peng et al., 2007)





CEO Duality Mechanism in Shipping: Financial Implications for the Firm

Motivations

- **CEO Duality** issue remains a hot debate in empirical finance
- empirical findings pro/against CEO duality have produced contradictory conclusions
- NO past relevant study on CEO duality in shipping vs. financial implications

Hypothesis to Test

Does CEO duality exert a positive or negative impact on the financial performance of the shipping firms ?





CEO Duality Mechanism in Shipping: Financial Implications for the Firm

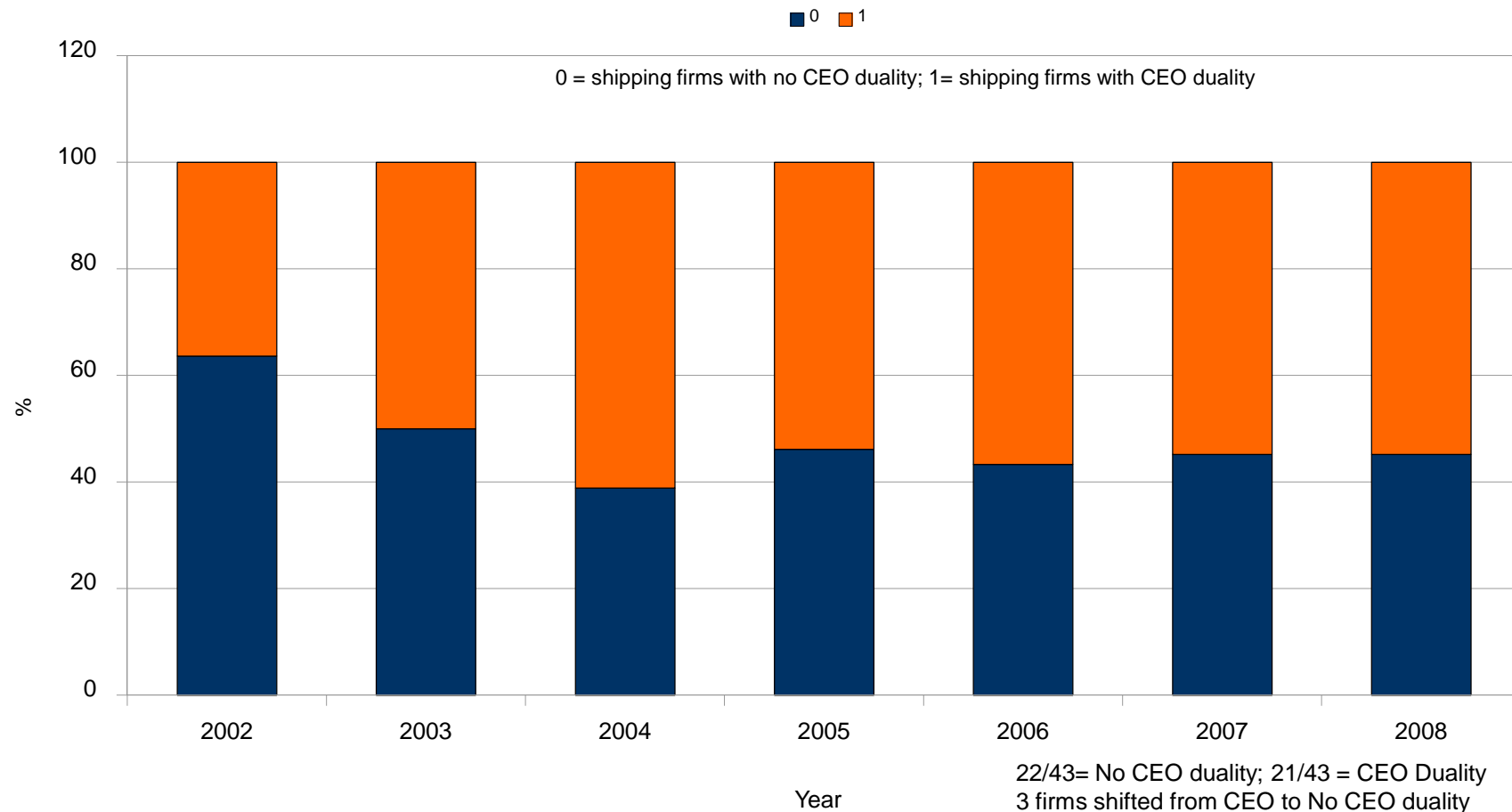
Data analysis

- **sample:** 43 listed shipping companies
 - cover diversity of sectoral characteristics (size, profitability)
 - lines of bulk business operations & market segments
 - bear value as well as growth features
 - large & medium market capitalization values
 - stocks traded in international Stock Exchanges
- **listed on:** NYSE & NASDAQ
- **time-span:** 2002 to 2008
- **business cycle:** expansion & recession phases
- **data source:** corporate annual reports, financial statements, IPO prospectuses, firm websites, press releases etc.
- **empirical method:** panel data approach



CEO Duality Mechanism in Shipping: Financial Implications for the Firm

CEO Duality in Shipping





An Empirical Model of CEO Duality vs. Financial Performance of Shipping Firms

Variables of Corp. Gov. Model in Shipping: CEO Duality

<i>Variables</i>	<i>Definition</i>
Dependent Variable: Financial Performance	
<i>Return on Equity (ROE)</i>	net profits after tax over average shareholder equity
<i>Return on Assets (ROA)</i>	net profits after tax over average asset book value
Independent Variables	
<i>CEO Duality</i>	dummy variable: 1 (= CEO duality); or, 0 (= No CEO duality); (a person serves both as CEO & BoD Chairman; or, not)
<i>Shareholder's Equity / Total Assets (seq)</i>	shareholder's equity over total assets
<i>Debt ratio (debt)</i>	total liabilities over total shareholder equity
<i>Firm age (fage)</i>	years since firm foundation up to sample observation
<i>Firm Size (fsize)</i>	total annual revenue





Choice of financial factors (dependent variable)

Return on Equity (ROE):

- to empirically measure firms' financial performance;
- to attain comparable results with past relevant studies
(Weigand, 2000; Randy & Jensen, 2004)

Return on Assets (ROA):

alternative empirical ratio to firms' financial performance
to validate empirical findings



An Empirical Model of CEO Duality vs. Financial Performance of Shipping Firms

Descriptive statistics of key factors in shipping firms

<i>Descriptive Statistics</i>	<i>ROE</i>	<i>ROA</i>	<i>SEQ</i>	<i>CEO</i>	<i>DEBT</i>	<i>FSIZE</i>	<i>FAGE</i>
Mean	-0.893	-1.211	5.656	0.515	5.707	5.515	1.172
Sum	-76.806	-104.188	486.439	49.00	490.845	474.296	111.40
Median	-0.873	-1.218	5.731	1.000	5.710	5.617	1.204
Maximum	0.0433	0.499	6.751	1.000	7.102	6.346	2.133
Minimum	-1.8405	-2.318	3.736	0.000	3.999	3.921	0.000
Std. Dev.	0.380	0.490	0.568	0.502	0.658	0.561	0.616
Skewness	-0.475	0.533	-0.858	-0.063	-0.276	-0.571	-0.466
Kurtosis	3.411	4.873	4.221	1.003	3.266	2.548	2.221

Notes: ROE: Return on Equity; ROA: Return on Assets; SEQ: Shareholders Equity/ Total Assets;
CEO: Presence of CEO duality; DEBT: Debt Ratio; FSIZE: Firm Size; FAGE: Firm Age.





An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

The Empirical Model

The following models are specified & empirically tested (on panel data):

Model 1: $ROE = a + b_1 * CEO + b_2 * seq + b_3 * fsize + b_4 * fage + b_5 * debt$ (1)

Model 2: $ROA = a + b_1 * CEO + b_2 * seq + b_3 * fsize + b_4 * fage + b_5 * debt$ (2)

The following estimation runs were executed:

Model 1 & Model 2:

- sample of shipping firms *With CEO duality*
- sample of shipping firms *With No CEO duality*
- sample of shipping firms *With & No CEO duality*



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Empirical Findings

CEO Duality vs. Shipping Firms Financial Performance: Model 1 – CEO Duality Sample

Model 1. Dependent Variable: ROE

Period: 2002-2008; Method: Pooled Least Squares

Number of Companies: 17 - Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>C</i>	-1.856741	0.877951	-2.114856	0.0399
<i>CEO</i>	-0.061127	0.043356	-2.409870	0.0253
<i>SEQ</i>	-0.494885	0.488897	-1.012248	0.3167
<i>DEBT</i>	-0.293091	0.275251	-1.664812	0.0925
<i>FSIZE</i>	0.557275	0.315545	1.766074	0.0840
<i>FAGE</i>	-0.112218	0.152460	-0.736052	0.4654
R^2	0.144963			
Adjusted R^2	0.052024			
S.E. of regression	0.419475			
F-statistic	1.559770			
Prob. (F-statistic)	0.190373			



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Empirical Findings

CEO Duality vs. Shipping Firms Financial Performance: Model 2 – CEO Duality Sample

Model 2. Dependent Variable: ROA

Period: 2002-2008; Method: Pooled Least Squares

Number of Companies: 17 - Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>C</i>	-2.600837	0.869297	-2.991887	0.0044
<i>CEO</i>	-0.060983	0.042929	-1.420547	0.0622
<i>SEQ</i>	0.387063	0.484078	1.099589	0.0281
<i>DEBT</i>	-0.254125	0.272538	2.932440	0.0056
<i>FSIZE</i>	0.510441	0.312434	1.633756	0.0091
<i>FAGE</i>	-0.099804	0.150957	4.661145	0.1180
R^2	0.189726			
Adjusted R^2	0.101653			
S.E. of regression	0.415340			
F-statistic	2.154182			
Prob. (F-statistic)	0.075696			



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Empirical Findings

CEO Duality vs. Shipping Firms Financial Performance: Model 1 – No-CEO Duality Sample

Model 1. Dependent Variable: ROE
 Period: 2002-2008; Method: Pooled Least Squares
 Number of Companies: 12 - Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>CEO</i>	1.188958	0.715544	2.861614	0.0046
<i>SEQ</i>	0.005363	0.023458	0.228636	0.8203
<i>DEBT</i>	-0.225459	0.190954	-1.180699	0.2449
<i>FSIZE</i>	0.283587	0.277041	2.823626	0.0123
<i>FAGE</i>	0.044383	0.162606	0.272947	0.7863
R^2	0.049638			
Adjusted R^2	-0.047835			
S.E. of regression	0.442856			
F-statistic	0.509250			
Prob. (F-statistic)	0.729202			



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Empirical Findings

CEO Duality vs. Shipping Firms Financial Performance: Model 2 – No-CEO Duality Sample

Model 2. Dependent Variable: ROA
 Period: 2002-2008; Method: Pooled Least Squares
 Number of Companies: 12 - Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CEO	1.869264	0.649154	2.879539	0.0065
SEQ	0.136685	0.021337	6.406159	0.0000
DEBT	-0.502825	0.173145	-2.904071	0.0061
FSIZE	0.650754	0.251432	2.588189	0.0136
FAGE	-0.196855	0.151418	-1.300075	0.2014
R^2	0.570044			
Adjusted R^2	0.524786			
S.E. of regression	0.401536			
F-statistic	12.59529			
Prob. (F-statistic)	0.000001			





An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Key Empirical Conclusions

- CEO Duality** → found to exert a **negative impact** on shipping firms' financial performance in both models under study (dependent variable = ROE or ROA)

- No CEO Duality** → found to exert a **positive impact** on shipping firms' financial performance in both models under study (dependent variable = ROE or ROA)

- empirical findings** → support **agency theory**
 - No CEO duality = 'good' CG governance practice (mitigates agency conflicts)
 - CEO should deal predominantly with running the business; BoD Chairman focuses on monitoring & evaluating CEO performance & promoting shareholder interests





An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

Key Empirical Conclusions

debt exposure

- exerts an adverse impact on shipping firms' financial performance; the more indebted a shipping firm, the higher the probability to financial distress, the higher the risk exposure to default
- additional disciplinary governance mechanism

empirical conclusions ...

- in line with a number of relevant past empirical studies (e.g., Jensen, 1993; Daily and Dalton, 1994; Rhoades et al., 2001; Higgs, 2003)

further research

- would be useful on CG in shipping





Appendix 1





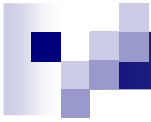
Key Financial Factors

Sample Shipping Firm Data

Company Name	Ticker	Foundation Year	Shares Outstanding*	Enterprise Value (EV) USD	P/B	P/S
1 Aktieselskabet Dampskibsselskabet	TRMD	1889	69.34M	2.22B	0.40	0.57
2 Alexander & Baldwin, Inc.	ALEX	1870	41.27M	2.12B	1.53	1.11
3 American Commercial Lines Inc.	ACL	1915	merged with affiliate of Platinum Equity			
4 Aries Maritime Transport Limited	RAMS/NEWL	2005	7.33M	527.20M	0.68	0.22
5 Arlington Tankers Ltd.	ATB	2004	merged with General Maritime			
6 B+H Ocean Carriers Ltd.	BHO	1988	5.56M	21.11M	0.30	0.34
8 Danaos Corporation	DAC	1972	108.61M	3.30B	1.59	1.49
9 Diana Shipping Inc.	DSX	1999	80.67M	1.01B	0.85	3.72
10 DryShips Inc.	DRYS	2004	310.31M	4.15B	0.52	1.86
11 Eagle Bulk Shipping Inc.	EGLE	2005	62.29M	1.28B	0.39	1.10
12 Excel Maritime Carriers Ltd.	EXM	1988	81.08M	1.48B	0.23	0.94
13 FreeSeas Inc.	FREEED	2004	6.49M	137.16M	0.15	0.34
14 Frontline Ltd.	FRO	1948	77.86M	4.77B	2.69	1.72
15 Genco Shipping & Trading Limited	GNK	2004	35.01M	1.94B	0.37	0.99
16 General Maritime Corporation	GMR	1997	86.30M	1.54B	0.50	0.68
17 Golar LNG Limited	GLNG	1946	68.85M	2.79B	2.77	5.16
18 Horizon Lines, Inc.	HRZ	1956	30.74M	677.09M	1.59	0.13
19 Hornbeck Offshore Services, Inc.	HOS	1997	26.45M	1.28B	0.75	1.51
20 International Shipholding Corporation	ISH	1978	5.69M	332.34M	0.61	0.49
21 K-Sea Transportation Partners L.P.	KSP	1959	19.19M	357.73M	0.30	0.38
22 Kirby Corporation	KEX	1969	53.52M	2.70B	2.35	2.37
23 Knightsbridge Tankers Limited	VLCCF	1996	18.56M	604.49M	1.61	4.55
24 Navios Maritime Holdings Inc.	NM	1954	101.02M	2.61B	0.50	0.80
25 Nordic American Tanker Shipping Ltd.	NAT	1995	46.90M	1.15B	1.14	8.37
26 Overseas Shipholding Group, Inc.	OSG	1948	30.42M	2.54B	0.56	0.98
27 Quintana Maritime Limited	QMAR	2004	acquired by Excel Maritime since 2006			
28 Seacor Holdings Inc.	CKH	1989	21.24M	2.18B	1.10	0.89
29 Seaspac Corporation	SSW	2005	68.38M	3.76B	1.18	2.72
30 Ship Finance International Limited	SFL	2003	79.12M	3.42B	1.95	5.45
31 StealthGas Inc.	GASS	2004	21.10M	471.61M	0.46	1.25
32 TBS International Limited	TBSI	1993	31.18M	442.59M	0.21	0.27
33 Teekay Corporation	TK	1973	72.99M	7.85B	1.31	1.19
34 Tidewater Inc.	TDW	1956	51.42M	3.21B	1.15	2.66
35 Top Tankers Inc.	TOPS	2000	30.71M	393.83M	0.12	0.33
36 Trailer Bridge, Inc.	TRBR	1991	12.02M	136.43M	18.78	0.37
37 Tsakos Energy Navigation Limited	TNP	1993	37.71M	1.71B	0.40	0.91
38 Ultrapetrol (Bahamas) Limited	ULTR	1992	29.94M	524.05M	0.61	0.73
39 Trico Marine Services, Inc.	TRMAQ.PK	1993	19.44M	738.17M	1.1	0.09
40 Teekay LNG Partners L.P.	TGP	2004	54.05M	4.41B	2.57	5.65
41 Omega Navigation Enterprises Inc.	ONAV	2005	17.20M	383.05M	0.11	0.29
42 OceanFreight Inc.	OCNF	2006	77.27M	293.30M	0.27	0.59
43 Euroseas Ltd.	ESEA	2005	30.93M	158.36M	0.51	2.02

As of 31/12/2010. * Calculations based on corporate data taken from most recently available quarterly or annual company reports.





CEO Duality in Shipping Firms

Company Name	2002	2003	2004	2005	2006	2007	2008
CEO Duality (1 = CEO Duality; 0 = no CEO Duality)							
Aktieselskabet Dampskibsselskabet	0	0	0	0	0	0	0
Alexander & Baldwin Inc	1	1	1	1	1	1	1
American Commercial Lines	0	0	0	0	0	0	0
Aries Maritime Transport Limited	1	1	1	1	1	1	1
Arlington Tankers Ltd.	1	1	1	0	0	0	0
B+H Ocean Carriers Ltd.	1	1	1	1	1	1	1
Capital Product Partners L.P.	0	0	0	0	0	0	0
Danaos Corporation	1	1	1	1	1	1	1
Diana Shipping Inc.	1	1	1	1	1	1	1
DryShips Inc.	1	1	1	1	1	1	1
Eagle Bulk Shipping Inc.	1	1	1	1	1	1	1
Euroseas Ltd.	1	1	1	1	1	1	1
Excel Maritime Carriers Ltd.	0	0	0	0	0	0	0
FreeSeas Inc.	1	1	1	1	1	1	1
Frontline Ltd.	1	1	1	1	1	1	1
Genco Shipping & Trading Limited	1	1	1	1	1	1	1
General Maritime Corporation	1	1	1	1	1	1	1
Golar LNG Limited	0	0	0	0	0	0	0
Horizon Lines, Inc.	0	0	0	0	0	0	0
Hornbeck Offshore Services, Inc.	1	1	1	1	1	1	1
International Shipholding Corporation	1	1	1	1	1	1	1
K-Sea Transportation Partners L.P.	0	0	0	0	0	0	0
Kirby Corporation	0	0	0	0	0	0	0
Knightsbridge Tankers Limited	0	0	0	0	0	0	0
Navios Maritime Holdings Inc.	1	1	1	1	1	1	1
Nordic American Tanker Shipping Ltd.	1	1	1	1	1	1	1
OceanFreight Inc.	1	1	1	1	1	1	1
Omega Navigation Entreprises Inc.	0	0	0	0	0	0	0
Overseas Shipholding Group, Inc.	1	1	1	1	1	1	1
Quintana Maritime Limited	1	1	1	1	NA	NA	NA
Seacor Holdings Inc.	1	1	1	0	0	0	0
Seaspan Corporation	0	0	0	0	0	0	0
Ship Finance International Limited	1	1	1	0	0	0	0
StealthGas Inc.	1	1	1	1	1	1	1
TBS International Limited	0	0	0	0	0	0	0
Teekay Corporation	0	0	0	0	0	0	0
Teekay LNG Partners L.P.	0	0	0	0	0	0	0
Tidewater Inc.	0	0	1	1	1	1	1
Top Tankers Inc.	0	0	0	0	0	0	0
Trailer Bridge, Inc.	0	0	0	0	0	0	0
Tsakos Energy Navigation Limited	0	0	0	0	0	0	0
Ultrapetrol (Bahamas) Limited	0	0	0	0	0	0	0
Trico Marine Services, Inc.	0	0	0	0	0	0	0

Over the study period, a number of shipping firms shifted from CEO duality to separation of CEO/Chairman whereas others to the opposite direction. 1 = CEO duality; 0 = no CEO duality; NA = not available.

Sample Shipping Firm Data





Appendix 2



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

CEO Duality vs. Shipping Firms Financial Performance: Model 1 – Full Sample

Model . Dependent Variable: ROE
 Period: 2002-2008; Method: Pooled Least Squares
 Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>C</i>	-1.455073	0.500581	-2.906771	0.0047
<i>CEO</i>	-0.039485	0.085584	-0.461355	0.0058
<i>SEQ</i>	0.177183	0.154409	-1.147493	0.0046
<i>DEBT</i>	-0.123499	0.130894	-0.943505	0.0083
<i>FSIZE</i>	0.433318	0.201044	1.155343	0.0341
<i>FAGE</i>	0.085920	0.101055	-0.850232	0.3977
<i>R</i> ²	0.267093			
Adjusted <i>R</i> ²	0.118787			
S.E. of regression	0.378755			
F-statistic	3.150698			
Prob. (F-statistic)	0.040843			



An Empirical Model for CEO Duality vs. Financial Implications in Shipping Firms

CEO Duality vs. Shipping Firms Financial Performance: Model 2 – Full Sample

Model 2. Dependent Variable: ROA

Period: 2002-2008; Method: Pooled Least Squares

Control Variables: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>C</i>	-0.979801	0.603698	-1.622999	0.1085
<i>CEO</i>	-0.143255	0.103214	1.887943	0.0090
<i>SEQ</i>	0.442346	0.186216	1.975438	0.0099
<i>DEBT</i>	-0.609150	0.157857	-3.858871	0.0002
<i>FSIZE</i>	0.143576	0.242458	0.592169	0.5554
<i>FAGE</i>	0.023981	0.121872	0.196771	0.8445
<i>R</i> ²	0.382572			
Adjusted <i>R</i> ²	0.331483			
S.E. of regression	0.456776			
F-statistic	3.573597			
Prob. (F-statistic)	0.005736			

