



University of Navarra

Research Seminar

**"DOES SOCIAL PERFORMANCE REALLY LEAD TO
FINANCIAL PERFORMANCE?
ACCOUNTING FOR ENDOGENEITY"**

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Contents – Does social performance really lead to financial performance? Accounting for endogeneity

¶ Presentation overview

- **Research topic and question. Paper's Motivation.**
- **Methodological issues. Endogeneity.**
- **Presentation of the panel data. KLD.**
- **Main findings and results.**
- **Contribution and managerial implications**

Research question and paper motivation

“DOES SOCIAL PERFORMANCE REALLY LEAD TO FINANCIAL PERFORMANCE? ACCOUNTING FOR ENDOGENEITY”

The investigation of the relationship between the firm and its stakeholders can be done following a:

¶ Normative approach

- Evan & Freeman, 1983; Freeman, 1984, 1994; Goodpaster, 1991; Clarkson, 1994; Donaldson & Preston, 1995; Argandoña, 1998; Donaldson & Dunfee, 1999 Philips, 2003.

¶ Instrumental approach

- Freeman, 1984; Hill & Jones, 1992; Jones, 1995; Jones and Wicks, 1999

“It is taken to be a practical necessity that stakeholder theory revolve around financial consequences substantive enough to convince managers that stakeholders are worthy of attention” (Margolis and Walsh, 2003).

Research question and paper motivation

- Recent extensive reviews of the SP-FP empirical literature
 - Margolis and Walsh [127] (2003); Orlitzky et al. [52] (2003); Roman et al. [51] (1999); Griffin and Mahon [62] (1997); Pava and Krausz [21] (1996).
- Margolis & Walsh (2003) identify 127 empirical studies since 1972 on SP-FP. 109 studies with SP as independent variable:
 - 54 (+)
 - 20 (mixed results)
 - 28 non significant
 - Only 7 (-)
- Overall, the evidence concludes there is a positive relationship (+)
- Different measures of SP:
 - Rating agencies (KLD, SAM, GMI, AccountAbility...)
 - Reputation indices (fortune reputation, Reputation institute...)
 - Pollution indices (e.g., CEP --Council of economic priorities)
 - Annual reports analysis (content analysis techniques)
 - ad-hoc indices, questionnaires, etc.
- KLD is one of the most often used indexes in the literature (>10 studies).

Research question and paper motivation

- Overall, the evidence concludes there is a positive relationship, **but...**
- If the SP-FP relationship is +, then: what is it adding a stakeholder view of the firm?
- The “instrumentalization” of stakeholder theory challenges the normative and ethical foundations of stakeholder arguments. Managers do not justify their social actions because they are “right” or consistent with principles but because they are profitable according to the empirical findings
- Moreover, the positive link contradicts the common observation that firms are often at odds with their stakeholders

Methodological Issues. Endogeneity

- Possible explanations for the empirical findings:
- (other than “Business and Society” sponsors...)
- 1. Measurement problems with SP
- 2. Distinction between short- and long run
- 3. Incomplete measurement of FP and total value creation (Lieberman et al., 2006)
- 4. Reverse causality (e.g., slack resources hypothesis)
- 5. Self-selection (endogeneity) of strategic choice
- Previous research in strategic management and finance has shown the importance of correcting for endogeneity (Hamilton & Nickerson, 2003; Campa & Kedia, 2002; Villalonga, 2002). The empirical results may change.
- The adoption of CSR policies may be correlated with an unobservable firm specific attribute (quality of management, top management values,...).

$$E(\pi_0 | SP_0) \neq E(\pi_0 | SP_1) \text{ and,} \\ E(\pi_1 | SP_1) \neq E(\pi_1 | SP_0)$$

Methodological Issues. Endogeneity

- Previous research estimates:
-

$$\pi_{it} = \gamma SP_{it} + X_{it}\beta + \varepsilon_i$$

- But if the cov $(SP_i, \varepsilon_{1i}) \neq 0$ then, unobserved factors affect both the strategic choice of SP *and* performance simultaneously
- OLS cross-sectional estimation produces a biased estimate of the effect of SP on FP
- **Panel data**: panel data fixed effects estimation can control for firm-specific unobservable attributes

$$\pi_{it} = \gamma SP_{it} + X_{it}\beta + \theta_i + \zeta_{it} \quad \varepsilon = \theta_i + \zeta_{it}$$

- A 1991-2005 panel allows us to estimate: (unobs. constant)

$$\pi_{it} - \pi_{it-1} = \gamma(SP_{it} - SP_{it-1}) + (X_{it} - X_{it-1})\beta + (\zeta_{it} - \zeta_{it-1})$$

- **Instrumental variables**: $SP = f(\text{activist's pressure, visibility, sector, governance...})$ (unobs. is variable).

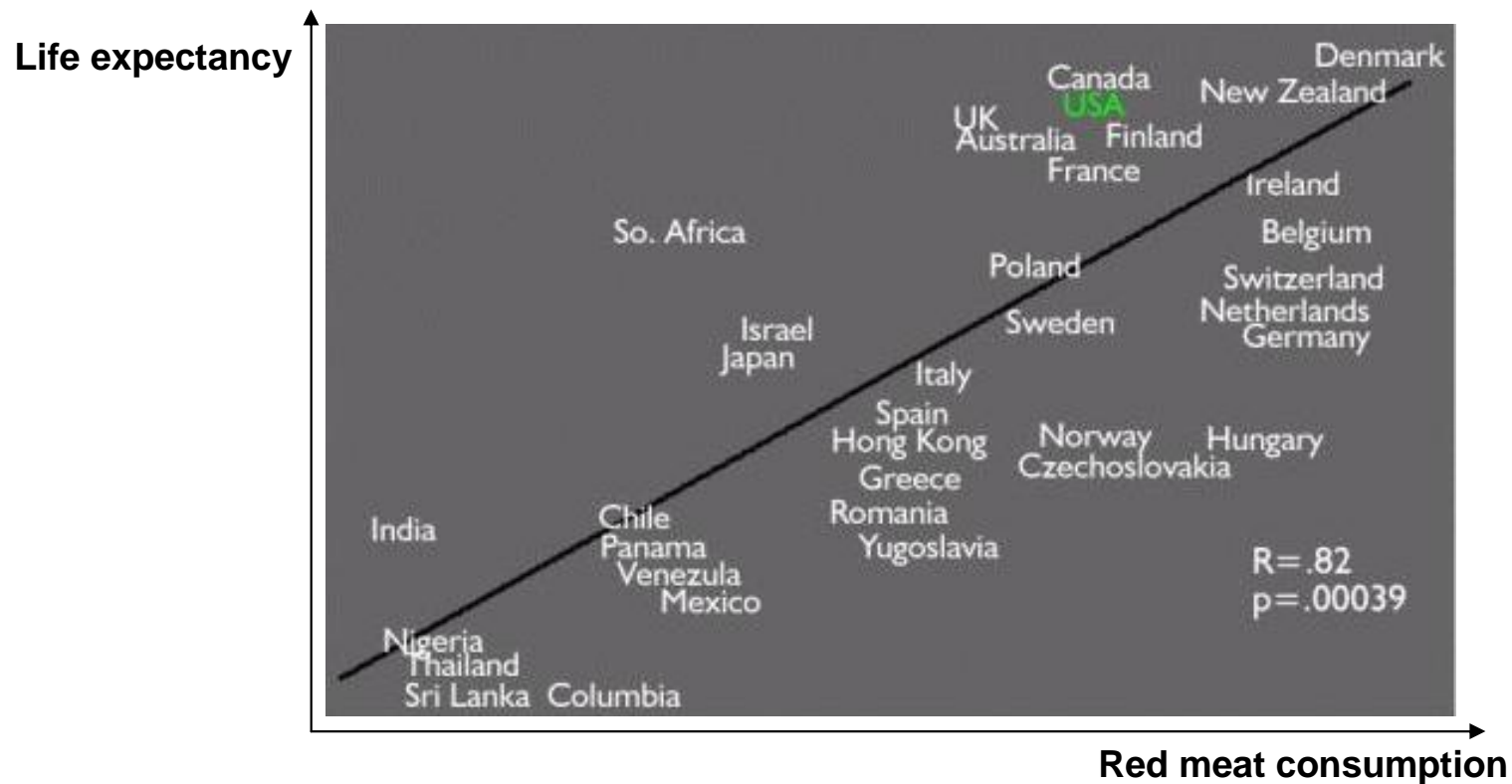
$$SP_{it} = \beta Z_{it} + \mu_{it}$$

Methodological Issues. Endogeneity

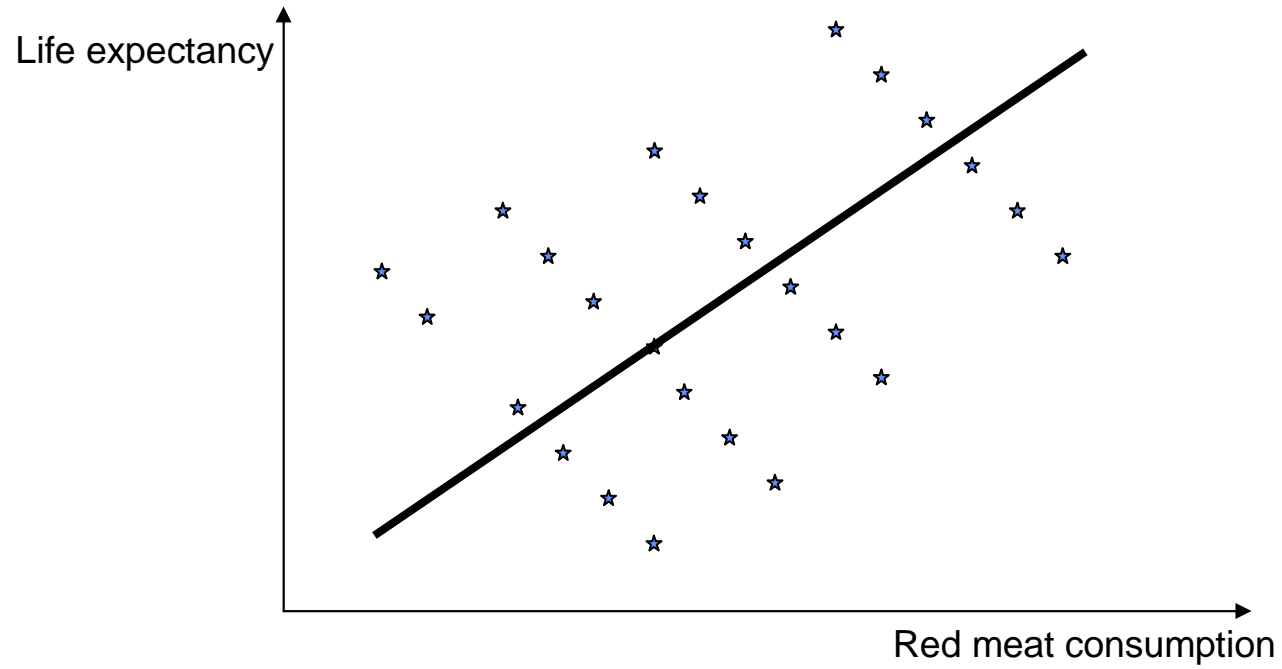
- A note on Hausman test
 - First, we need to test if endogeneity in our sample is a problem or not
 - Hausman test does not work in many situations!
 - Standardizing the X's could help
 - Alternative: Mundlak test

$$\pi_{it} = \gamma_1 \mathbf{SP}_{it} + \gamma_2 \overline{\mathbf{SP}}_i + \mathbf{X}_{it}\beta + \varepsilon_i$$

Methodological Issues. Endogeneity



Methodological Issues. Endogeneity



Presentation of the panel. KLD.

- Methods and Data
-
- 1991-2005 KLD and Datastream panel data.
 - 17,000 firm-years observations
 - 650-3100 US firms
 - KLD (Kinder, Lydenberg, Domini & Co. Inc.) index :
 - Employees
 - Community
 - Environment
 - Customers
 - Minorities
 - KLD data on corporate governance

Presentation of the panel. KLD.

KLD Research Process:



Strengths	Concerns
Product	
<ul style="list-style-type: none"> • Quality • R&D/Innovation • Benefits the Economically Disadvantaged • Other Strength 	<ul style="list-style-type: none"> • Product Safety • Marketing/Contracting Controversies • Antitrust Disputes • Other Concern
Environment	
<ul style="list-style-type: none"> • Clean Energy • Beneficial Products & Services • Pollution Prevention • Recycling • Other Strength 	<ul style="list-style-type: none"> • Hazardous Waste • Regulatory Problems • Ozone Depleting Chemicals • Substantial Emissions • Agricultural Chemicals • Climate Change • Other Concern
Employee Relations	
<ul style="list-style-type: none"> • Cash Profit Sharing • Employee Involvement • Health and Safety Strength • Retirement Benefits Strengths • Union Relations Strength • Other Strength 	<ul style="list-style-type: none"> • Union Relations Concern • Health and Safety Concern • Workforce Reductions • Retirement Benefits Concern • Other Concern
Community	
<ul style="list-style-type: none"> • Charitable Giving Strength • Innovative Giving • Non-US Charitable Giving • Support for Housing • Support for Education • Volunteer Programs • Other Strength 	<ul style="list-style-type: none"> • Negative Economic Impact • Investment • Controversies • Tax Disputes • Other Concern
Diversity	
<ul style="list-style-type: none"> • CEO • Promotion • Board of Directors • Work/Life Benefits • Women & Minority Contracting • Employment of the Disabled • Gay & Lesbian Policies • Other Strength 	<ul style="list-style-type: none"> • Controversies • Non-Representation • Ownership Concern • Other Concern

Presentation of the panel. KLD.

Some firms in the sample according to their stakeholder management score...

# Stakeholder Management	Company
6	Ben & Jerry's Homemade, Inc.
...	...
40	Eastman Kodak Company
...	...
51	Southwest Airlines Co.
...	...
62	Deere & Company
...	...
72	Medtronic, Inc.
...	...
...	...
...	...
193	Enron Corp.
...	...
563	Raytheon Company
...	...
582	WorldCom, Inc.
...	...
623	Lockheed Martin Corporation
...	...
630	Tyco International Ltd.

Main findings and results

Comparison of the Effects of KLD on Financial Performance

STUDY	Waddock and Graves (1997b)			Williams and Siegel (2000)		Hillman and Keim (2001)	García-Castro, Ariño and Canela (2006)							
	WG			WS		HK	GAC							
	<u>ROA</u>	<u>ROE</u>	<u>ROS</u>	<u>Accounting measure</u>	<u>Accounting measure</u>	<u>(MVA)</u>	<u>ROE</u>		<u>ROA</u>		<u>MVA</u> ²		<u>TobinQ</u>	
	<u>OLS</u>	<u>OLS</u>	<u>OLS</u>	<u>OLS</u>	<u>OLS</u>	<u>OLS</u>	<u>OLS</u> ³	<u>FE</u>	<u>OLS</u> ³	<u>FE</u>	<u>OLS</u> ³	<u>FE</u>	<u>OLS</u> ³	<u>FE</u>
KLD	.024***	.081	.021**	.141***	-.062	.128**	1.509***	.618	.392***	.125*	1995***	-.384	.186***	-.132*
Beta	No	No	No	Yes	Yes	.041	-.363	-.779	.085	.015	-339.876	-1536.04	-.016	-.104
Size	-.502E-6*	.136E-6	-.427E-6	Yes	Yes	-.202**	2.25e-8	4.83e-9	-2.47e-8***	-3.27e-8***	.0003***	.001	-4.23e-9	-9.87e-9
Industry Dummies	Yes	Yes	Yes	No	Yes	Yes	Yes	n/a ¹	Yes	n/a ¹	Yes	n/a ¹	Yes	n/a ¹
R&D intensity	No	No	No	No	.263***	No	-55.038**	-221.407***	-20.610***	-125.758***	47492***	68565.50	5.125	-13.805**
leverage	-.120***	-.471***	-.115***	No	No	No	.007***	.006***	.0001	.0002*	-1.399**	-.199	.006***	.006***
R ²	.29	.07	.20	—	—	.42	.09	.02	.23	.13	.20	.06	.21	.15
Adjusted R ²	.27	.04	.17	.10	.29	.41	.08		.22		.19		.20	
F-statistic	11.55***	2.20***	6.99***	—	—	35.132***	8.97***	12.85***	27.73***	93.66***	19.17***	35.16***	20.65***	90.20***
No. of observations (firm-year obs.)	469	469	469	524	524	308	(3334)	(3334)	(3462)	(3462)	(2928)	(2928)	(2920)	(2920)

*p< 0.10; **p< 0.05; ***p< 0.01

¹ Very few firms –only 13—changed from one industry to a different one during the panel period. For that reason we decided to treat industry as a time invariant variable.

Only time-For that reason, industry dummies do not apply to the case of fixed-effects models as only time-varying variables can be estimated in those models.

² MVA is measured in \$ Millions.

³ Although we use the notation “OLS”, in the four OLS models in GAC we are doing pooled cross-sectional OLS estimation.

Main findings and results

Table 4. OLS estimates for KLD

	Coefficient	Standard error
LEC	0.018	0.088
OWS	0.184	0.402
TRS	2.275***	0.192
SP500 (3 lag)	-0.213*	0.124
Industry dummies ¹		
R ²	0.24	
F-statistic	22.73***	
Observations	2974	

*p< 0.10; **p< 0.05; ***p< 0.01

LEC: Limited executive compensation

OWS: Ownership strength

TRS: Transparency in social and environmental reporting

SP500: dummy variable. "1" if the company is listed in the S&P500 index, otherwise, "0".

¹A total of 37 dummies representing 37 different industries were introduced in the model.

Main findings and results

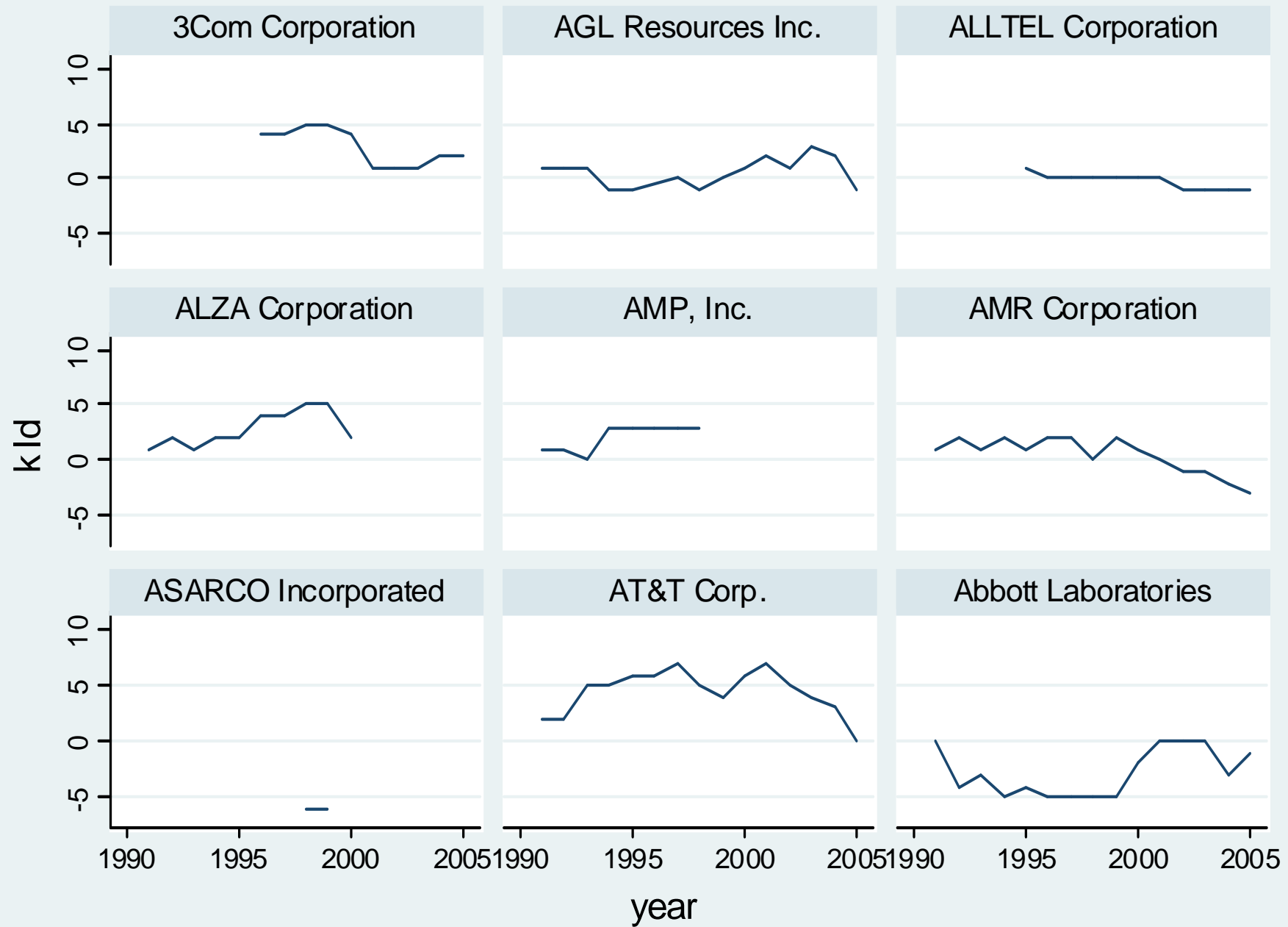
Table 5. Instrumental variable (IV) estimation

	<u>ROE</u> ¹	<u>ROA</u> ¹	<u>MVA</u> ¹	<u>Tobin's Q</u> ¹
	<u>IV</u>	<u>IV</u>	<u>IV</u>	<u>IV</u>
KLD ²	-0.059	0.148	-27.149	0.067
Beta	-0.274	-0.066	601.996	0.450
Size	4.77e-8	-9.50e-9	0.0002	-6.79e-9
R&D intensity	-16.340	-3.876	35367.060	3.247
Leverage	0.006	0.00004	-1.467	0.005
R ²	0.02	0.02	0.03	0.21
Adjusted R ²	0.02	0.02	0.03	0.20
F-statistic	6.15***	0.83***	10.63***	85.29***
No. of observations (firm-year obs.)	1656	1750	1677	1677

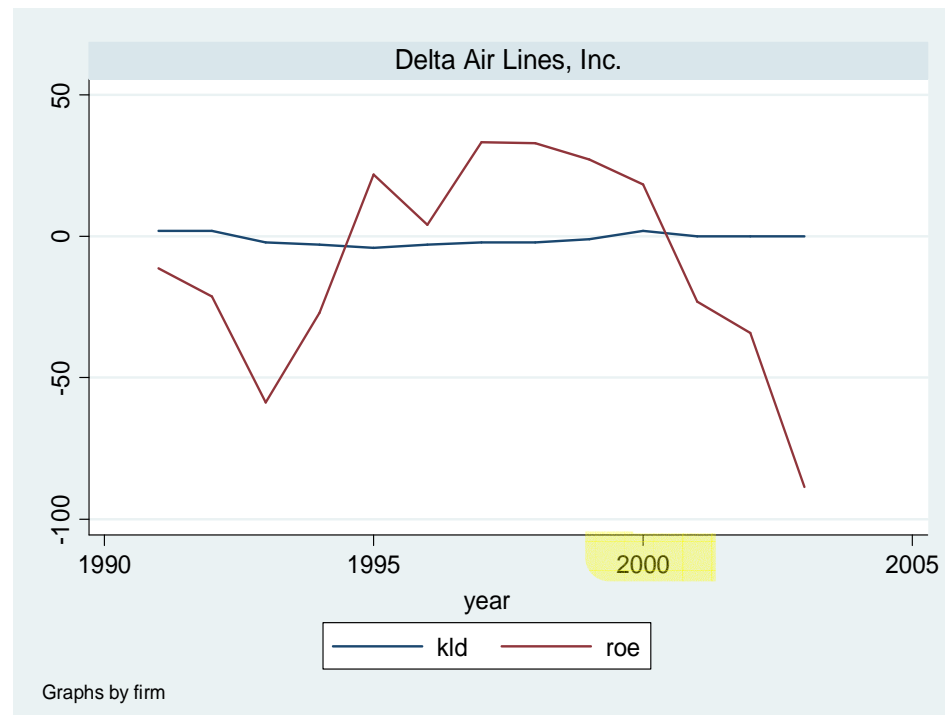
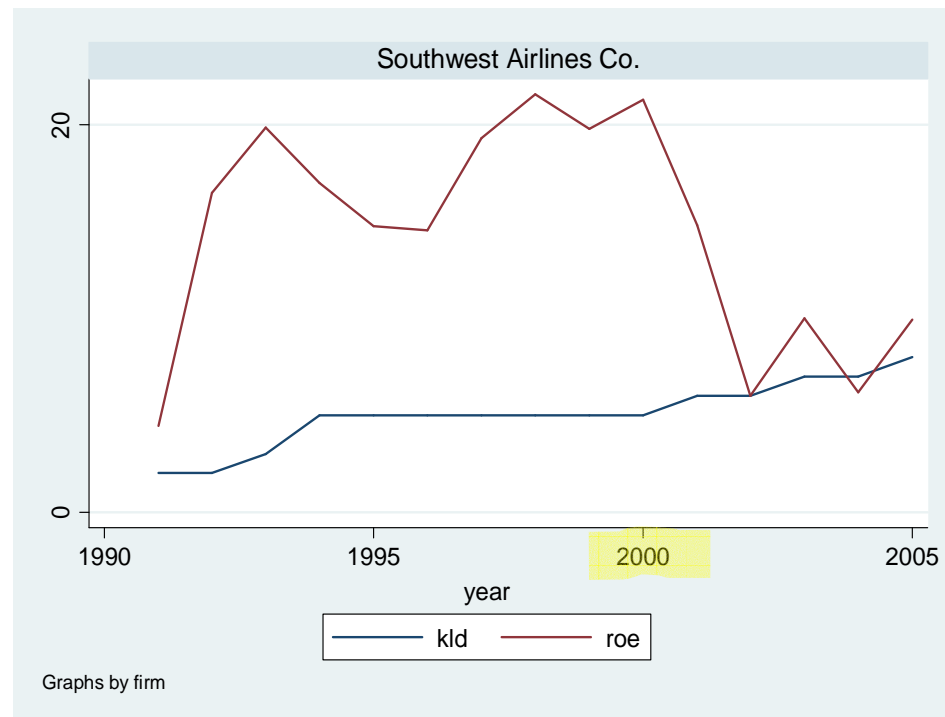
*p< 0.10; **p< 0.05; ***p< 0.01

¹The difference between the firm's performance for each year and the average of the industry it belongs to for each year is used as the dependent variable for ROE, ROA, MVA and Tobin's Q, respectively.

²KLD has been instrumented using the variables in the model shown in Table 4 above: LEC, OWS, TRS, industry dummies and SP500.



Graphs by firm



Contribution and managerial implications

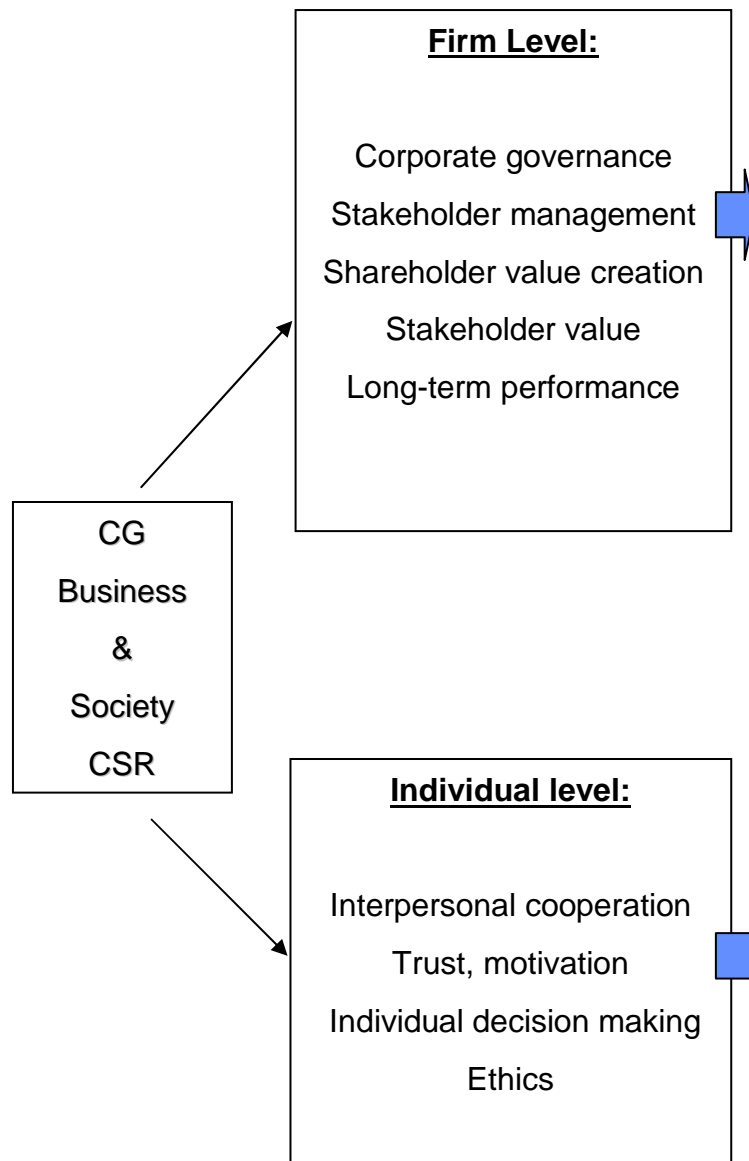
Contributions

Findings

- 1 The positive significant impact of SP on FP disappears once endogeneity is properly taken into account
- 2 There are unobserved variables correlated with both SP and FP that mediate the SP-FP relationship
- 3 Quality of management? (non measurable but observable?)

Managerial Implications

- 1 Managers should not assume that investing in SP will lead to higher FP
- 2 In the absence of instrumental reasons for adopting social policies they need to find normative rationales
- 3 Distinction between short run (-) and long run (+)



Research papers:

Research Agenda

García-Castro, R., Ayuso, S., Ariño, M.A and Rodriguez, M.A. 2006. *Corporate governance and labor management: A cross-national study of firm governance and employment contracts*. **Academy of Management Conference, Strategic Management Society, 2006. Forthcoming publication in BEER, 2008.**

García-Castro, R. and Ariño, M.A. 2006. *Is superior economic performance the same as sustained competitive advantage? The case of Southwest Airlines*. Presented at **Academy of Management Conference and Atlanta Competitive Advantage Conference (ACAC), 2006. Review & resubmit at SMJ.**

García-Castro, R., Canela, M.A. & Ariño, M.A. 2007. *Over the long run? The impact of stakeholder management on short run and long run shareholder value creation*. **Review and resubmit at Business & Society.**

Ariño, M.A, Ariño, A. and García-Castro, R. 2007. A model to evaluate transient industry effects. **Forthcoming publication, Managerial and Decision Economics.**

García-Castro, R., et al. 2007. *Maximising stakeholders' interests: An empirical analysis of the stakeholder approach to corporate governance*, Working paper. Paper presented at **Strategic Management Society (SMS), 2006.**

Research papers:

García-Castro, R. 2006. *Managerial constraints and the idea of the firm as a cooperative system*. Working paper.

García-Castro, R. & Ariño, M.A. 2005. *Identification-based trust and competitive advantage*. Paper presented at the **European Academy of Management (EURAM)** annual conference, Munich, 2005.

