

EFCG

**Overview of the
Engineering/Consulting Industry
for the
Canadian ACEC Leadership Summit 2014**

Paul Zofnass, President
Winnipeg
June 20th, 2014

Participants in the 2013 EFCG CEO Survey

<u>Revs</u> <u>(\$MM)</u>	<u># of</u> <u>Firms</u>	<u>Gross Revs.</u> <u>(\$Bil)</u> <u>2013</u> [*]
> 1 Bil	27	73
250-1 Bil	25	12
100-250	41	6
50-100	44	3
25-50	41	1
< 25	47	1
Total	225	95

**Primarily Environmental, Transportation, Water/wastewater, Energy, Power and Infrastructure Engineering / Consulting ("e/c") Revenues. For the largest firms we use mostly their engineering/consulting revenues only, but some minimal construction and EPC .*

Top 50 Participants

Approximately By Revenues (roughly > \$300 MM)

(HQ in parenthesis; Canadian firms in bold)

1 Jacobs	(US)	26 Grontmij	(Netherlands)
2 URS	(US)	27 GHD	(Australia)
3 SNC Lavalin	(Canada)	28 ICF	(US)
4 WorleyParsons	(Australia)	29 HNTB	(US)
5 AECOM	(US)	30 Louis Berger	(US)
6 CH2M HILL	(US)	31 Leidos	(US)
7 Black & Veatch	(US)	32 Coffey	(Australia)
8 Arcadis	(Netherlands)	33 Hill	(US)
9 Fugro	(Netherlands)	34 SMEC	(Australia)
10 Tetra Tech	(US)	35 Ausenco	(Australia)
11 Parsons Brinckerhoff	(US/UK)	36 Hatch Mott MacDonald	(US)
12 Stantec	(Canada)	37 Atkins N.A.	(UK)
13 WSP-Genivar	(Canada)	38 TRC	(US)
14 HDR	(US)	39 IBI Group	(Canada)
15 Mott MacDonald	(UK)	40 Garney	(US)
16 Sinclair Knight Merz	(Australia)	41 Terracon	(US)
17 Golder	(Canada)	42 LiRo	(US)
18 MWH Global	(US)	43 Kimley-Horn	(US)
19 Amec E&I	(US)	44 Kleinfelder	(US)
20 Ramboll	(Denmark)	45 POWER	(US)
21 Cardno	(Australia)	46 STV	(US)
22 CDM Smith	(US)	47 Dewberry	(US)
23 Sweco	(Sweden)	48 Brown & Caldwell	(US)
24 ERM	(US)	49 MMM	(Canada)
25 Aurecon	(Australia)	50 QuEST	(Singapore)

Revenue Distribution By Firm Size

(Historical Perspective)

	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2013</u>
<u># of Firms</u>					
> 1 Bil	3	7	13	18	27
250-1 Bil	14	20	23	29	25
100-250	23	23	24	36	41
50-100	19	26	36	38	44
25-50	24	31	32	38	41
<25	77	66	59	51	47
Total	160	173	187	210	225
<u>Revenues (\$ Billions)</u>					
> 1 Bil	3	9	24	58	73
250-1 Bil	5	9	11	15	12
100-250	4	4	4	6	6
50-100	2	2	3	3	3
25-50	1	1	1	1	1
< 25	1	1	1	1	1
Total	14	26	43	83	95
<u>% of Total Revenues</u>					
> 1 Bil	21%	35%	55%	70%	77%
250-1 Bil	34%	35%	26%	18%	13%
100-250	24%	15%	8%	7%	6%
50-100	11%	9%	7%	3%	3%
25-50	5%	4%	2%	2%	1%
< 25	5%	3%	2%	1%	1%
Total	100%	100%	100%	100%	100%

- Changing composition of e/c industry

Overall Performance & Outlook 2013-2015

(Medians)

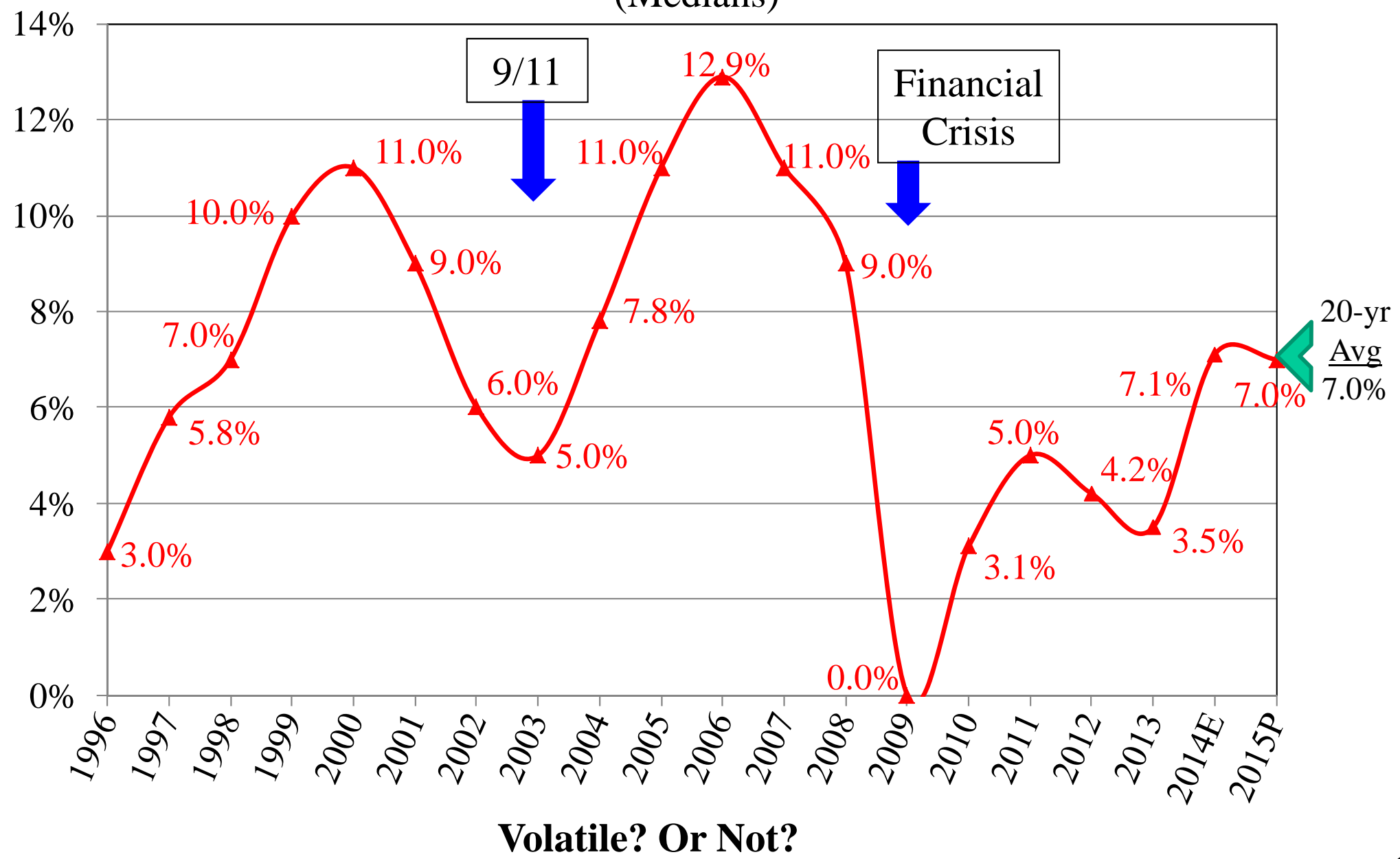
	<u>2013</u>		<u>2014</u>		<u>2015</u>	
<u>Internal Growth Estimates</u>						
October 2013	5.0%	Est	7.0%	Proj		
January 2014	4.3%	Est	7.5%	Proj		
April 2014	3.5%	Act	7.1%	Est	7.0%	Proj
<u>Profitability (EBIBT/Net Revs)</u>						
October 2013	11.2%	Est	11.8%	Proj		
January 2014	11.0%	Est	12.1%	Proj		
April 2014	9.5%	Act	11.4%	Est		

- **2013 came in below expectations**
- **2014 is expected to be much better**

Internal Growth

Historical Perspective

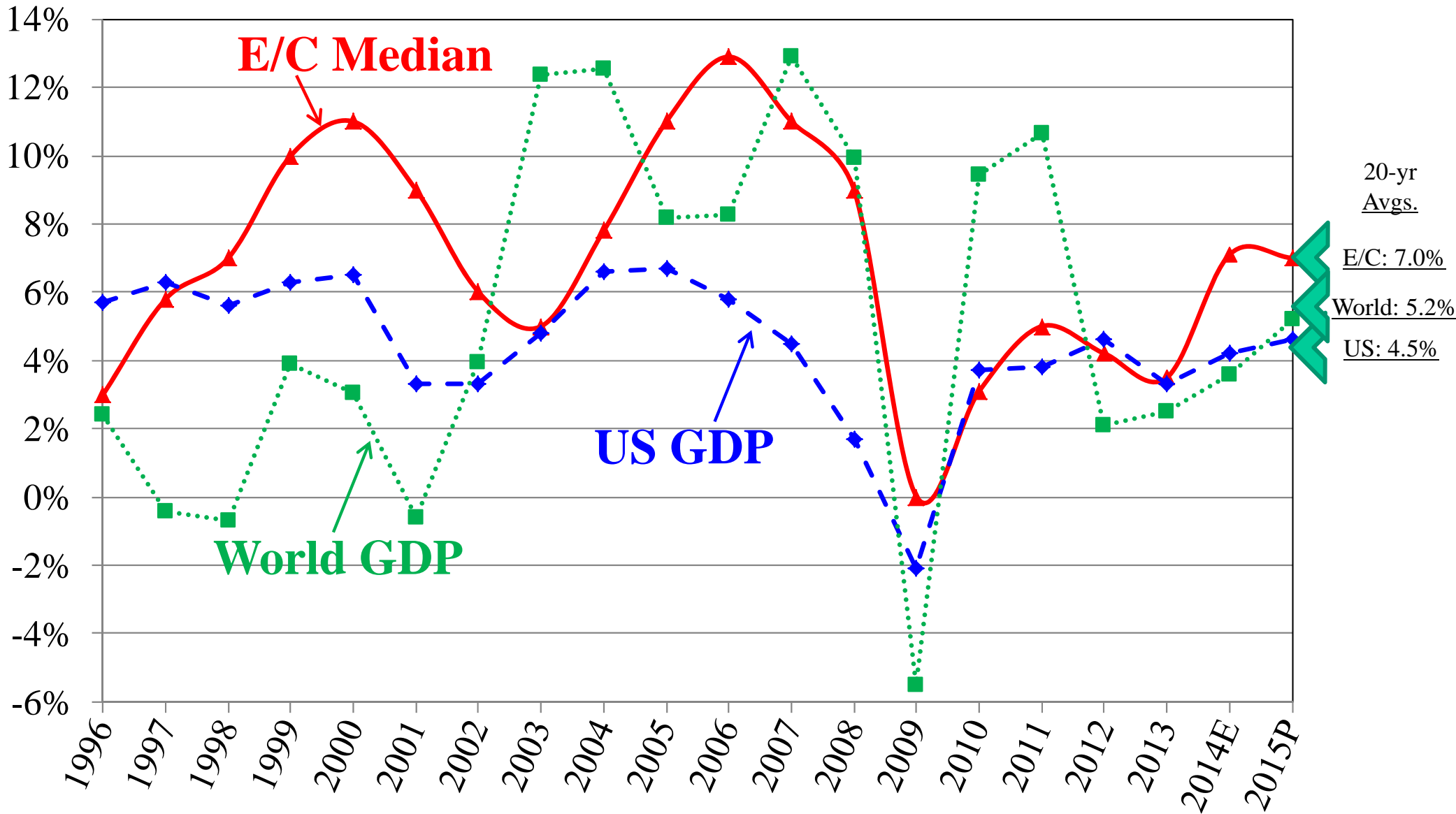
(Medians)



Volatile? Or Not?

E/C Median Firm vs. GDP's

(Nominal Growth Rates)

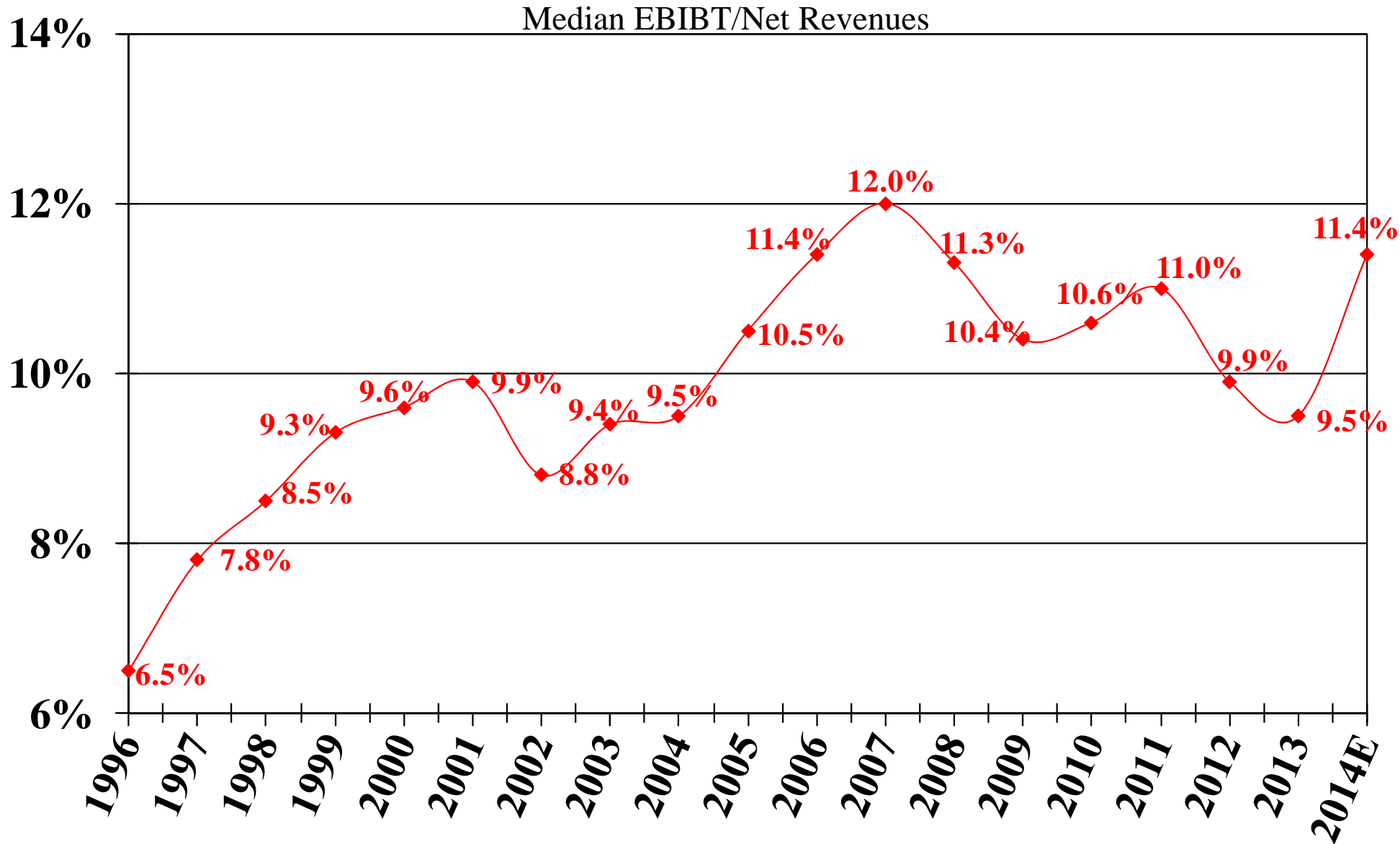


• 20 yr avg. E/C median firm outperforming US GDP by 50%+, World GDP by 33%+

US & World GDP growth data source: IMF

Profitability

Historical Perspective



• Steady rise to 2007. Plateau since 2007.

Performance by Size

(medians)

<u>Rev. Size (# of firms)</u>	<u>Internal Revenue Growth</u>				<u>Profit Margin (EBIBT/Net Revs)</u>	
	Act. <u>2013</u>	Est. <u>2014</u>	Proj. <u>2015</u>	3-Year <u>Avg.</u>	Act. <u>2013</u>	Est. <u>2014</u>
> 1B (15)	1.0%	4.0%	5.0%	3.3%	10.7%	10.4%
250 MM - 1B (18)	3.4%	6.7%	6.0%	5.4%	7.8%	9.1%
100 MM - 250 MM (23)	5.3%	7.0%	7.0%	6.4%	11.3%	13.0%
25 MM - 100 MM (38)	4.5%	10.0%	8.5%	7.7%	9.6%	11.5%
< 25 MM (12)	2.5%	13.8%	10.0%	8.8%	9.3%	12.0%

- **Larger firms grow slower organically. Why?**
- **\$250 MM - \$1 Bil less profitable. Why?**
“Muddle in the Middle”?

Performance by Business Sector*

(medians)

<u>Business Sector (# of firms)</u>	<u>Median Rev. Size (\$MM)</u>	Internal Revenue Growth					Profit Margin (EBIBT/Net Revs)			
		Act.	Est.	Proj.	3-Year	Vs. '13-'15			Act.	Est.
		<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Avg.</u>	<i>for all firms</i>			<u>2013</u>	<u>2014</u>
						'13	'14	'15		
Environmental (20)	96	5.4%	12.2%	8.5%	8.7%	↑	↑	↑	11.3%	13.0%
Water/Wastewater (6)	164	3.1%	2.9%	7.0%	4.3%	↔	↓	↔	10.9%	12.3%
Transportation (14)	104	3.0%	4.8%	5.0%	4.3%	↔	↓	↓	9.5%	9.7%
General Building (10)	29	-4.4%	11.0%	10.0%	5.5%	↓	↑	↑	6.4%	10.6%
Geotech / Geoenv (7)	124	4.2%	7.0%	10.0%	7.1%	↔	↔	↑	10.6%	12.6%
Survey/Plan/Land Dev. (5)	37	14.0%	19.0%	10.0%	14.3%	↑	↑	↑	9.3%	10.8%
Power (6)	295	8.7%	10.5%	9.0%	9.4%	↑	↑	↑	11.0%	13.1%

- **Environmental very strong**
- **Water & Transport about same growth, but Water more profitable**
- **Power very strong**
- **Gen Build, Geotech & Survey/Plan/LD in recovery?**

*Based upon firms with roughly 40% or more of revenues in that respective sector, so for the most part eliminating performance of larger, diversified firms

Hot & Cold Analysis

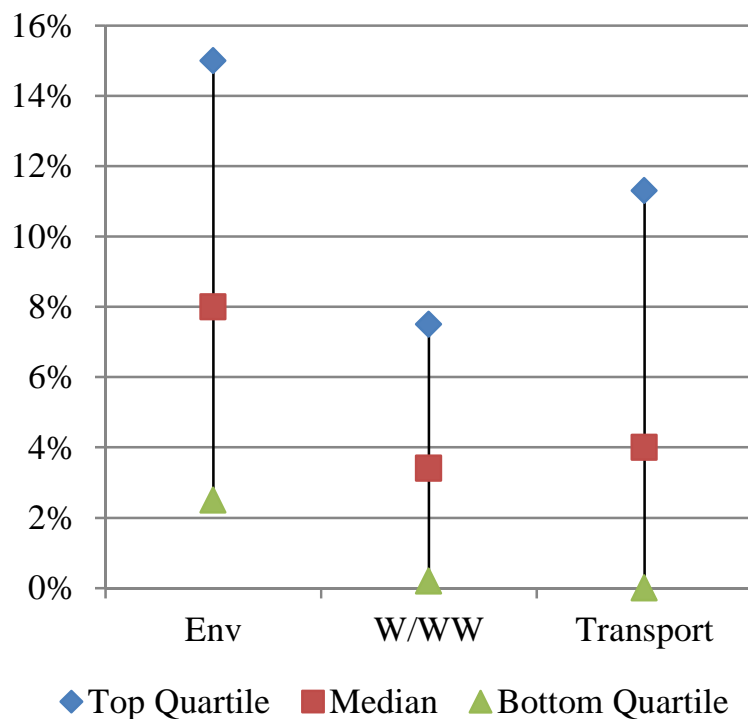
(by # of Votes) (sorted by 2013 “Net Positive”)

Survey Year:	Best Sector			Worst Sector			2013 Net Positive
	'11	'12	'13	'11	'12	'13	
Energy	80	85	101	-1	-1	0	101
Water/WW	57	64	42	-7	-12	-10	32
Power	29	32	26	-4	-3	-3	23
Environmental	25	44	29	-6	-11	-7	22
Transport/Infrastructure	47	45	40	-26	-18	-28	12
Private Customer	0	11	10	-26	1	0	10
Air	5	8	8	0	0	0	8
Industrial/Commercial Development	4	17	12	-8	-21	-4	8
Healthcare/Pharmaceutical	8	10	6	-1	0	-1	5
Design/Build	2	2	5	0	2	0	5
P3	0	0	4	0	1	0	4
Nat. Resources/Mining	22	27	11	-2	-1	-8	3
CM / PM	5	3	3	-2	-1	0	3
International	11	3	2	-2	-7	-2	0
Sustainability	22	20	8	-4	-5	-10	-2
Remediation	7	8	1	-5	-5	-4	-3
Construction	4	0	0	-26	-8	-3	-3
Residential/Land Development	1	5	14	-60	-49	-17	-3
Buildings	3	2	1	-22	-21	-16	-15
Municipal	4	4	4	-26	-39	-47	-43
Federal	13	11	0	-19	-39	-48	-48
Total:	349	401	327	-247	-237	-208	

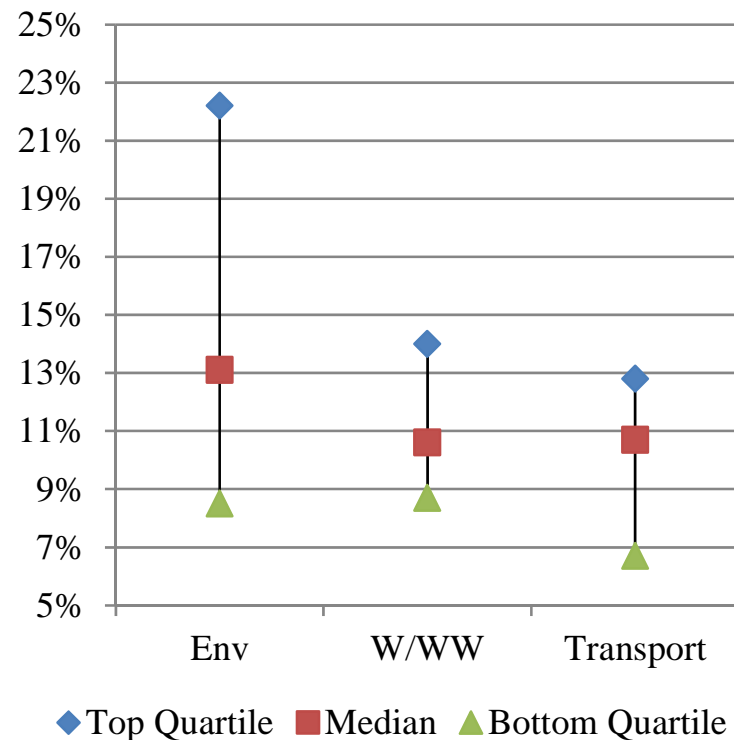
- Energy far & away “hottest”
- W/WW, Power, Environmental, Transportation slightly declining in popularity *(partially due to fewer total votes)*
- Mining / Natural Resources biggest decline
- Federal and Municipal toughest markets, for now
- Residential/Land Development & Industrial / Commercial improving

Variability in Performance By Business Sector

2013 Internal Growth



2013 Profitability



- Differences within sectors far exceeds differences between sectors
- Importance of Peer Benchmarking Analysis

**Defined as primary portion of business from that sector*

Note: Top Quartile = 75th percentile; Bottom Quartile = 25th percentile

Performance by Customer Sector*

(medians)

<u>Customer Sector (# of firms)</u>	<u>Internal Revenue Growth</u>				<u>Profit Margin (EBIBT/Net Revs)</u>	
	Act. <u>2013</u>	Est. <u>2014</u>	Proj. <u>2015</u>	3-Year <u>Avg.</u>	Act. <u>2013</u>	Est. <u>2014</u>
Private (48)	5.2%	10.0%	9.0%	8.1%	11.3%	13.1%
State/Muni (16)	4.8%	8.0%	7.0%	6.6%	8.6%	11.1%
Federal (2)	1.3%	4.4%	5.0%	3.6%	7.8%	8.6%

- **Private sector outperforming Government**
- **State/Muni looking better**
- **Federal not so good (but very few firms are primarily federal)**

*Based upon firms with roughly 40% or more of revenues in that respective sector, so for the most part eliminating performance of larger, diversified firms

“International” Markets

(# of responses)

Which countries/regions are the fastest & slowest growing? Most & least profitable?

<u>Country/Region</u>	<u>Fastest Growing</u>	<u>Slowest Growing</u>	<u>Most Profitable</u>	<u>Least Profitable</u>	<u>Net Happiness* Quotient</u>
Canada	20	3	18	1	34
South/Central America	25	5	16	3	33
<i>Brazil</i>	4	1	1	1	3
Middle East	17	4	8	6	15
Africa / S Africa	10	4	7	5	8
US	2	6	13	3	6
Australia	7	6	7	4	4
Asia	16	6	9	17	2
<i>China</i>	4	2	0	6	-4
<i>India</i>	4	2	1	7	-4
Europe	11	26	8	14	-21
<i>UK</i>	1	7	1	3	-8

* Net Happiness = (Fastest growing + Most profitable) - (Slowest growing + Least profitable) by number of votes

- Canada & South America “hot”; Europe not; India & China “loss leaders”
- US in middle

Do you plan to increase or decrease International Operations over the next 5 years?

Increase

91

Decrease

6

No Change

49

Impact of Negative Revenue Variance

- Assumptions: \$100 expected revenue
10% operating margin

- Calculation:

	<u>Expected</u>	<u>Actual</u>
Revenue	100	95
- <u>Expenses</u>	<u>90</u>	<u>90</u>
= Profit	10	5

- **An unanticipated revenue shortfall of 5% would lead to a profit shortfall of 50%!**
- **Why so much negative leverage in our business?**
 - No inventory
 - Costs are primarily fixed
 - Margins are thin

Design / Build

(Data from 2013 CEO Conference)

Design/Build Projects

	<u>% of Firms doing D/B</u>	<u>Median % of Revs. for:</u>	
		<u>All Firms</u>	<u>Only Firms doing D/B</u>
5 Years Ago	↓ 45%	↓ 0%	↓ 5%
Today	↓ 61%	↓ 2%	↓ 5%
5 Years From Now	↓ 66%	↓ 5%	↓ 10%

- Increasing Role for D/B

EFCG Observations on D/B

(From EFCG Mini Survey from Aug. 2013)

- D/B work is expected to increase significantly
(all participants indicated this)
 - D/B work is (and expected to be) more profitable
 - (but has 3X (median) higher up-front marketing costs)
 - D/B is generally (but not always) more risky
 - D/B work is prevalent across all sizes of projects
 - D/B means different things to different firms
 - D/B can be disastrous:
 - Understand what risks you are assuming
 - Be sure you can afford risks
- } Risk-Adjusted:
Is it more profitable?

Public-Private Partnerships (“P-3”)

(From EFCG Mini Survey from Aug. 2013)

Public-Private Partnerships

	<u>% of Firms working on P-3's</u>	<u>Median% of Revs.*</u>
Today	23%	4%
5 Years From Now	38%	8%

- Almost 2x firms in 5 years; on avg. doing 2x the revenues ~ 4x increase in revs.

**Median % of revenues of firms participating in P-3's*

Differences between P-3 Work and D/B Work:

- “P-3 includes financing”
- “Dealing with public entity and total public transparency”
- “P-3 projects are larger than D/B projects”
- “Very different: O&M & life-cycle costs are part of the picture

Sustainability Services

% of Revs from Sustainability Services

	<u>2011</u>	<u>2012</u>	<u>2013</u>
Median Firm	2%	3%	4%

Relative to last year,
2013 Interest in Sustainability has:
(% of firms)

Increased	48%
Decreased	3%

Types of services:

- Buildings / Infrastructure (35)
- Energy (34)
- Water (12)
- Environmental (9)
- Climate Change (6)
- Greenhouse Gas (5)
- Carbon Footprint (3)
- Transportation (3)
- Annual expected growth in Sustainability Services: 37%*

* 3% → 4% = 33% growth in market share
+ 4% market growth = 37%

“Envision”

E/C Industry-Wide Collaborative Effort to Develop Rating System to measure **sustainability** in major **infrastructure projects**

- Joint effort by:
 - Institute for Sustainable Infrastructure, ACEC, ASCE & APWA
 - Zofnass Program for Sustainable Infrastructure at Harvard
 - *Sponsors: Arcadis, Autodesk, EXP, Golder, Granite, CH2M Hill, HNTB, MWH, NV5, Stantec, Power Engineers, Inter-American Development Bank (IDB)*
- 1,500 certified professionals (“ENV SP”); 300 in government
 - 50 major e/c firms participating
 - 80 Harvard professors and graduate students (5 schools at Harvard)
 - 150 projects in pipeline for “verification”
 - 50 US federal, state & municipal agencies:
(White House, DOD, EPA, NYC DEP, L.A., Boston, Dallas, San Diego, Chicago, Mass. Water, Cape Cod; IDB requires Envision on all project financing (\$200 bill annually)

Risk Management: Project Write-Offs

What do you call the costs you take when you perform work that cannot be billed, or the bill is rejected or reduced?

	% of Net Revs
75th Percentile	4.0%
Median	2.0%
25th Percentile	1.0%

**Conclusion: Write-Offs have a huge impact on profit in this industry.
For half the firms, the average loss in profit is 40% !***

*75th percentile writes down 4% of Net Revs. If avg. EBIBT/Net Revs is 10%, it would have been 14%, or 40% more!
That means for half of firms, median profit would be 40% higher, if avoided “write-offs”!

Pros & Cons of Diversification

(95% of CEOs say Diversification is (very) important)

Positive:

- Lower volatility: “spreading of actuarial risk”; wider base
- Potential to grow larger: if “saturated” your market
- Perhaps can allocate existing overhead over larger revenues

EFCG Thoughts

Yes

Not Sure

Not Sure

Negative:

- Lowers relative efficiency & know-how
- Higher overhead: overseeing more & different businesses
- Higher risk: moving into areas you don’t know (“Learning Curve”)
- Competitive disadvantage: people already there know the business better than you
- Lose benefits of specialization

• Diversification is good. So is Specialization.

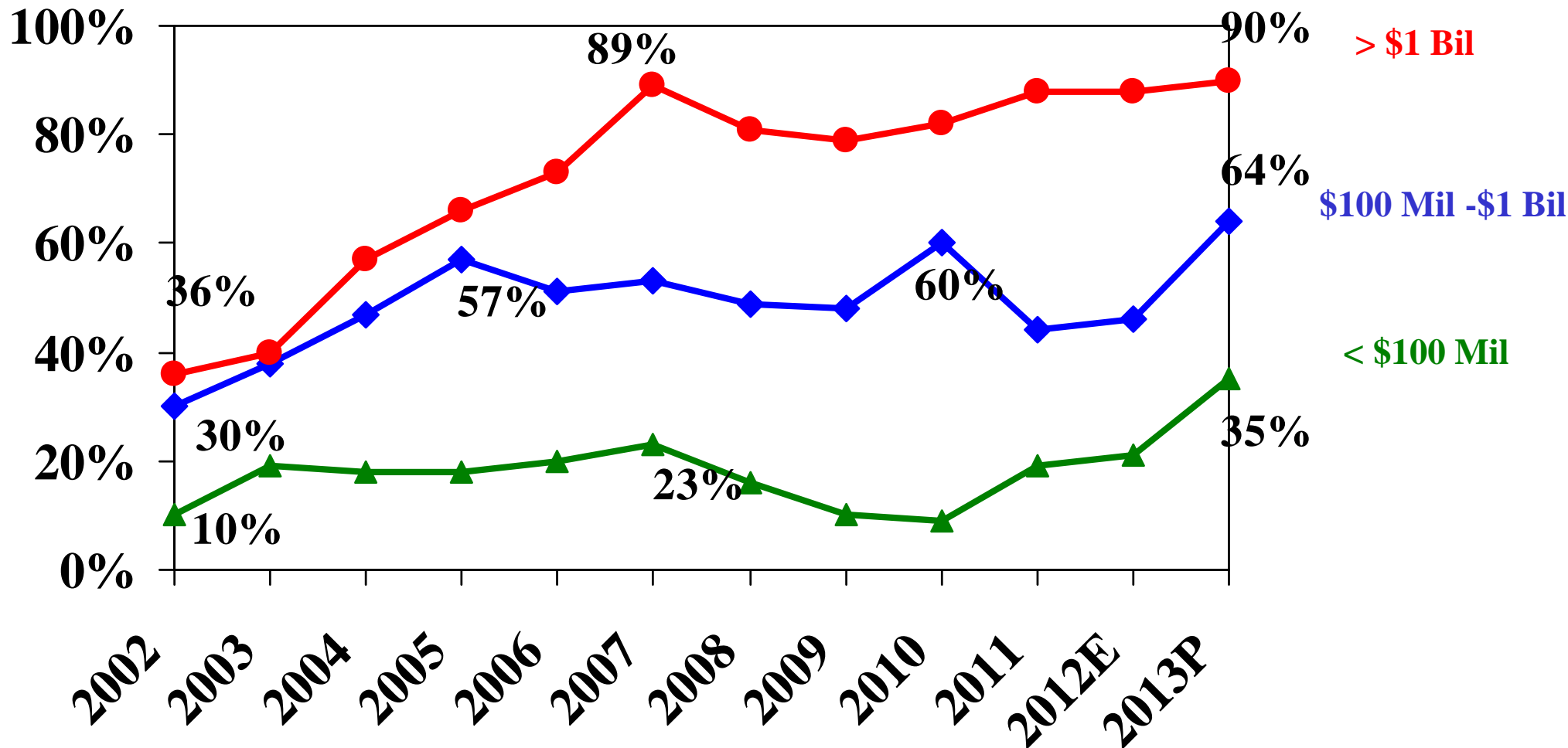
When does it help long-term efficiency?

Acquisition Activity

(Historical Perspective; CEO Conference data)

Revenue Size
of Respondents

% of Firms Making Acquisitions



•Who's doing the acquisitions?

Data from
CEO Conferences

Impact of Acquisitions on Growth

(Medians)

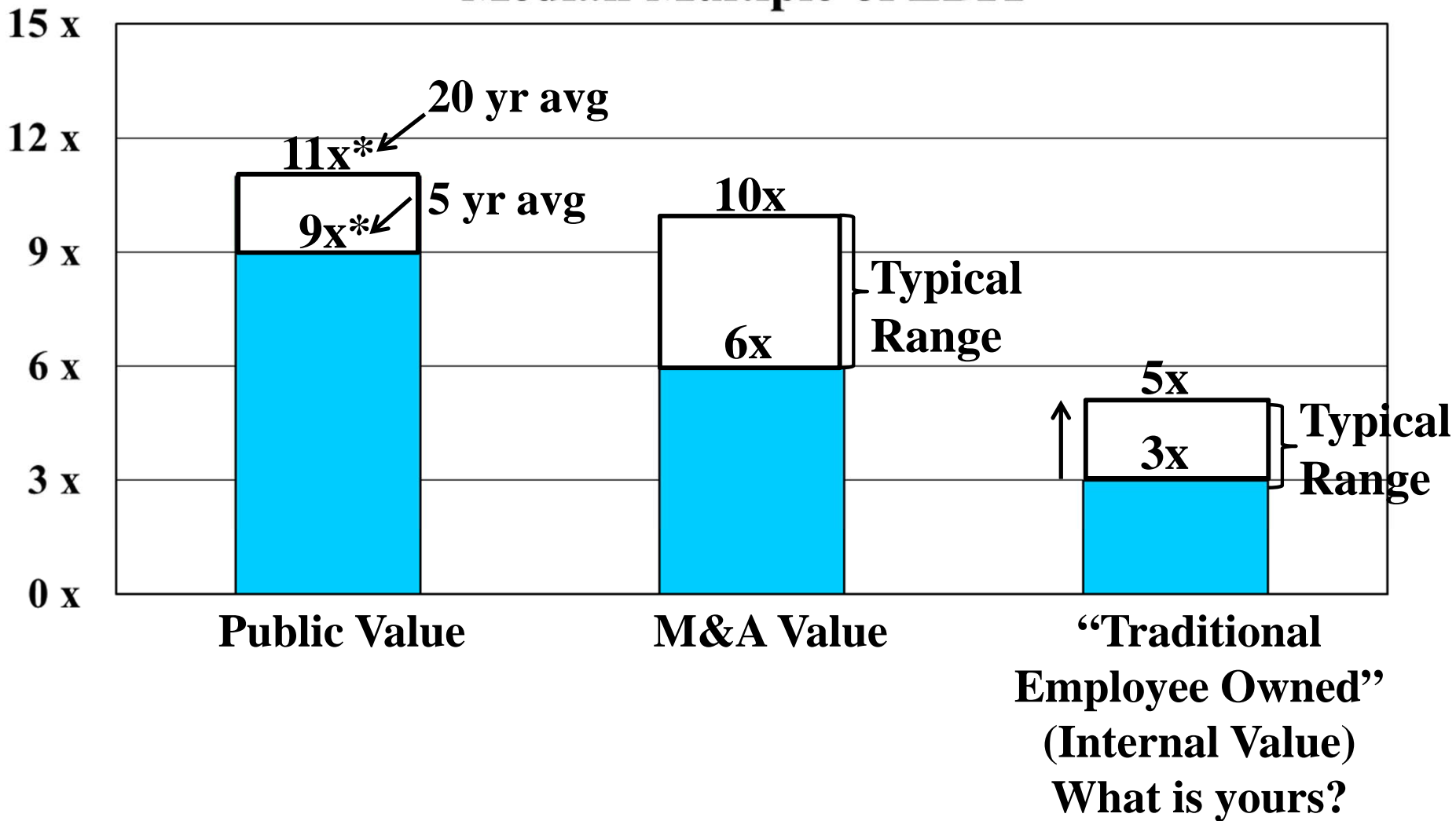
Expected Avg. Annual Growth Over Next 5 years:

	<u>Organic</u> <u>Growth</u>	+ Growth From <u>Acquisitions</u>	= <u>Total</u> <u>Growth</u>	<i>Top</i> <i>75th</i>
<u>By Rev. Size</u>				
> 1 Bil	5%	9%	14%	15%
250 MM-1 Bil	5%	5%	10%	15%
100 MM-250 MM	6%	3%	9%	12%
50 MM-100 MM	6%	5%	11%	15%
25 MM-50 MM	7%	3%	10%	15%
< 25 MM	10%	0%	10%	15%

- Majority of firms over \$25 MM plan to do acquisitions
- Your challenge is not “median” firm; but top quartile firms

E/C Firm Valuation “Arbitrage”

Median Multiple of EBIT



*(11x EBIT = 18x P/E (20 yr. Avg.))
 (9x EBIT = 15x P/E (current))

Drivers of M&A in the E/C Industry

1. “Bigger begets Bigger”; “Consolidation begets Consolidation”
(bigger projects / customer decision-making / employee opportunities)
2. Globalization encourages consolidation
3. Proliferation of public capital markets (and growth of private equity markets)
4. Valuation Arbitrage – Conservative valuations of employee-owned firms makes them attractive “targets”
5. Cash surplus and low interest rates (ROI of acq. vs. cash or debt)
6. Diversification encourages consolidation
7. Pursuit of changing “hot areas”
8. Experience with M&A has been good
9. International Platform Seekers
10. Merger of Equals

The Challenges of Internal Ownership Transition (IOT)

1. Employee shareholders pull capital out when they retire
(and younger employees have limited excess cash to “invest”)
2. Working capital needs are huge, relative to revenues, so growth requires significant capital
3. Profitability is low compared to other industries and capital needs
4. Much growth is coming via acquisitions, which requires more capital
5. Current Generation prefers Spending to Investing
6. Valuation Conundrum:
 - Lower IOT valuations may be “unfair”, incentivize a sale,
and make acquisitions difficult
 - Higher valuations make share repurchase more difficult

Importance of Ownership, Compensation & Capitalization Plan (“OCCP”)

EFCG Services

Assisting e/c Firms with:

- Internal Ownership Transition & OCCP's
- Valuations & Valuation Strategy
- Peer Benchmarking Analysis: Financial/Operating Performance
- M&A: Buy / Sell / Merge
- EFCG Conferences: CEO, CFO, HR, Rising Leaders
- Strategic advice for Boards / Mgt. Committees
- Industry Overview Presentation & Management Education
- Resolving Internal Disputes