

Homebuilding at a Crossroads: How Consolidation Can Benefit Builder Performance

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February 13, 2008

Project funding provided by the Sloan Foundation and the Joint Center

Harvard Distribution/Builder Study - Overview

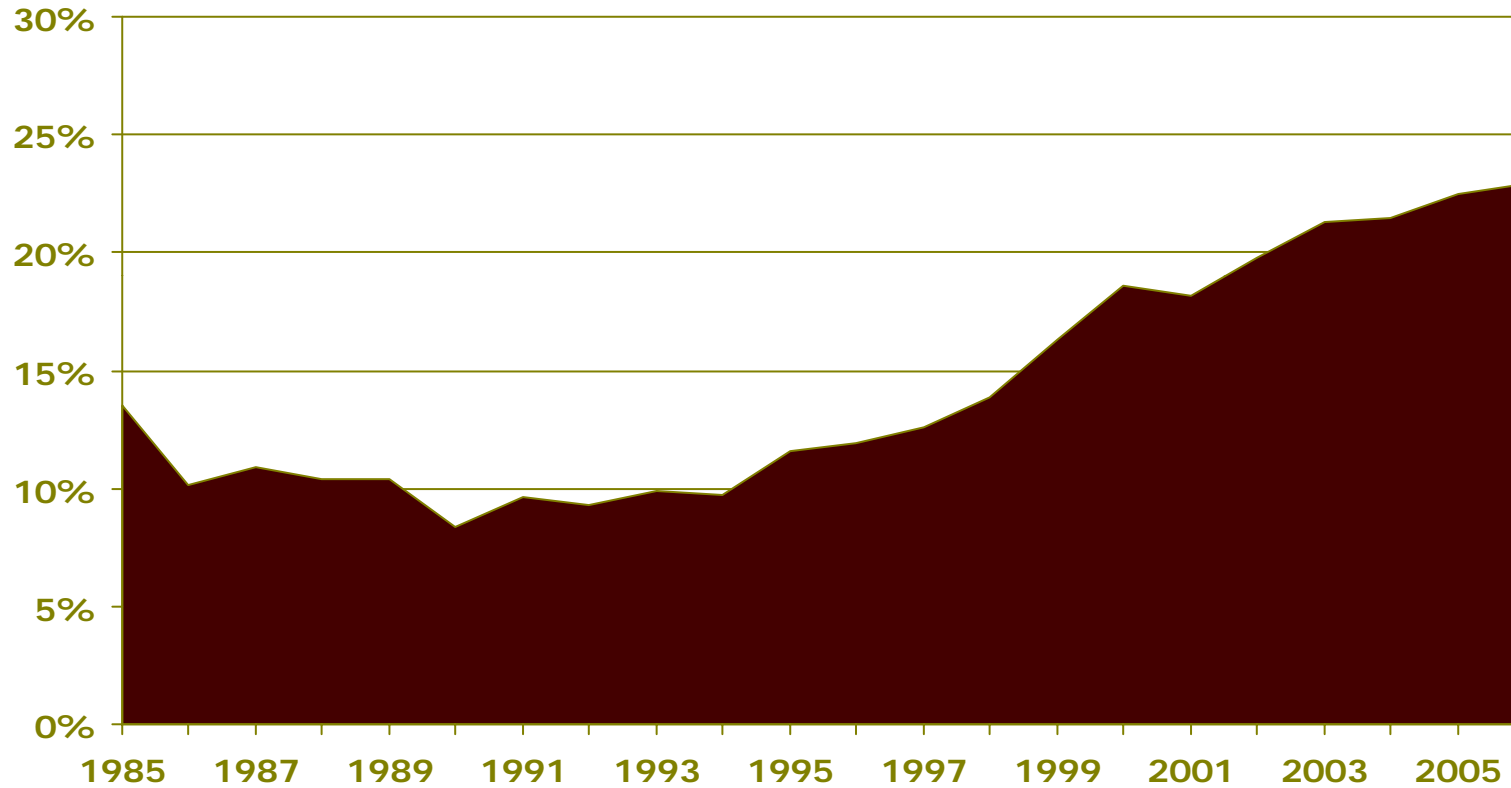
- Focus on supply chain – study of pro dealers

- Survey of larger builders – impact of consolidation
 - Pressure to adapt supply chain
 - Competitive advantages from scale
 - Innovations from scale opportunities that would ensure further consolidation

- Consolidation revisited - reassessing its benefits
 - In the context of the housing downturn
 - Centralized vs. decentralized implementation
 - Impact of local market conditions
 - Experiences from other industries

Larger Builders Account for a Growing Share of New Home Production

Share of new single-family homes built for sale by top 10 U.S. homebuilders



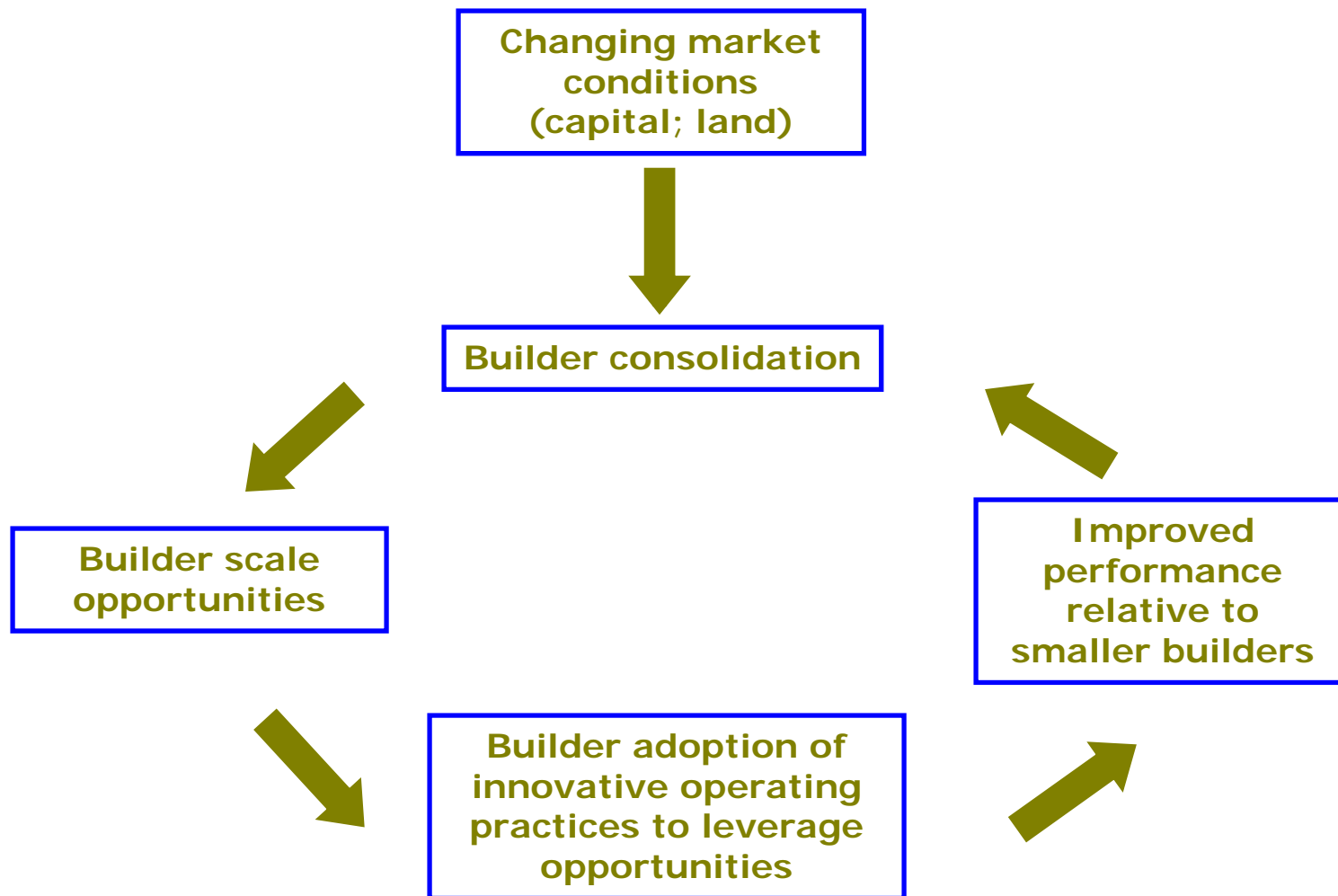
Source: Joint Center tabulations of Builder magazine's "Builder 100."

Most Early Research Saw Major Benefits from Consolidation

- Lower costs of inputs (building materials; construction labor; financing)
- Lower overhead and costs of selling
- Better access to capital
- Better land access
- Higher gross margins
- Higher net income

Source: presentation by Michael E. Porter at Centex Investor Conference, 2003

Our Research Hypothesis – From Consolidation to Innovation to Performance

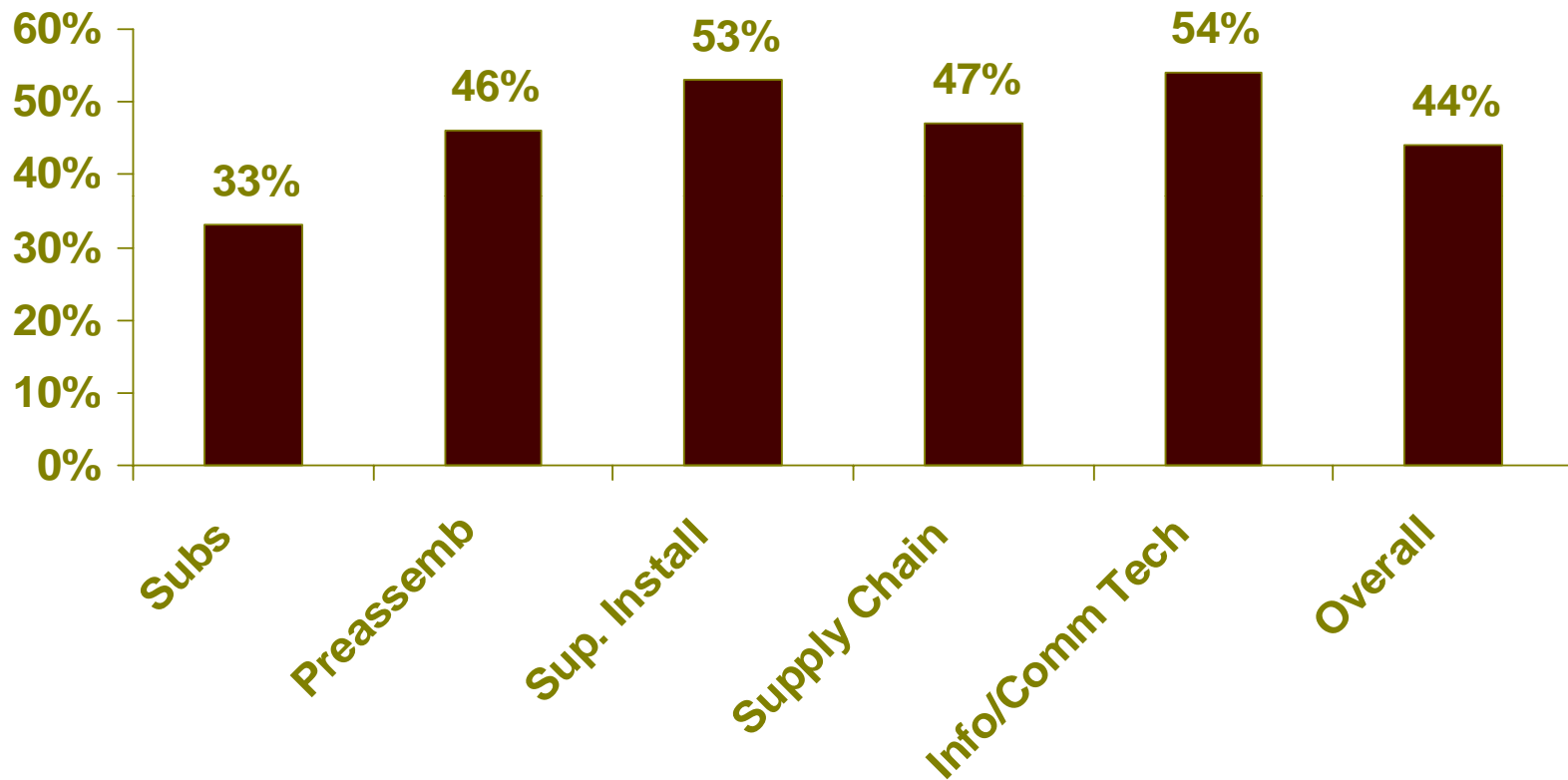


Builder Practices Studied (Builders with 500+ Units)

- Land management
- Planning and coordination with subcontractors
- Preassembly of building components
- Supplier installation
- Supply chain management
- Information technology

Builders Reported Modest Results in Implementing Innovative Practices

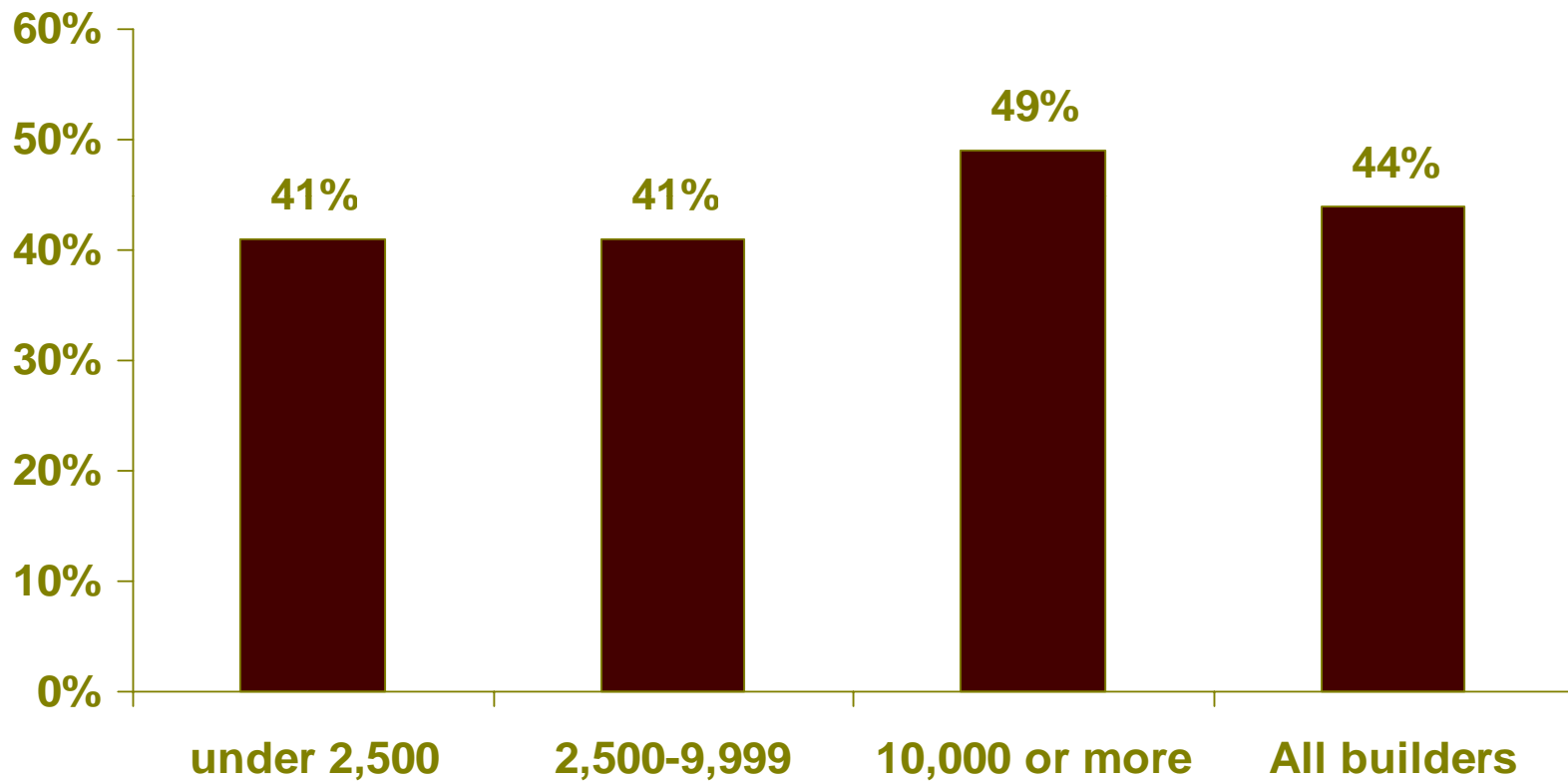
Percent of practices implemented, averages across all divisions, 2004



Source: Harvard Builder Study, Divisional Survey

Larger Corporate Builders Have a Somewhat Higher Adoption of Innovative Practices at Their Divisions

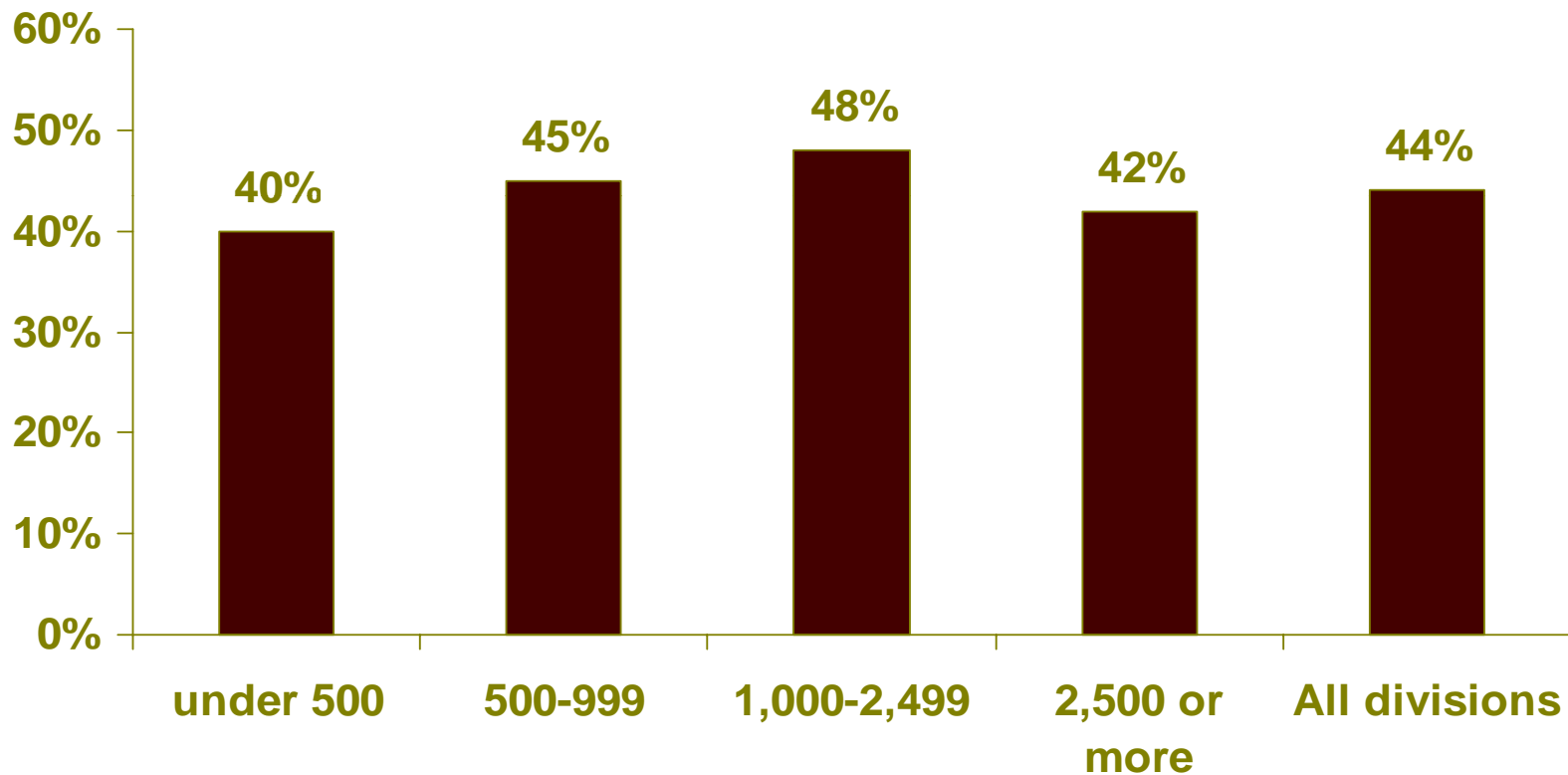
Percent of practices implemented, averages across all divisions by size of corporate parent in terms of number of homes sold, 2004



Source: Harvard Builder Study, Divisional Survey

But Scale at the Division Level Didn't Seem to Affect the Adoption Rate

Share of practices implemented by size of division in terms of number of homes sold at that location, averages across divisions, 2004



Source: Harvard Builder Study, Divisional Survey

Larger Public Firms Generally Had a Better Financial Performance

Median responses by builder corporate size (number of homes sold), 2004

	Under 2,500 Homes	2,500 to 9,999 Homes	Over 10,000 Homes	All builders (500 +)
Gross margins*	23.0%	24.0%	25.1%	24.8%
EBITDA*	13.2%	13.5%	15.1%	14.5%
Cost of borrowing* (for long-term debt)	N/A%	7.8%	6.2%	7.2%
Growth in homes sold (1999-2004)	98%	79%	109%	106%

Sources: Financial information (*) provided by UBS for public builders only; growth in homes sold from Harvard Builder Study, Corporate Survey.

... But Not Necessarily Along Key Operational Measures

Median responses for homes built across all segments, by builder corporate size (number of homes sold), 2004

	Under 2,500 Homes	2,500 to 9,999 Homes	Over 10,000 Homes	All builders (500 +)
Cycle-time (days)	110.0	132.5	140.0	127.5
Construction costs/sq. ft. (\$)	\$50	\$53	\$52	\$52
Customer satisfaction	90%	92%	86%	90%
Revenue (\$Mil.)/employee	\$1.04	\$1.12	\$1.08	\$1.08

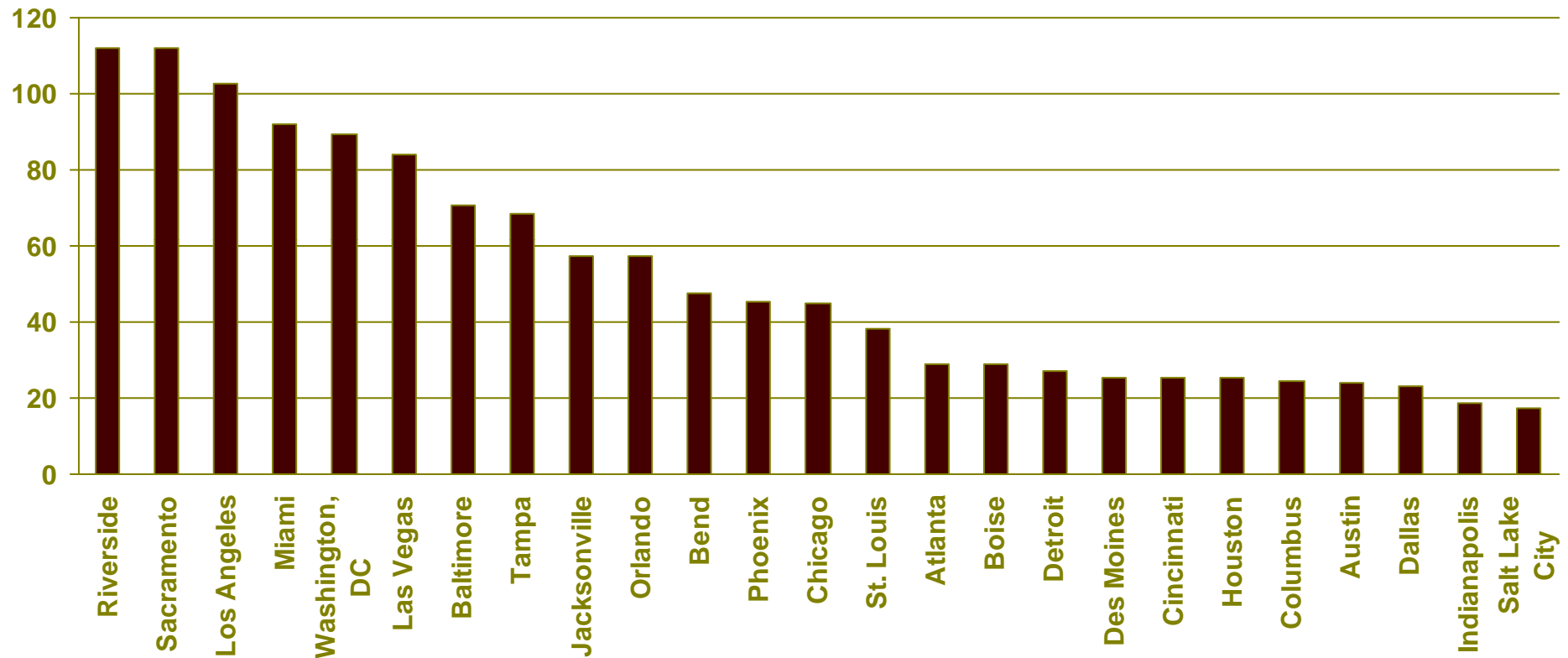
If Builder Size is Not Driving Operational Performance; What is?

How Local Market Conditions Affect Builder Strategy and Performance:

- Land available for development
- Time required to entitle land
- Level of competition
- Builder concentration (market share)
- Gap between housing demand and supply (as measured by rate of house price appreciation)

House Price Appreciation Varied Dramatically Across Markets

Percent increase in house prices from 1999-2004 by market



Source: Office of Federal Housing Enterprise Oversight, 4Q 2004 House Price Index. See <http://www.ofheo.gov/media/pdf/4q04hpi.pdf>.

Builders in Low Appreciation Markets Generally Had Better Operational Performance...

Median responses for entry-level homes by local rate of appreciation in house prices, 2004

	Markets w/Low House Price Appreciation (<50%)	Markets w/High House Price Appreciation (>50%)	All markets
Construction costs/sq. ft. (\$)	\$44	\$50	\$45
Cycle-time (days)	95	111	101
Customer satisfaction	90.5%	90.0%	90.0%

Sources: Harvard Builder Study, Division Survey; metro house price appreciation figures over 1999-2004 to determine market category from OFHEO

...Even Though Their Financial Performance Didn't Match Their Operational Efficiencies

median responses across divisions for entry-level homes, 2004

	Markets w/Low House Price Appreciation (<50%)	Markets w/High House Price Appreciation (>50%)	All Markets
Gross margin (%)	19.7	25.0	22.0
Net income (%)	7.9	16.0	10.4
Land controlled (years)	4.0	5.0	4.8
Avg. house price (000's of \$)	150	275	178

Sources: Harvard Distribution Study, Divisional Survey; metro house price appreciation figures over 1999-2004 to determine market category from OFHEO

Rethinking Consolidation Benefits to Builders: Bigger Not Always Better

- Organizational challenges of implementing innovations across divisions, since much of the growth over this period from acquisitions
- Difficulties in attempting to innovate in an up market
- Access to capital and cost of capital may be more critical in credit-constrained period, or in a down market
- Builder size often characterized by scope rather than scale
- Supply chain partners often lacking systems to support innovative builder practices

Potential Benefits of Scale to Home Builders

- Branding; customer satisfaction (e.g. J.D. Power)
- Favorable land positions; ability to manage entitlement process
- Ability to better manage risk (market diversification; reduce speculative building; reduce labor risk)
- Ability to borrow long-term (invest in favorable land positions; make strategic acquisitions)
- Ability to spread investments over larger base of divisional operations

Lessons From Other Industries: Unrealized Benefits of Scale

- Scale benefits from standardized production and assembly (auto/computer)
- Manage enterprises and increase productivity using information and communication technology systems (just-in-time manufacturing; lean retailing)
- Improving coordination of networks of subcontractors with construction management model (Dell)
- Transforming supply chain management and logistics practices (Toyota, Wal-Mart)
- Enhanced risk management (financial services)

Study Results

- Expected benefits of builder consolidation have largely gone unrealized to date;
- Builders have faced difficulties in implementing changes during periods of heavy acquisitions and unprecedented profitability;
- Much more motivation for builders to operate more efficiently in a down market;
- Models exist from other industries that could help builders benefit from emerging scale opportunities;