

Findings from the Cluster Meta-Study

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Additional information may be found at the website of the Institute for Strategy and Competitiveness, www.isc.hbs.edu

Cluster Meta-Study

The Need for New Methodologies

- A wealth of individual case studies and cluster reports
 - often more qualitative than quantitative
 - not standardized in methodology or depth of analysis
- Little systematic, quantitative evidence on the population of clusters as a whole
 - usually focused on a country or a specific region
 - often a narrow focus on some thematic aspect
 - suffer from incomplete data sources and methods



The Cluster Meta-Study

- A multiyear effort to aggregate data from existing cluster publications to learn more about the locational, economic, and competitive characteristics of clusters, the reasons behind their competitiveness, and their patterns of evolution over time

Meta-Analysis versus Meta-Study



- Based on experimental studies
- Primarily quantitative data
- Underlying studies are quite uniform
- Focus on reporting studies
- Tests the impact of one or several variables on a dependent variable
- Seeks to prove a causal relationship

- Based on non-experimental information
- Codifies primarily qualitative data
- Underlying studies are not uniform
- Clusters as the unit of analysis
- Captures the universe of available studies
- Descriptive statistics and associations rather than causal relationships



Given the medical connotations of meta-analysis we employ the term **meta-study** for our purposes

The Cluster Template

Cluster Description

- Biographical information
- Cluster characteristics

Location

- Geographic boundaries
- Regional economic development

State of Competitiveness

- Indicators of competitiveness

Determinants of Competitiveness

- Factor conditions
- Demand conditions
- Related & supporting industries
- Context for strategy and rivalry

Evolution Path

- Cluster birth
- Cluster decline



A tool for systematically profiling clusters and assessing their competitiveness to allow comparison across disparate studies

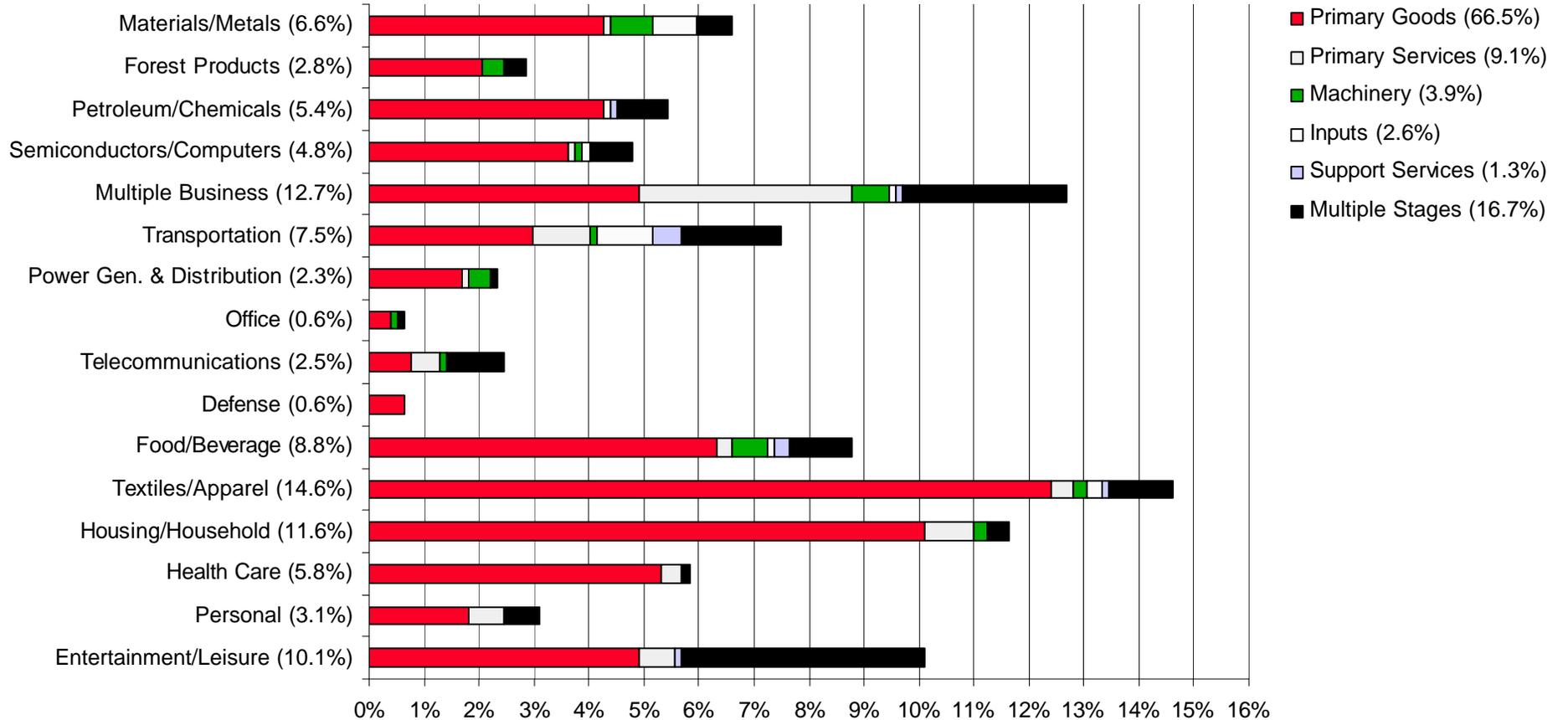
The Cluster Meta-Study

Clusters in the Database

25 Developed Nations		24 Developing Nations	
2 Andorra	72 Italy	3 Brazil	5 Morocco
4 Australia	4 Japan	1 Chile	1 Nepal
7 Austria	6 Netherlands	1 Columbia	1 Pakistan
1 Belgium	10 New Zealand	2 Costa Rica	9 Palestinian Auth.
1 Bermuda	1 Norway	3 Ecuador	6 Philippines
13 Canada	4 Portugal	1 Estonia	1 Poland
34 Denmark	3 Singapore	1 Ghana	2 South Africa
11 Finland	6 Spain	106 India	1 Taiwan
96 France	5 Sweden	4 Jordan	1 Thailand
31 Germany	13 Switzerland	4 Kenya	1 Turkey
11 Hong Kong	168 United Kingdom	3 Lebanon	2 Venezuela
2 Ireland	153 United States	2 Malaysia	
6 Israel		8 Mexico	
664 Clusters from Developed Nations		169 Clusters from Developing Nations	

- Information on **833 clusters** from 49 countries, including 24 developing nations
- Based on 375 published and unpublished cluster-oriented books, reports, and articles
- A total of **26,035 observations** of which 14,069 were evaluated quantitatively

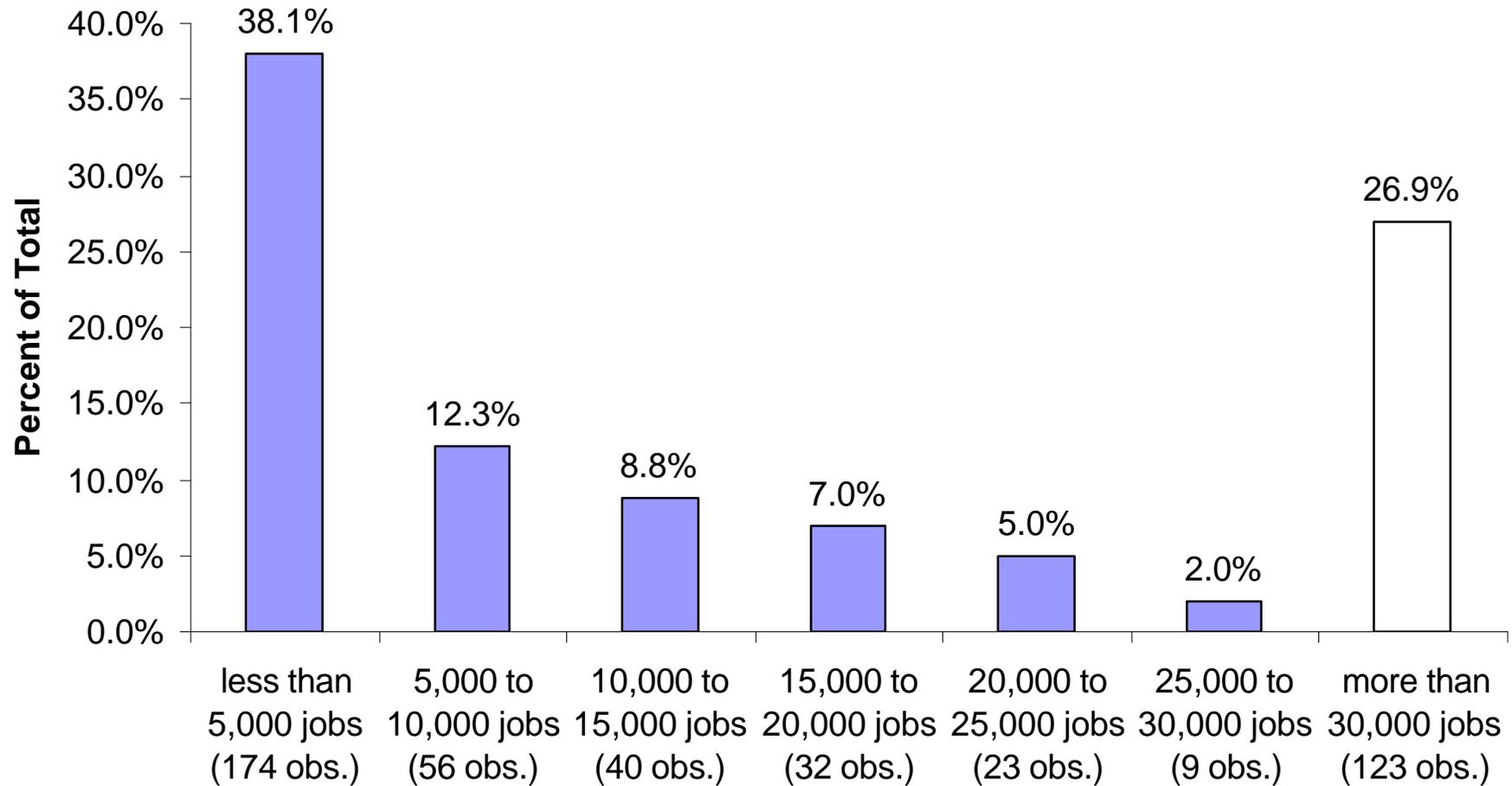
Sample Composition Clusters in the Database



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Cluster Size

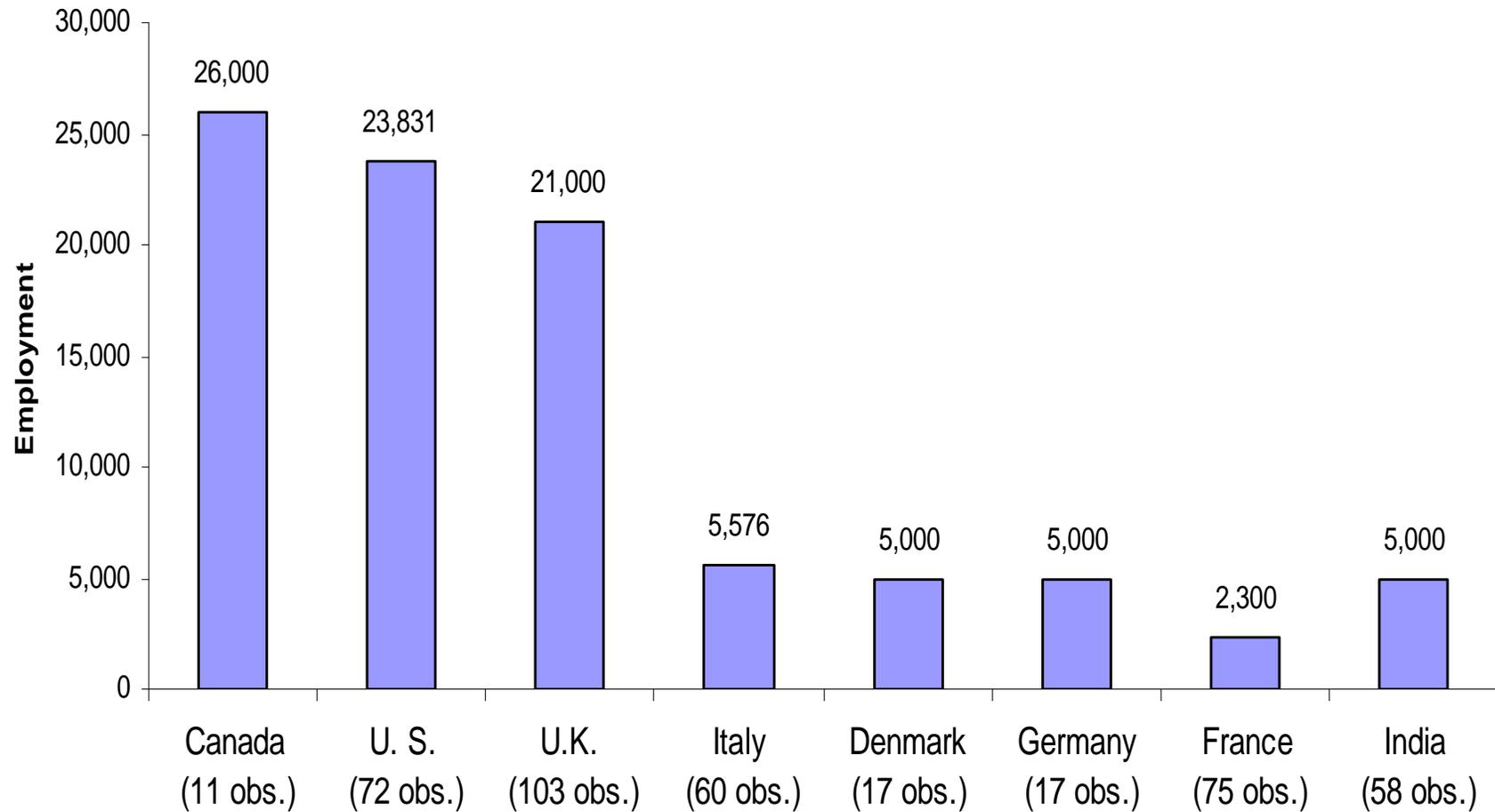
Employment in Cluster or Core Industry



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Cluster Size

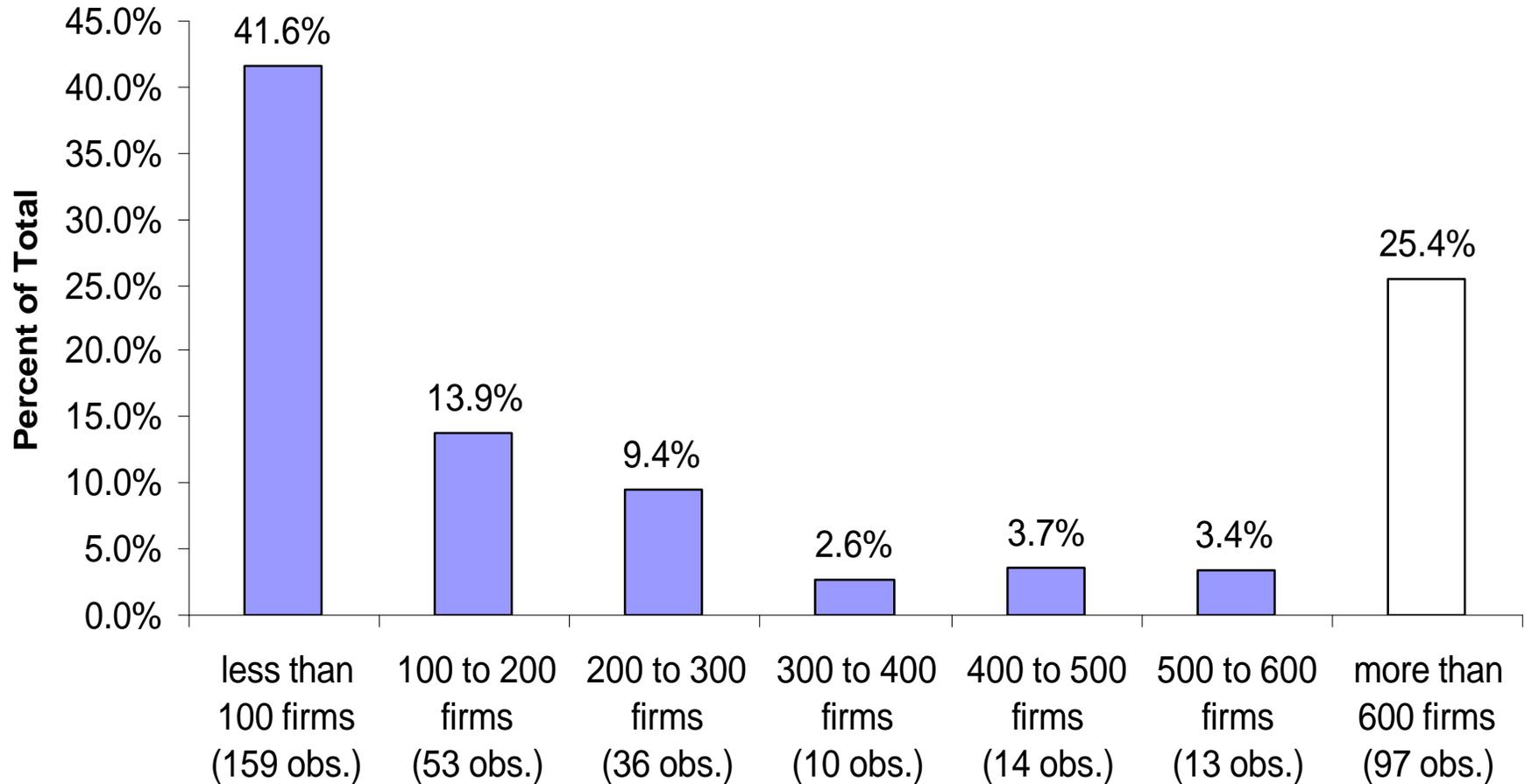
Median Employment by Country



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

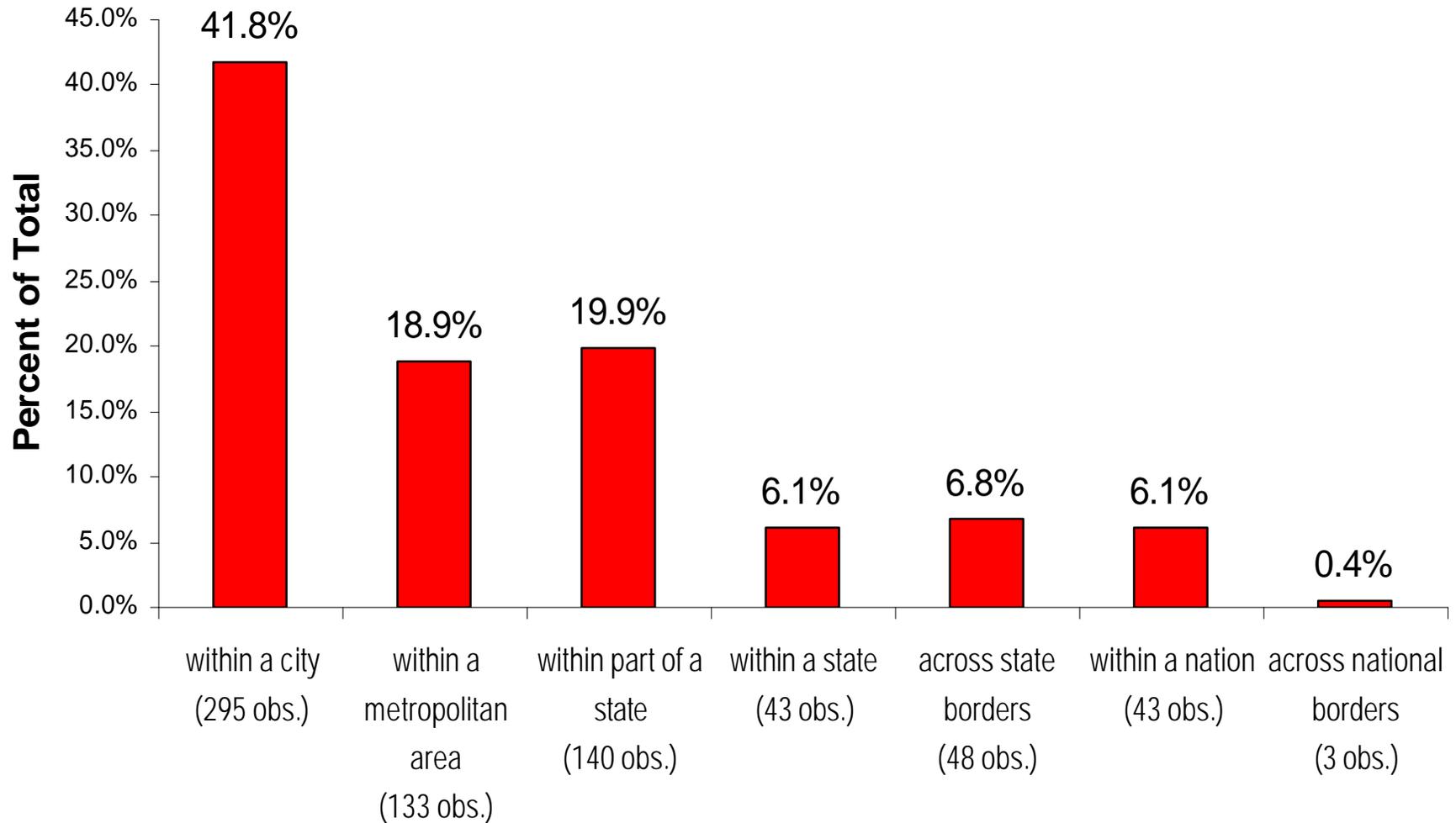
Cluster Size

Number of Companies in Cluster or Core Industry



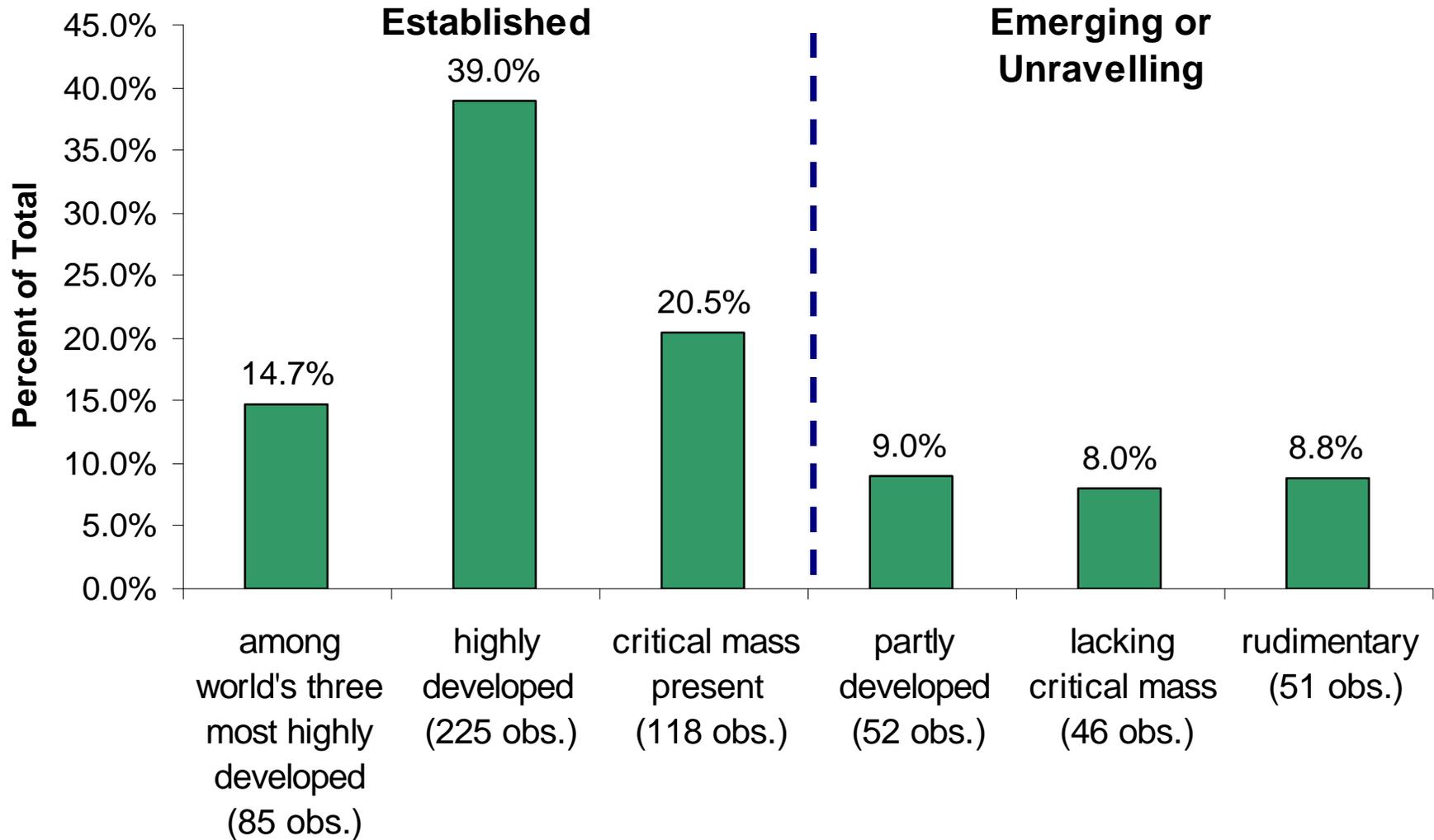
Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Cluster Boundaries



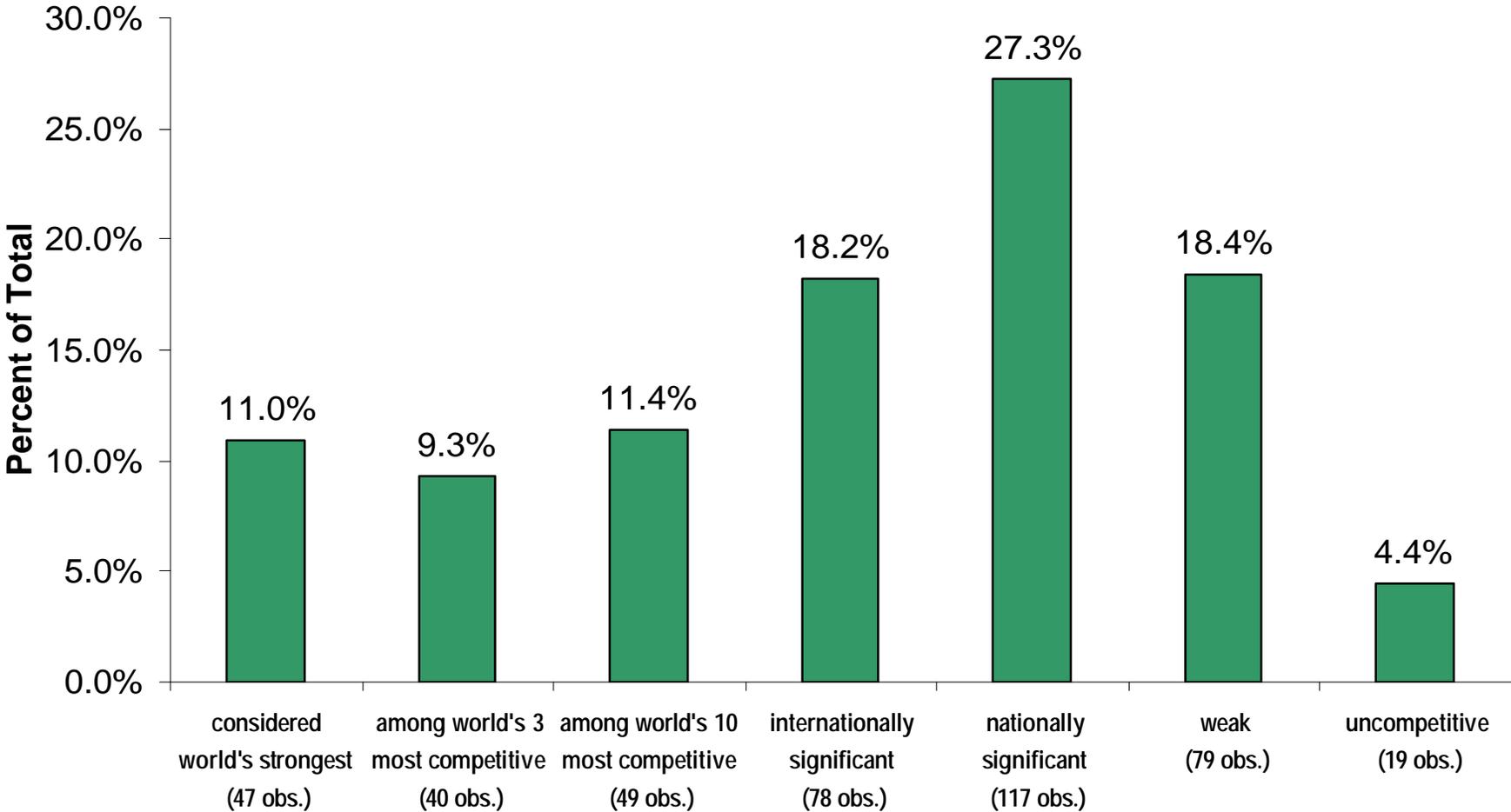
Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

State of Cluster Development Compared to Competing Clusters



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Cluster Competitiveness Compared to Competing Clusters



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

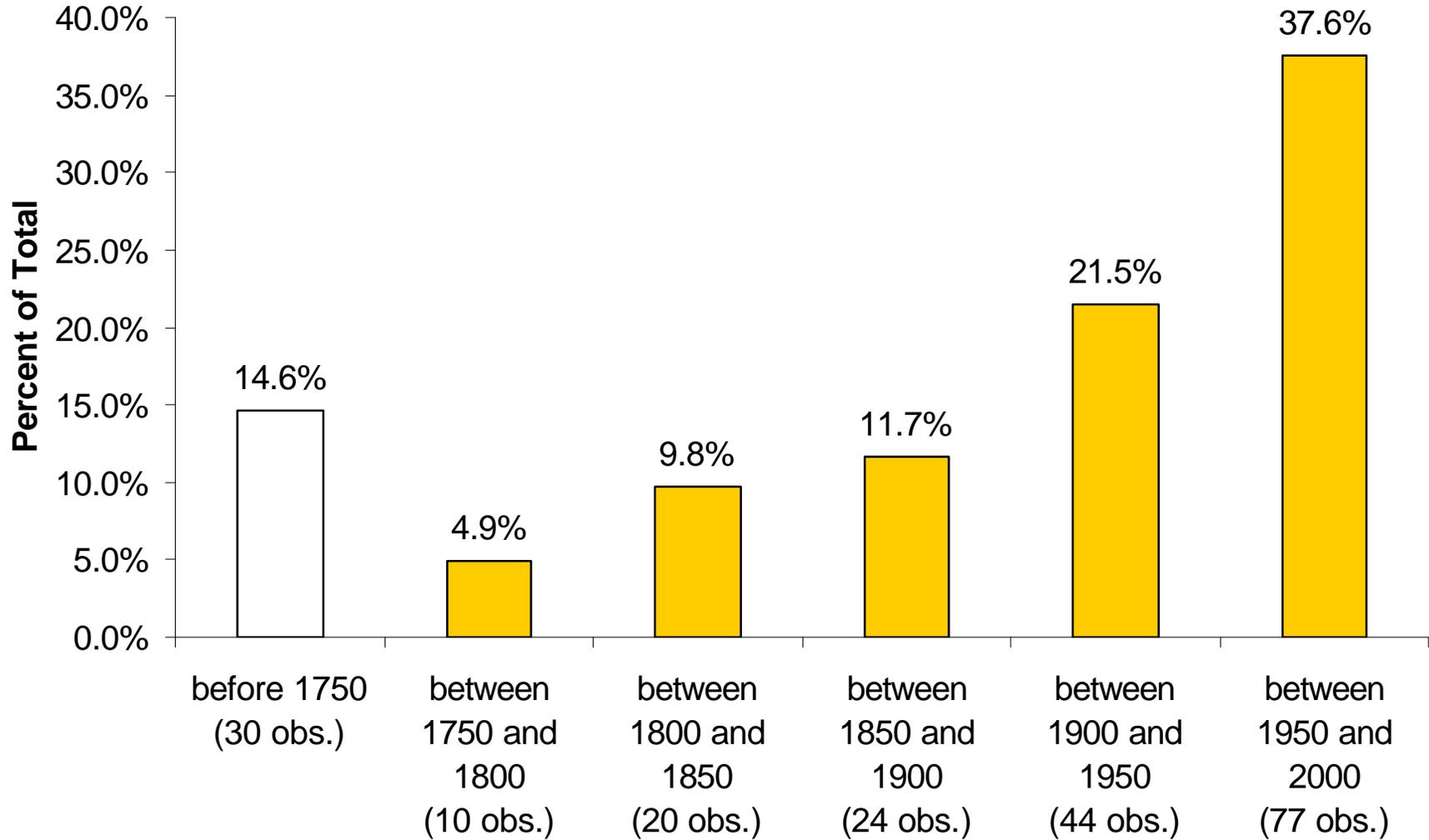
Cluster Competitiveness

Change in Competitive Position



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

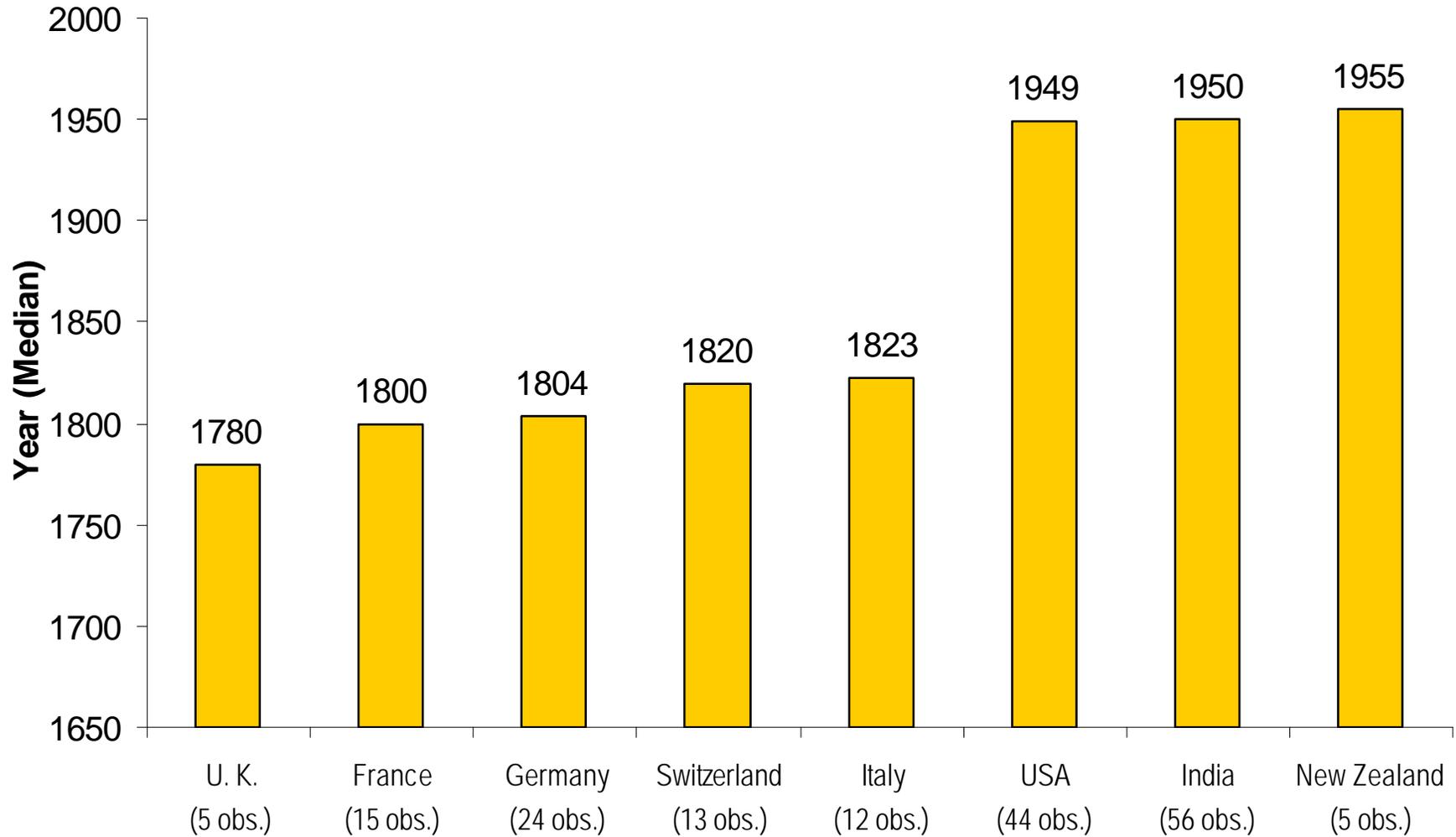
Cluster Age



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

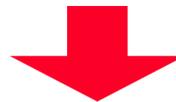
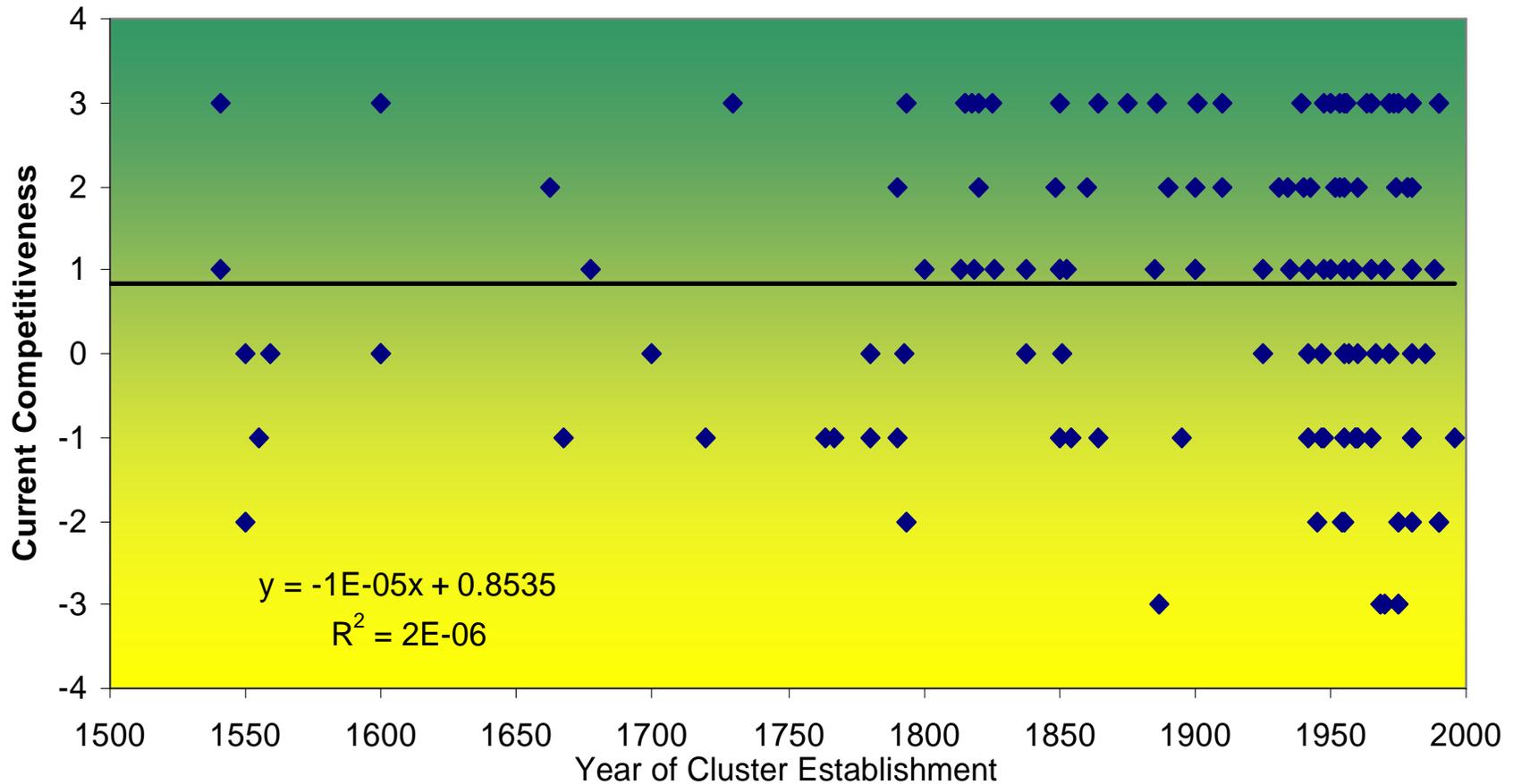
Cluster Age

Median Year of Cluster Establishment by Country



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

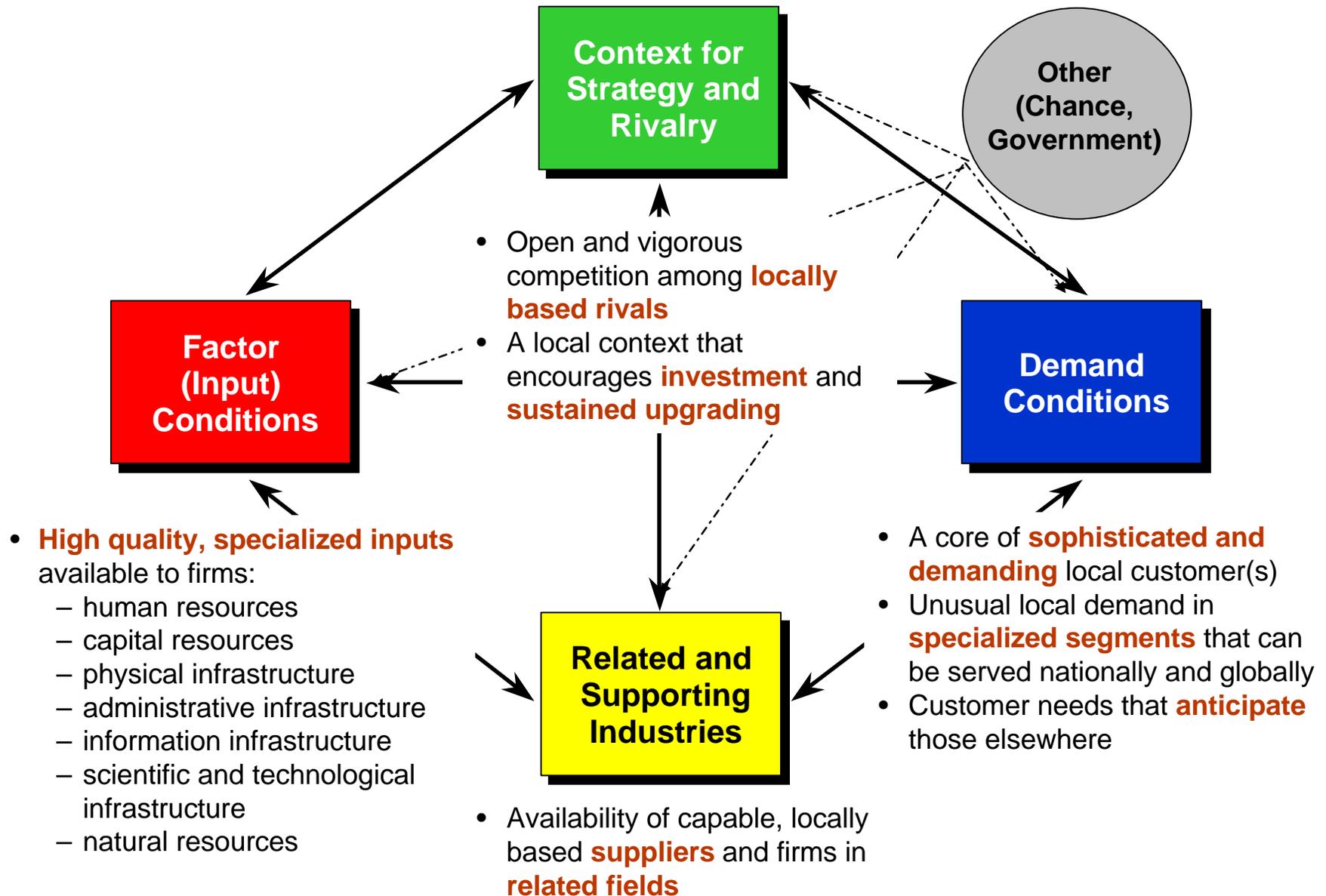
Competitiveness and Cluster Age



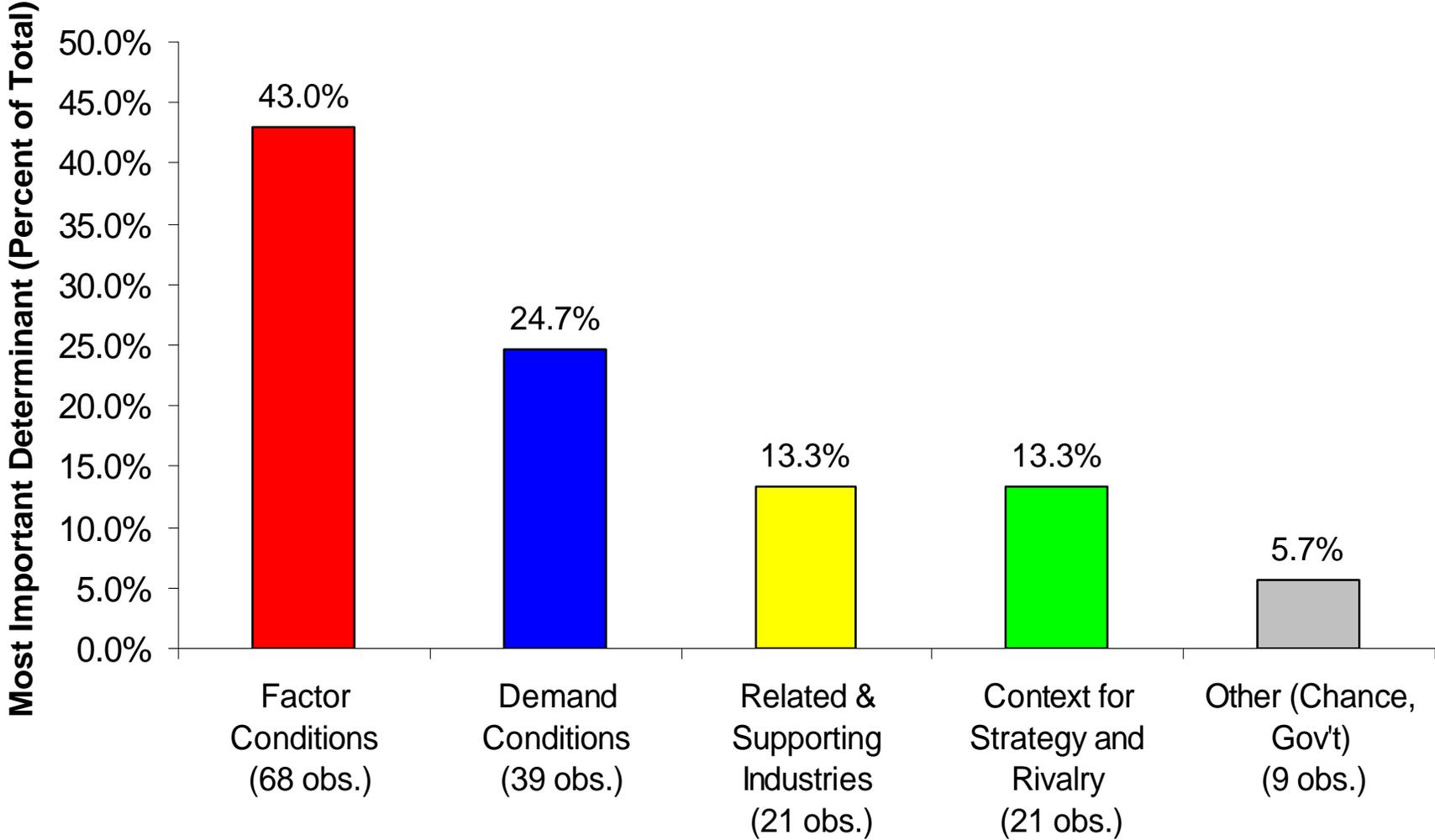
No relationship between a cluster's age and its competitiveness!

Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Determinants of Cluster Competitiveness



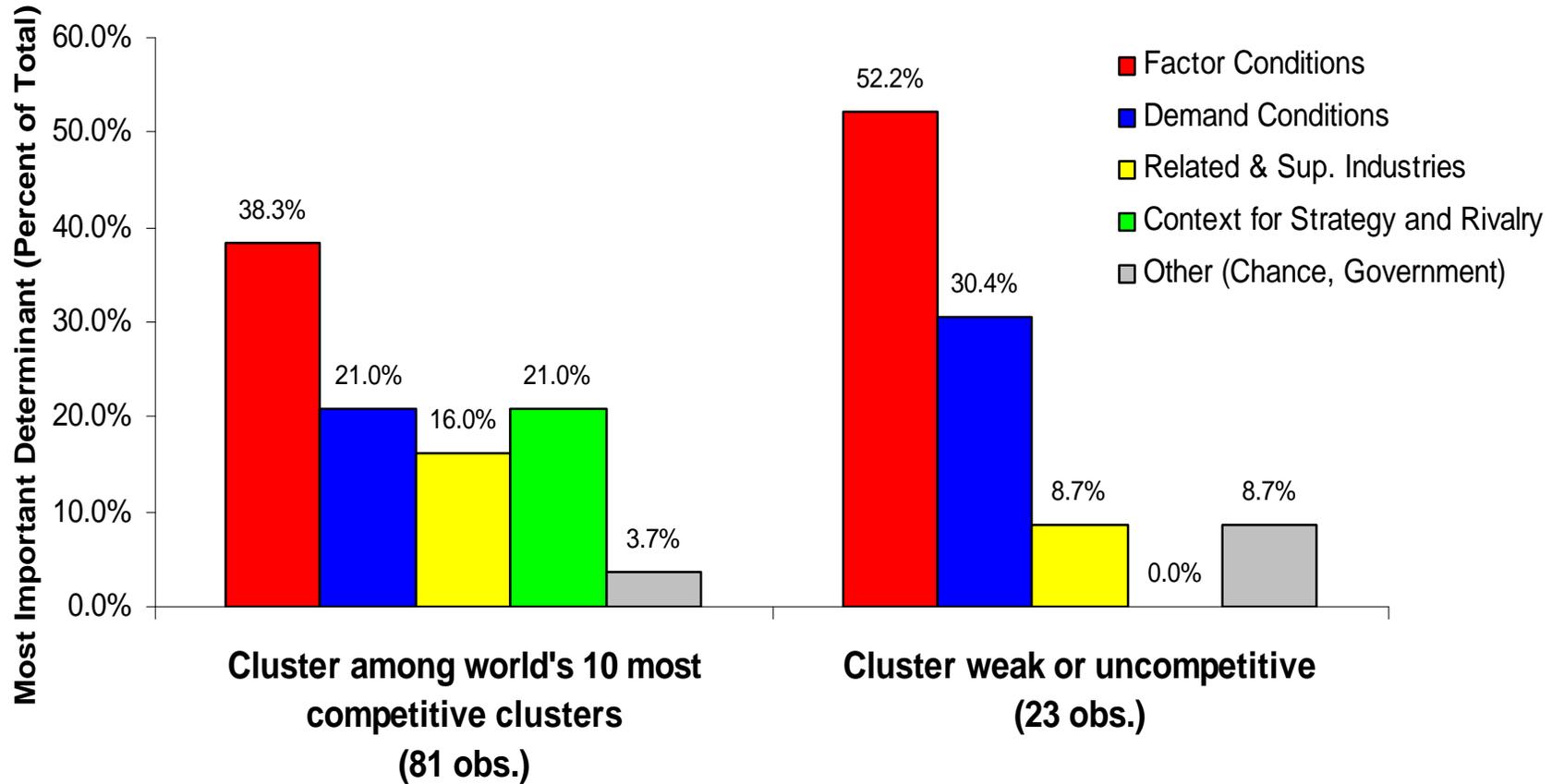
Dominant Basis of Current Cluster Competitiveness



Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Dominant Basis of Current Cluster Competitiveness

Competitive versus Uncompetitive Clusters

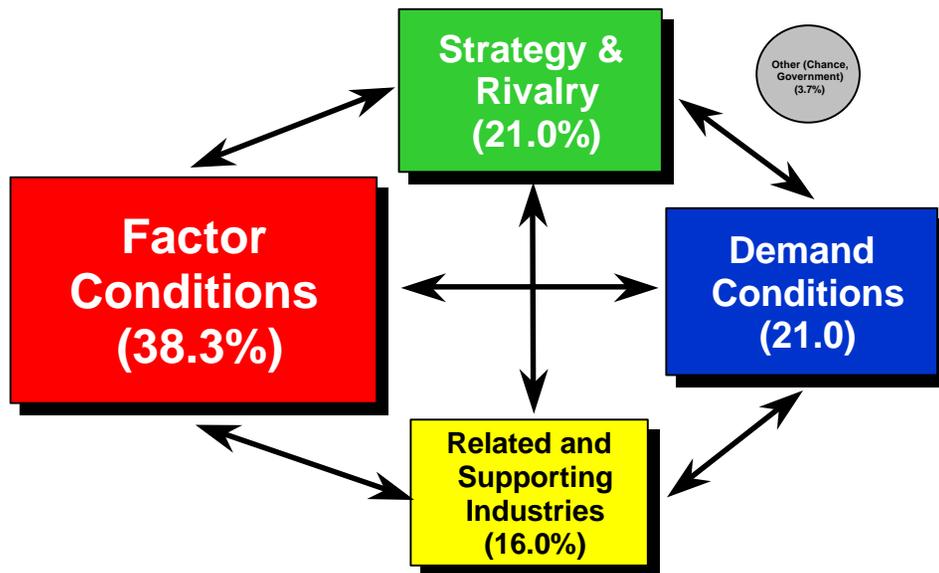


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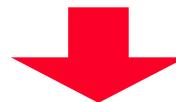
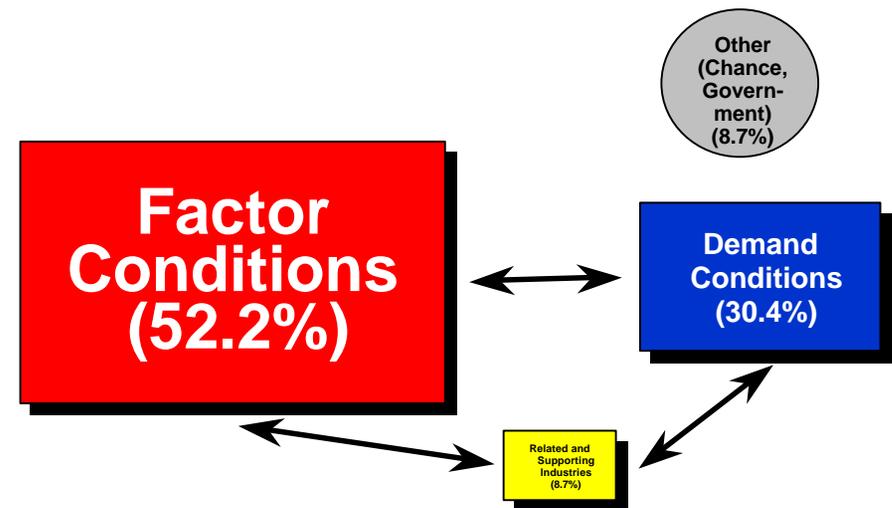
Dominant Basis of Current Cluster Competitiveness

Competitive versus Uncompetitive Clusters

Competitive Clusters



Uncompetitive Clusters

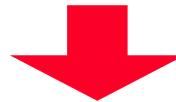
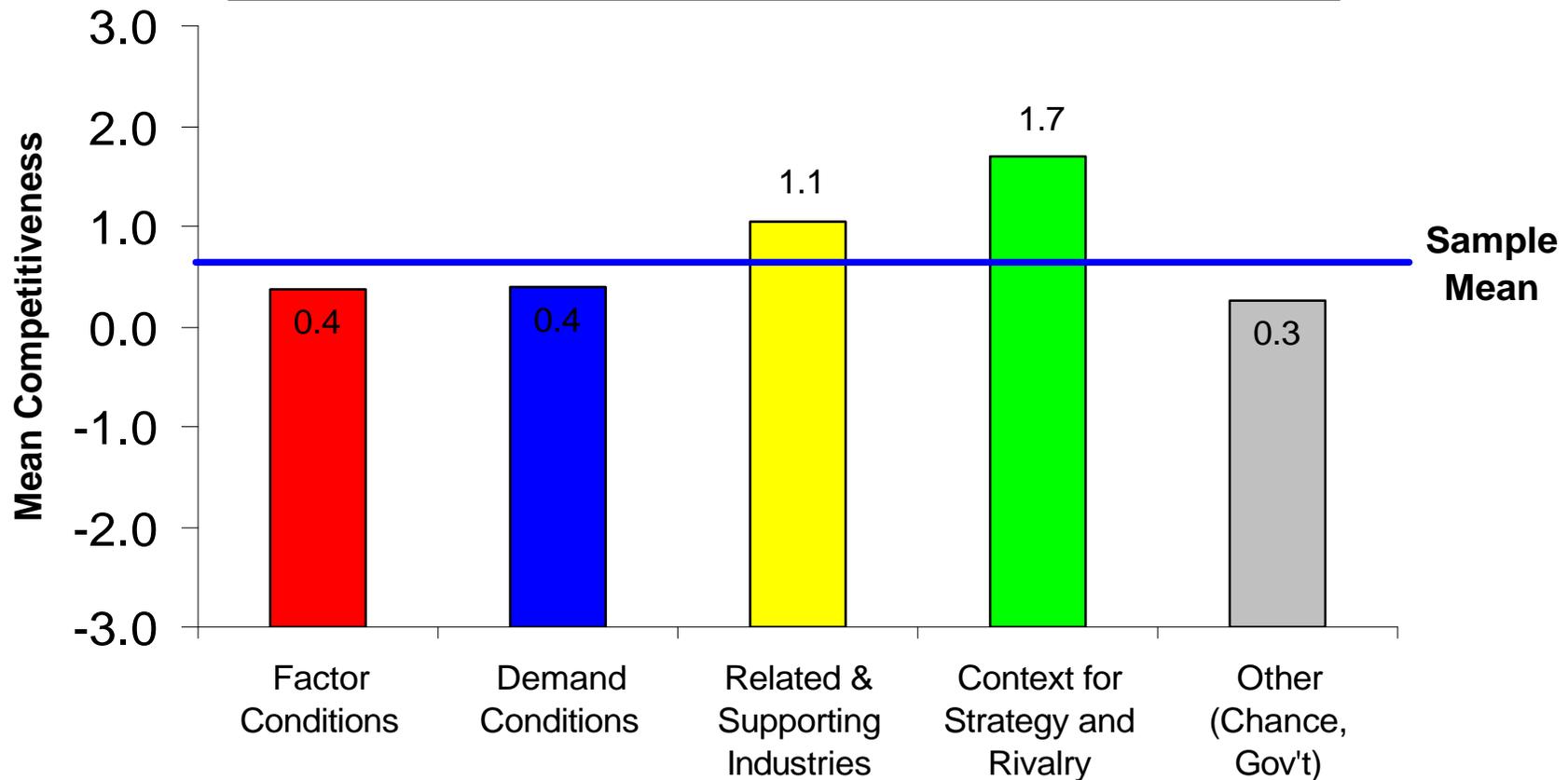


Competitive clusters may rely on any part of the full diamond, uncompetitive clusters usually only on factor conditions!

Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Dominant Basis of Current Cluster Competitiveness

Competitiveness versus Dominant Determinant

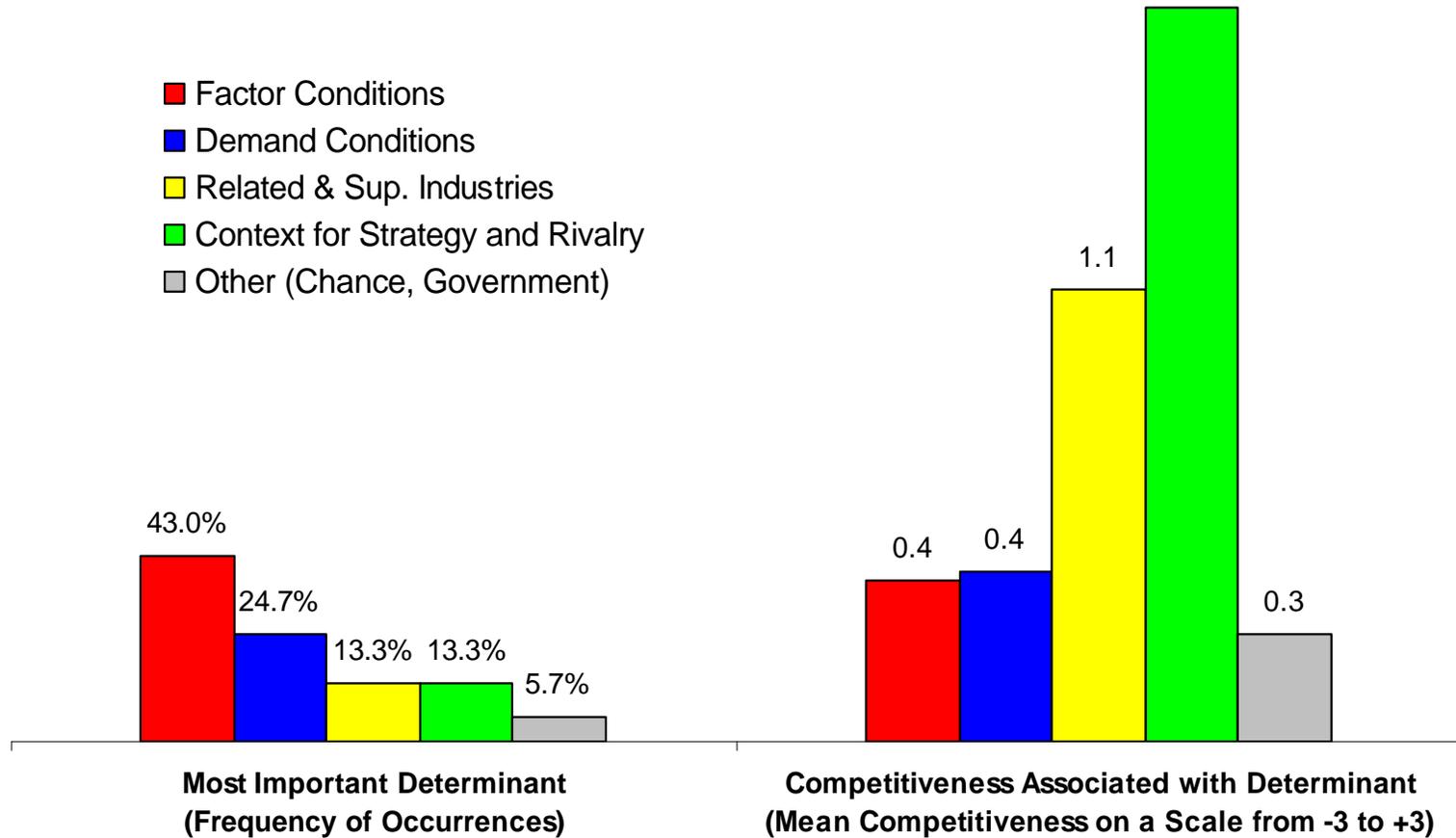


Clusters which relied primarily on rivalry are significantly more competitive than clusters which relied predominantly on factor conditions!

Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Dominant Basis of Current Cluster Competitiveness

Summary: Frequency versus Associated Competitiveness

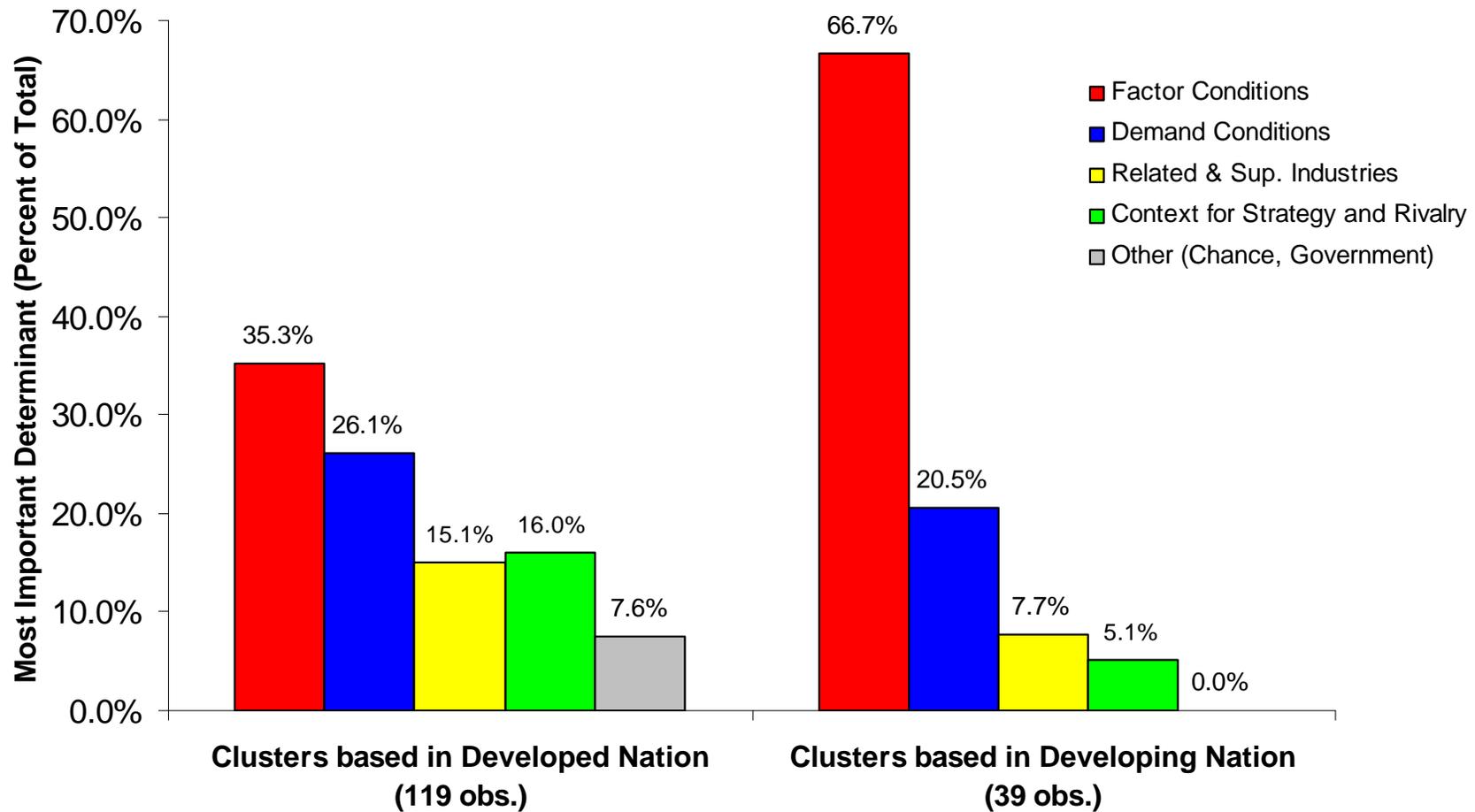


Clusters rely most often on factor conditions, but those which rely primarily on rivalry are most competitive!

Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

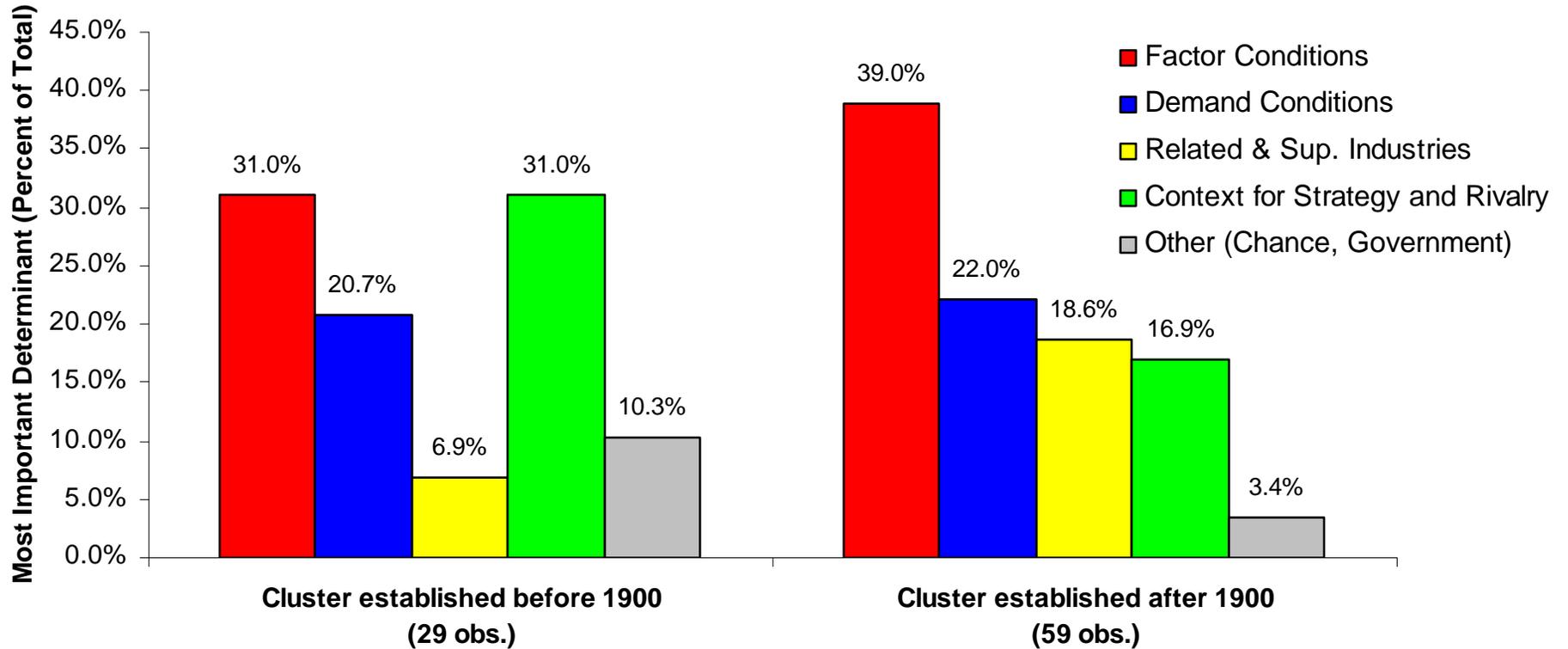
Dominant Basis of Current Cluster Competitiveness

Developed versus Developing Nations



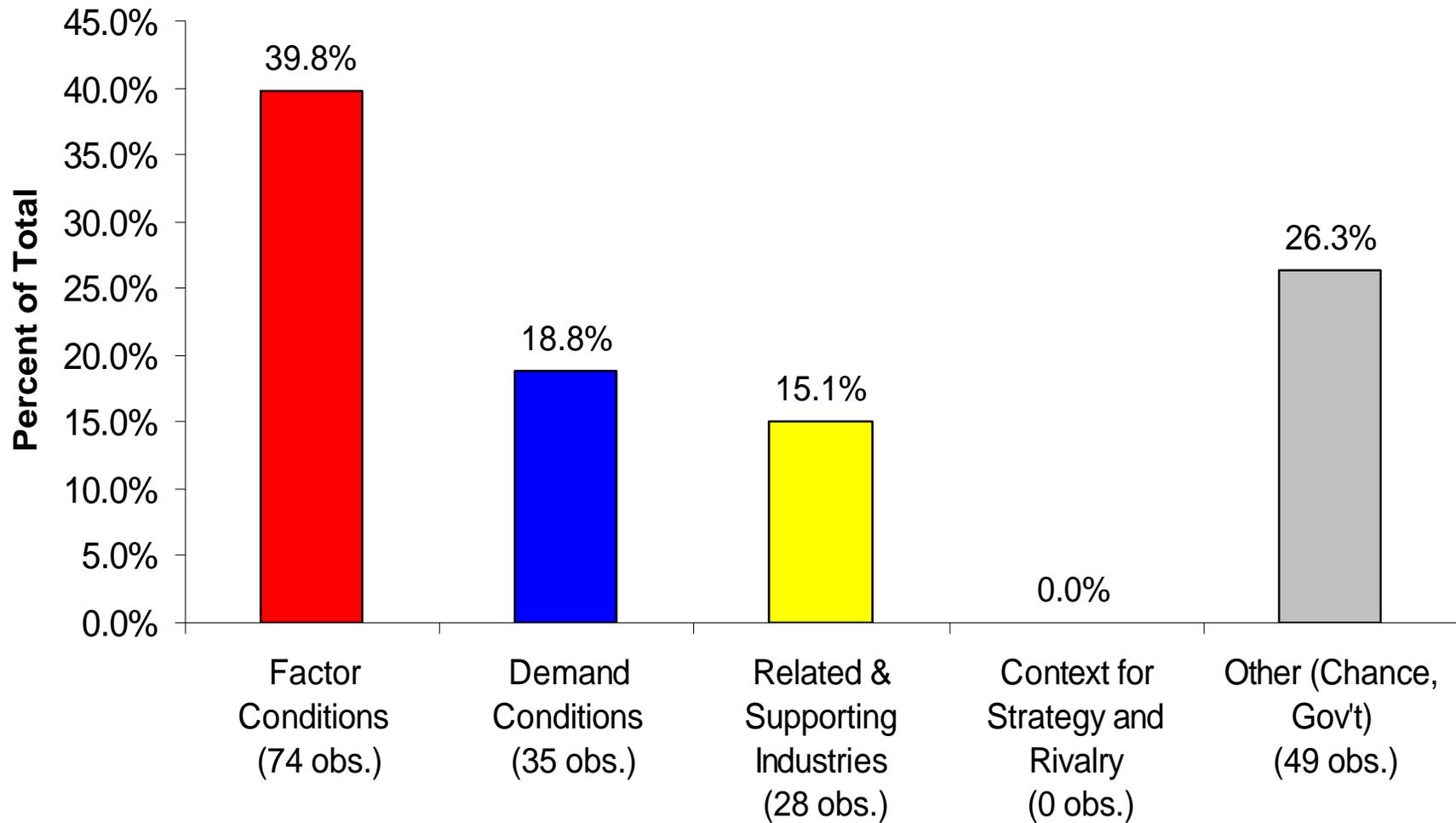
Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Dominant Basis of Current Cluster Competitiveness Relative to Cluster Age



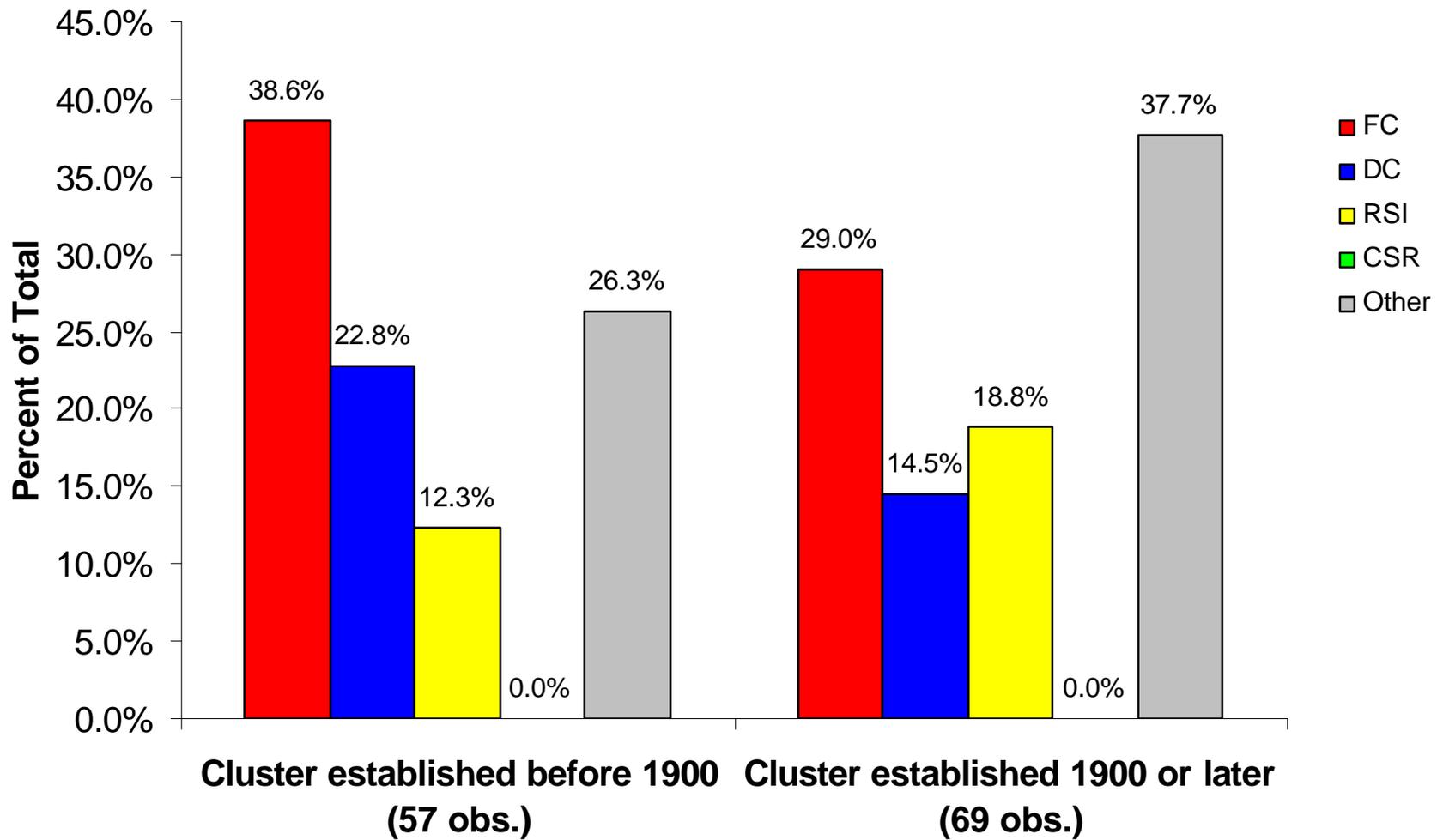
Source: Cluster Meta-Study, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu)

Most Important Reasons for Cluster Establishment



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Most Important Reasons for Cluster Establishment Relative to Cluster Age



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