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# Making stock markets work for the economy The trouble with small tick sizes

SEC Advisory Committee on Small and Emerging Companies

**David Weild and Edward Kim**

September 7, 2012

9:15 AM – 12:00 PM

U.S. Securities and Exchange Commission  
San Francisco Regional Office



# David Weild

- Leader, **Grant Thornton's** Capital Markets group
- Chairman & CEO, **Capital Markets Advisory Partners**
- Chairman of the Small Business Crisis Task Force for the **International Stock Exchange Executives Emeriti** (non-profit)
- Former vice-chairman and executive vice-president of NASDAQ
- Numerous senior management roles at Prudential Securities, including:
  - President of PrudentialFinancial.com
  - Co-Head of strategy (Banking, research, institutional sales and trading)
  - Head of corporate finance
  - Head of equity capital markets and equity syndicate globally
  - Head of technology investment banking
  - Commitment Committee Member

# Edward Kim

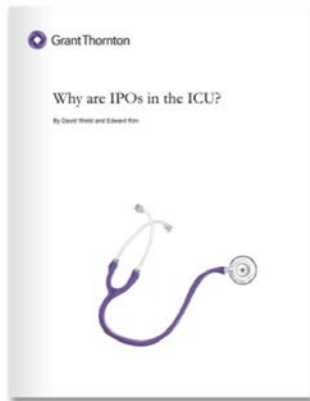
- **Grant Thornton's** Capital Markets group
- Managing Director, **Capital Markets Advisory Partners**
- Former head of product development at NASDAQ
- Experience in:
  - Equity research at Robertson Stephens
  - Equity trading at Lehman Brothers
  - Investment banking and equity syndicate at Prudential Securities
  - Financial and crisis communications at Stern And Company

# Some past publications

Foundational arguments behind The JOBS Act (but much left to be done!)

- Cited in the IPO Task Force Report to Treasury
- Cited in the Interim Report by The President's Jobs Council

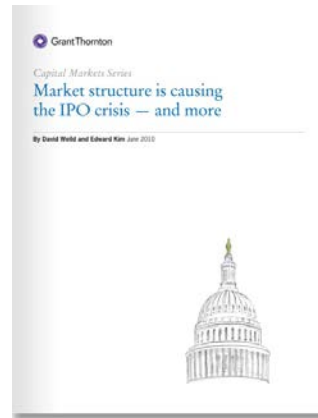
November 2008



November 2009



June 2010



October 2011



September 2012

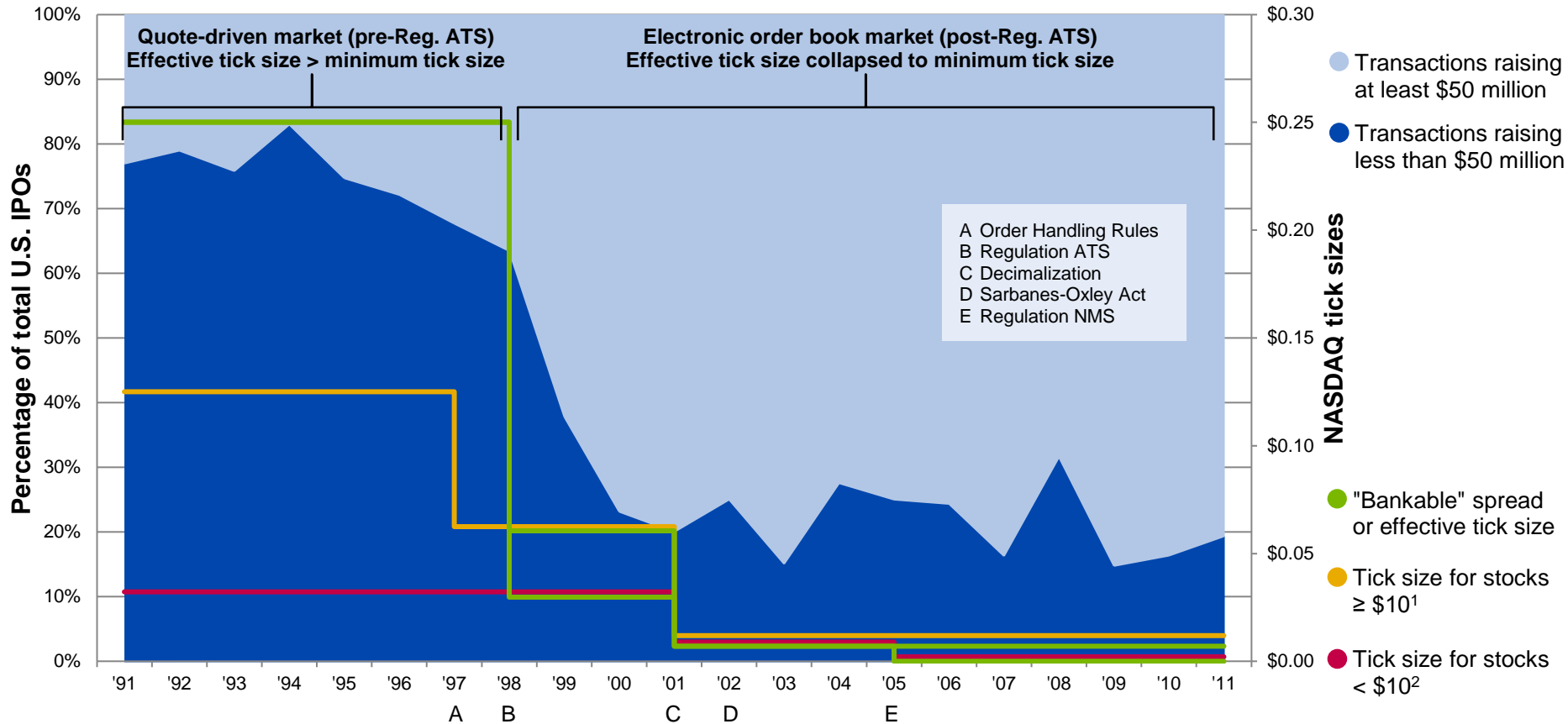


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# The one-two punch:

- shift from quote-driven to electronic posting
- smaller tick sizes

## Tick size changes on the NASDAQ Stock Market overlaid on the drop in the number of small IPOs



Sources: Grant Thornton LLP, Capital Markets Advisory Partners LLC and Dealogic  
 Data includes corporate IPOs as of Dec. 31, 2011, excluding funds, REITs, SPACs and LPs.

<sup>1</sup>1991: \$0.125 for NASDAQ stocks  $\geq \$10$ ; 1997: \$0.0625 for NASDAQ stocks  $\geq \$10$ .

<sup>2</sup>1991: \$0.03125 for NASDAQ stocks  $< \$10$ .

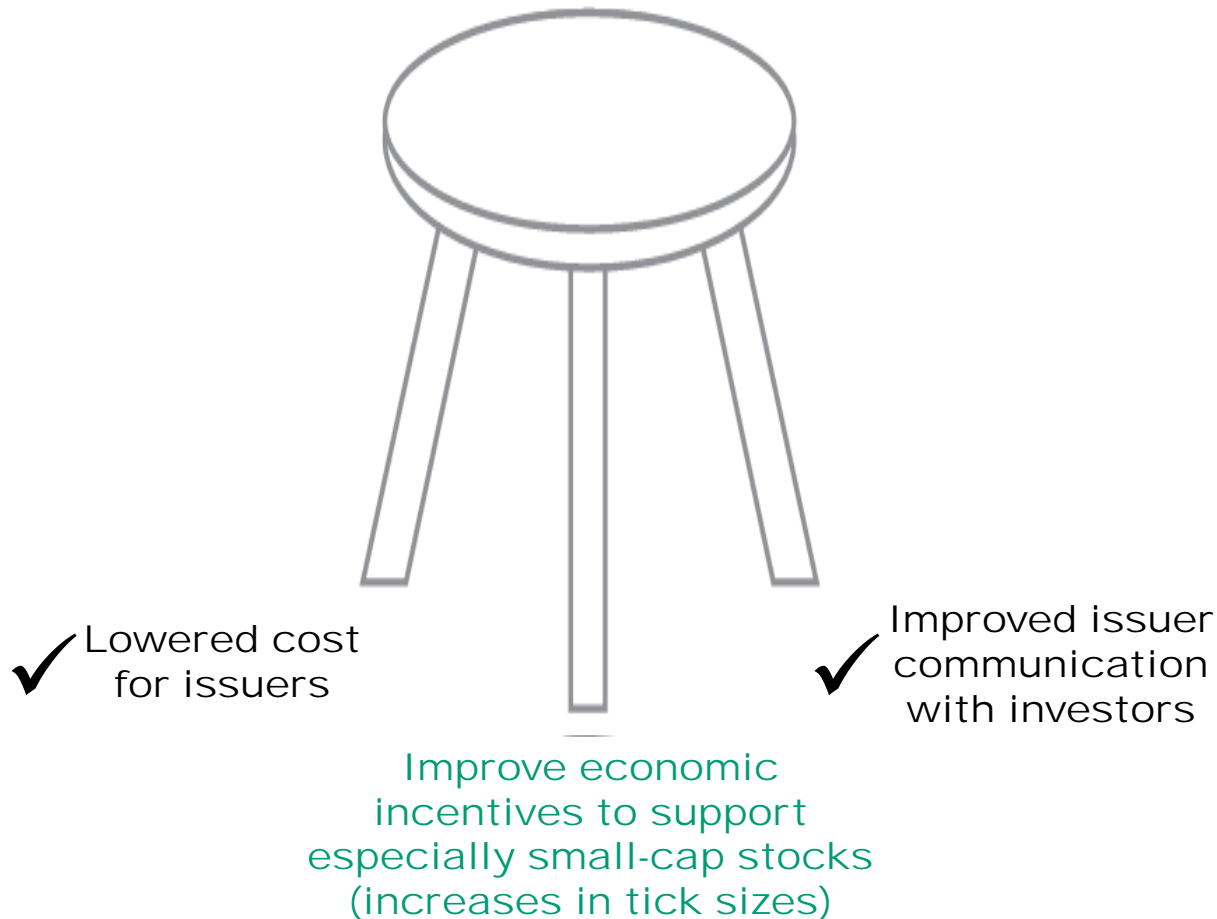
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# Why getting markets right matters: 20% of U.S. children currently live below the poverty line. Markets exist to support economic growth.

*According to the National Center for Children in Poverty, "Nearly 15 million children in the United States — 21% of all children — live in families with incomes below the federal poverty level — \$22,350 a year for a family of four. Research shows that, on average, families need an income of about twice that level to cover basic expenses. Using this standard, 44% of children live in low-income families."*

The National Center for Children in Poverty  
[www.nccp.org/topics/childpoverty.html](http://www.nccp.org/topics/childpoverty.html)

# Increased economic incentives (e.g., tick sizes) are the third leg to the stool



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# Quote: John C. Bogle, founder of Vanguard

*"The financial system has been wounded by a flood of so-called innovations that merely promote hyper-rapid trading... Individual investors are being shortchanged."*

"A Mutual Fund Master, Too Worried to Rest"

By Jeff Sommer

*The New York Times*

August 11, 2012



# Quote: Professor Robert Schwartz

*"Markets are still adjusting to regulatory changes like the Order Handling Rules and Regulation ATS that were made over a decade ago."*

Baruch College  
Marvin M. Speiser Professor of Finance  
University Distinguished Professor of Finance at the Zicklin School of Business

# Quote: Arthur Levitt, former chairman of the SEC

*"The irony of all this is that the change in Order Handling Rules [in 1997] that were instituted under my watch at the [SEC] has resulted in the proliferation of markets, technologies and automation that brought about the flash crash and yesterday's [Knight Securities] events. I think public confidence is severely shaken by things of this kind."*

*Bloomberg Surveillance* with Ken Pruitt and Tom Keen  
August 2, 2012

# Supportive observations from micromarkets economists

- **James Angel (global markets):** *"A large relative tick provides an incentive for dealers to make markets and for investors to provide liquidity by placing limit orders."*
- **David Allen, Josephine Sudiman (Indonesia):** *"As tick size diminishes...encouragement is given to...front runners. Traders are more reluctant to show their orders."*
- **David Bourghelle, Fany Declerck (Paris):** *"We find that a relatively coarse pricing grid encourages traders to submit and expose limit orders, while a tighter grid induces frequent undercutting strategies."*
- **Michael Aitken and Carole Comerton-Forde (Australia):** *"Stocks with small relative tick sizes and low trading volume experience reduced liquidity."*

# Changing tick sizes impacts short- and long-term market quality

| Larger tick sizes will improve investor confidence, capital formation and job growth |  |   |
|--|--|---|
|  | Large-cap stocks (naturally liquid)  | Small- and micro-cap stocks (naturally illiquid)  |
| Smaller tick sizes   | <ul style="list-style-type: none"> <li>• Decreases order depth</li> <li>• Increases liquidity</li> <li>• Increases stepping ahead/gaming</li> <li>• Increases quote flickering</li> <li>• Undermines investor confidence</li> </ul>  | <ul style="list-style-type: none"> <li>• Decreases order depth</li> <li>• Decreases liquidity</li> <li>• Increases stepping ahead/gaming</li> <li>• Discourages marketing (sales) support</li> <li>• Discourages active research support</li> <li>• Discourages capital commitment</li> <li>• Undermines investor confidence</li> </ul> |
| Larger tick sizes  | <ul style="list-style-type: none"> <li>• Increases order depth</li> <li>• Decreases liquidity (but stocks are still extremely liquid)</li> <li>• Limits stepping ahead/gaming</li> <li>• Decreases quote flickering</li> <li>• Improves investor confidence (market seems more transparent)</li> </ul> | <ul style="list-style-type: none"> <li>• Increases order depth</li> <li>• Increases liquidity</li> <li>• Discourages stepping ahead/gaming</li> <li>• Encourages marketing (sales) support</li> <li>• Encourages active research support</li> <li>• Incentivizes capital commitment</li> <li>• Improves investor confidence</li> </ul>  |

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# As popularized by Milton Friedman, free market economist

*"There's no such thing as a free lunch."*

## Small-cap companies and capital formation

|   | Before 1997       | After 2001       | % change |
|---|-------------------|------------------|----------|
| Tick sizes ("bankable spread")            | \$0.25 per share  | \$0.01 per share | -96%     |
| Retail commissions                        | \$250 per trade   | \$5 per trade    | -98%     |
| Investment banks (acting as a bookrunner) | 167 (1994)        | 39 (2006)        | -77%     |
| Small company IPOs                        | 2,990 (1991–1997) | 233 (2001–2007)  | -92%     |

Sources: Grant Thornton LLP and Capital Markets Advisory Partners LLC.

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# As popularized by Milton Friedman, free market economist

*So, we shouldn't be surprised that the small-cap market didn't get a 'free lunch' when economic incentives to support stocks were removed.*

| Essential components of successful markets | Which costs does the market model cover? |                   |           |
|--|--|-------------------|-----------|
|  | Before 1997                              | After 2001        |           |
|  |  | Large visible cap | Small cap |
| Trade execution                            | ✓  | ✓                 | ✓         |
| Liquidity creation (capital commitment)    | ✓  | n/a               | X         |
| Visibility creation (sales)                | ✓  | n/a               | X         |
| Information creation (research)            | ✓  | n/a               | X         |

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# Growing recognition that some or all tick sizes must be increased

| Name                                   | Title   | Firm or institution                                    | Vantage point                  | Position | Less liquid and small-cap | Liquid and large-cap | Not specified | Source              |
|--|---|--|--------------------------------|----------|---------------------------|----------------------|---------------|---------------------|
| James Angel                            | Professor   | Georgetown   | Noted academic                 | For      | Increase                  | Decrease             |               | Traders Magazine    |
| Larry Tabb                             | CEO   | Tabb Group   | Noted market structure analyst | For      | Increase                  |                      |               | Traders Magazine    |
| Joe Ratterman                          | President and CEO   | BATS Global Markets                                    | Stock exchange                 | For      | Increase                  | Decrease             |               | FTSE Global Markets |
| Daniel Coleman                         | CEO   | GETCO  | Electronic market maker        | For      |                           |                      | —             | Congress            |
| Kevin Cronin                           | Global Head of Equity Trading                                     | INVESCO, on behalf of the Investment Company Institute | Mutual fund industry           | For      |                           |                      | —             | Congress            |
| Joe Gawronski                          | President and COO   | Rosenblatt Securities Inc.                             | Institutional agency broker    | For      | Increase                  |                      |               | Congress            |
| Thomas Joyce                           | Chairman and CEO  | Knight Capital Group                                   | Electronic market maker        | For      | Increase                  |                      |               | Congress            |
| Duncan Niederauer                      | CEO   | NYSE-Euronext  | Listed stock exchange          | For      |                           |                      | —             | Congress            |
| Cameron Smith                          | President   | Quantlab Financial, LLC                                | Quantitative trading           | For      | Increase                  | Decrease             |               | Congress            |
| Dan Mathisson                          | Head of Equity Trading  | Credit Suisse Securities                               | Algorithmic trading            | Neutral  |                           |                      | —             | Congress            |
| William O'Brien                        | CEO   | Direct Edge  | Stock exchange                 | For      | Increase                  |                      |               | Congress            |
| Jim Toes                               | President and CEO   | Security Traders Association                           | Trade group                    | For      | Increase                  |                      |               | Congress            |
| Jeffrey Solomon                        | CEO   | Cowen and Company                                      | Growth company investment bank | For      | Increase                  |                      |               | Congress            |
| James Fehrenbach and Bradford Pleimann | MD/Head of Equity Institutional Sales; MD/ Head of Equity Trading | Piper Jaffray  | Growth company investment bank | For      | Increase                  |                      |               | Letter to the SEC   |
| Phil Johnston                          | Partner, Head of Equities   | ThinkEquity LLC  | Growth company investment bank | For      | Increase                  |                      |               | Letter to the SEC   |

# A practitioners' view of why the IPO market declined (some surprising answers)

| Cause                              | Size of impact |
|------------------------------------|----------------|
| Sarbanes-Oxley                     | Small          |
| Loss of quote market—Reg. ATS      | Large          |
| Smaller tick sizes                 | Large          |
| Loss of sales & capital commitment | Large          |
| Loss of research                   | Small          |
| Economies of scope                 | Small          |

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# Active equity distribution in support of capital formation (and aftermarket support) has been decimated

| Factor                               | Change                                      |
|--------------------------------------|---|
| 1. Institutional sales               | Shifted focus to hedge funds                |
| 2. Middle market institutional sales | Closed                                      |
| 3. Retail brokerage                  | Stopped marketing stocks                    |
| 4. Discount brokerage                | Shift to visible names and more speculation |
| 5. Indexation and ETFs               | Baskets displace stock selection            |

Sources: Grant Thornton LLP and Capital Markets Advisory Partners LLC.

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# Companies are sold (and built for sale) when the IPO market (and aftermarket) is unattractive

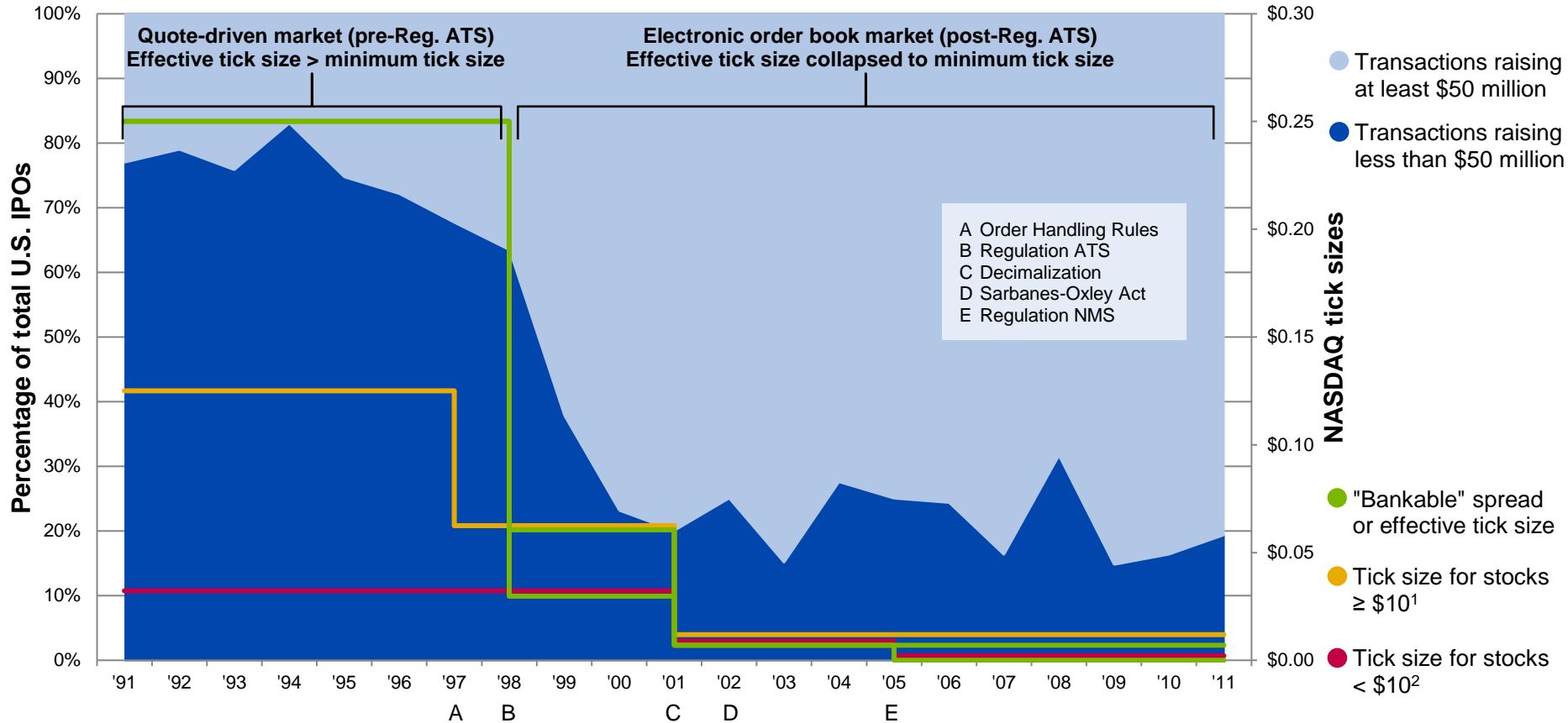
## Loss of dealer incentives led in part to:

1. Decline in venture returns
2. Shift by venture away from IPO market as exit of choice and focus on M&A market
3. Avoidance by issuers of IPO market

# The one-two punch:

- shift from quote-driven to electronic posting
- smaller tick sizes

Tick size changes on the NASDAQ Stock Market overlaid on the drop in the number of small IPOs



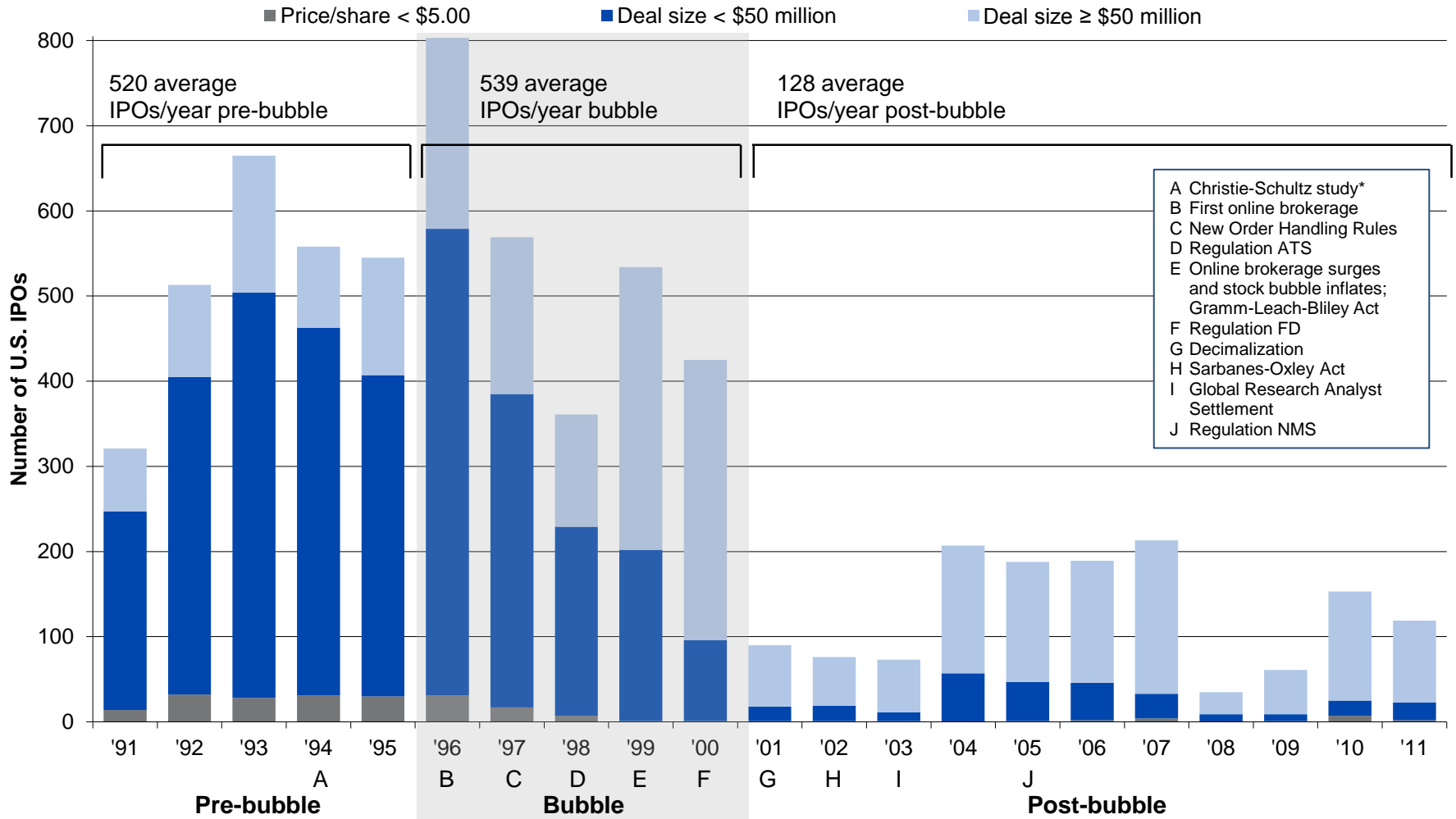
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<sup>2</sup>1991: \$0.03125 for NASDAQ stocks < \$10.

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# The U.S. IPO won't improve until aftermarket incentives are improved



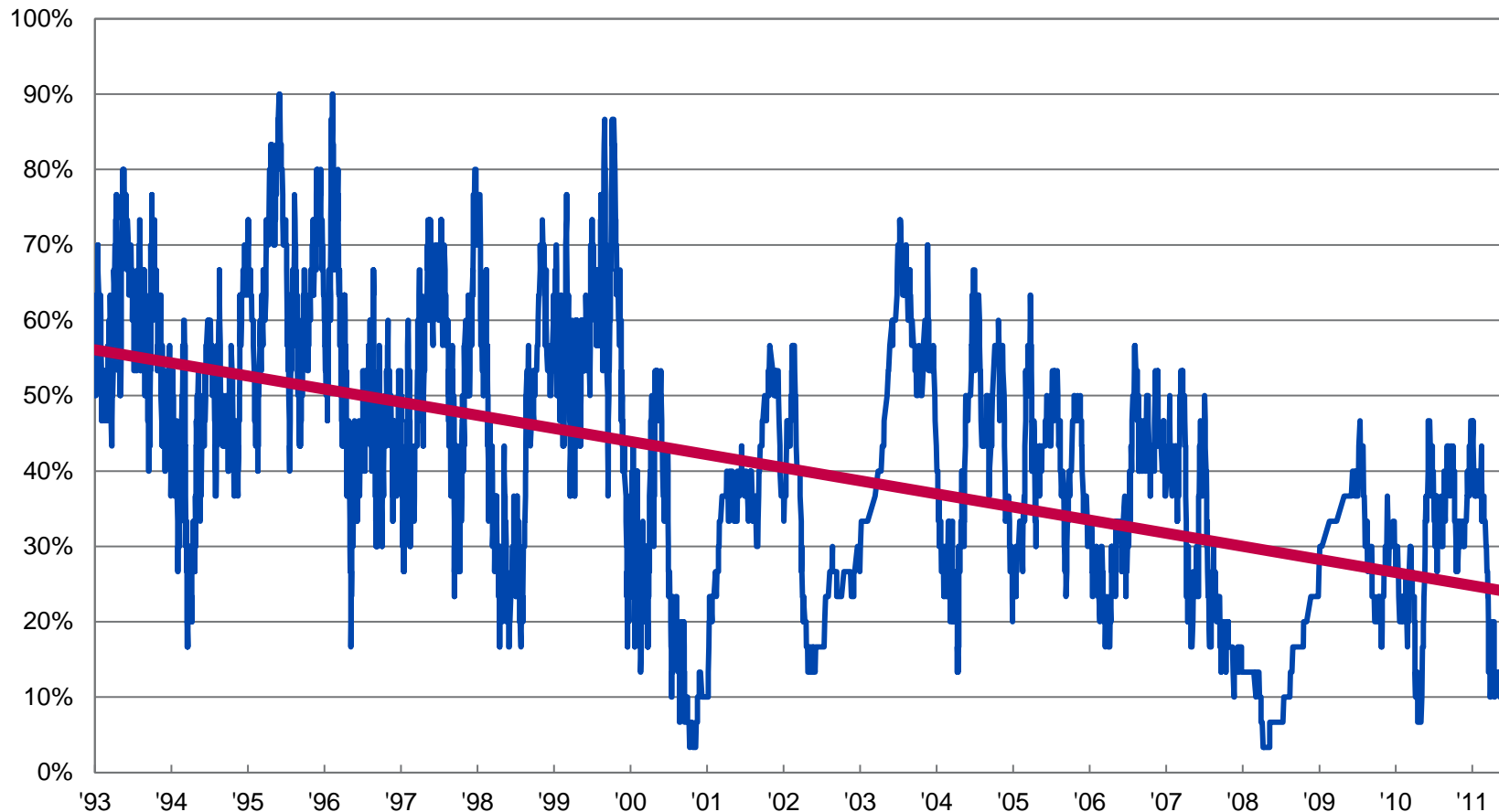
Sources: Grant Thornton LLP, Capital Markets Advisory Partners LLC and Dealogic

Data includes corporate IPOs as of December 31, 2011, excluding funds, REITs, SPACs and LPs

\*Christie, William G., and Schultz, Paul H., "Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?" *Journal of Finance*, Vol. 49, No. 5, 1994.

# IPO success rates are in secular decline and the trend continues after SOX (2002)

## Success rate of trailing 30 IPOs

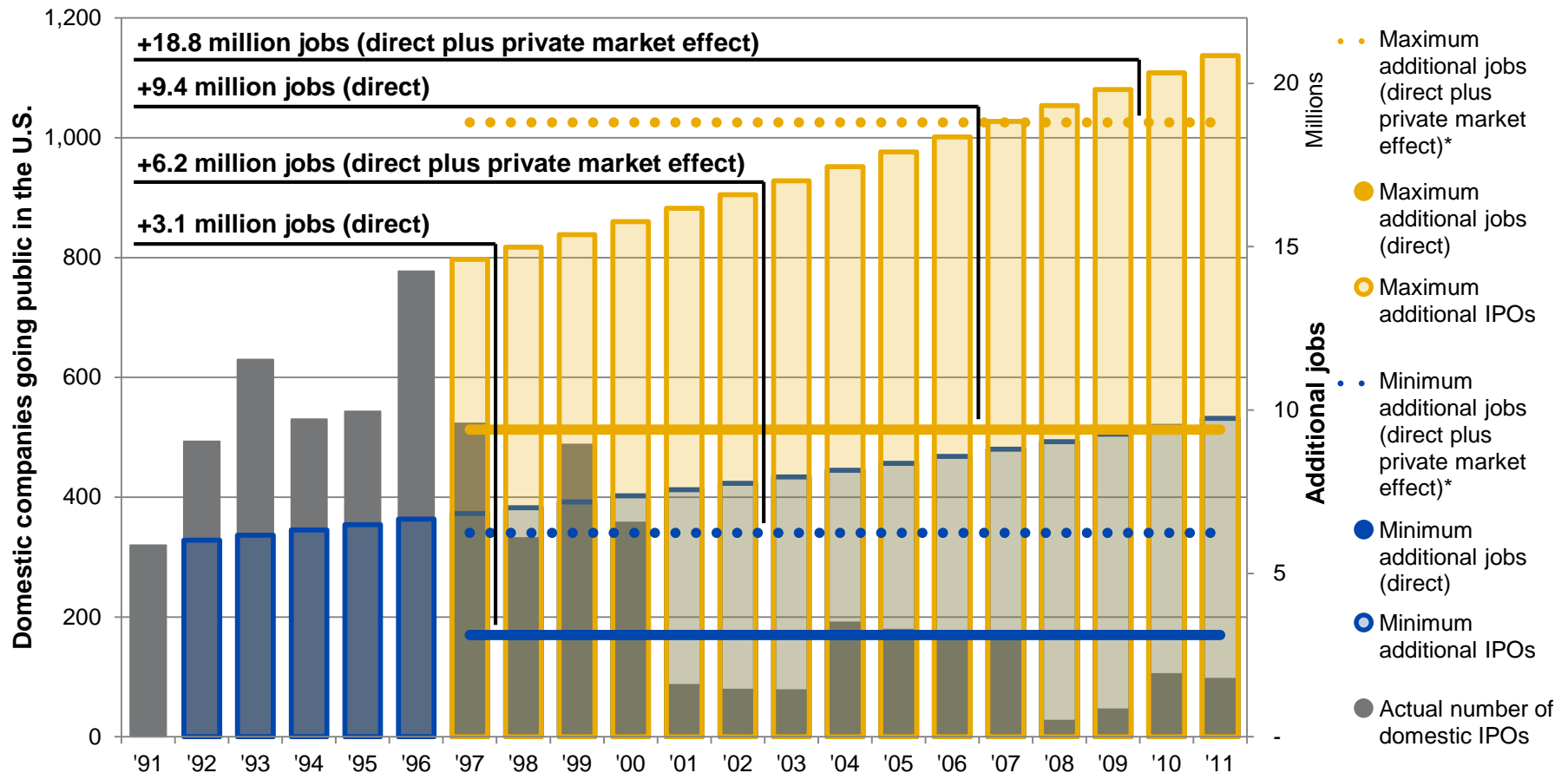


Source: Capital Markets Advisory Partners LLC, All rights reserved

Includes only corporate issuers, excluding funds, MLPs, SPACs and REITs.

Based on the average success rate of the last 30 filed deals, up to one year ago. A successful deal is defined as 1) priced within one year of filing, 2) priced at or above the low end of the filing range and 3) trading at or above issue price one month after pricing.

# Major contributor to employment



\*Best estimate of the multiplier effect in the private market of more companies going public

Sources: Grant Thornton LLP, Dealogic and the U.S. Department of Commerce Bureau of Economic Analysis

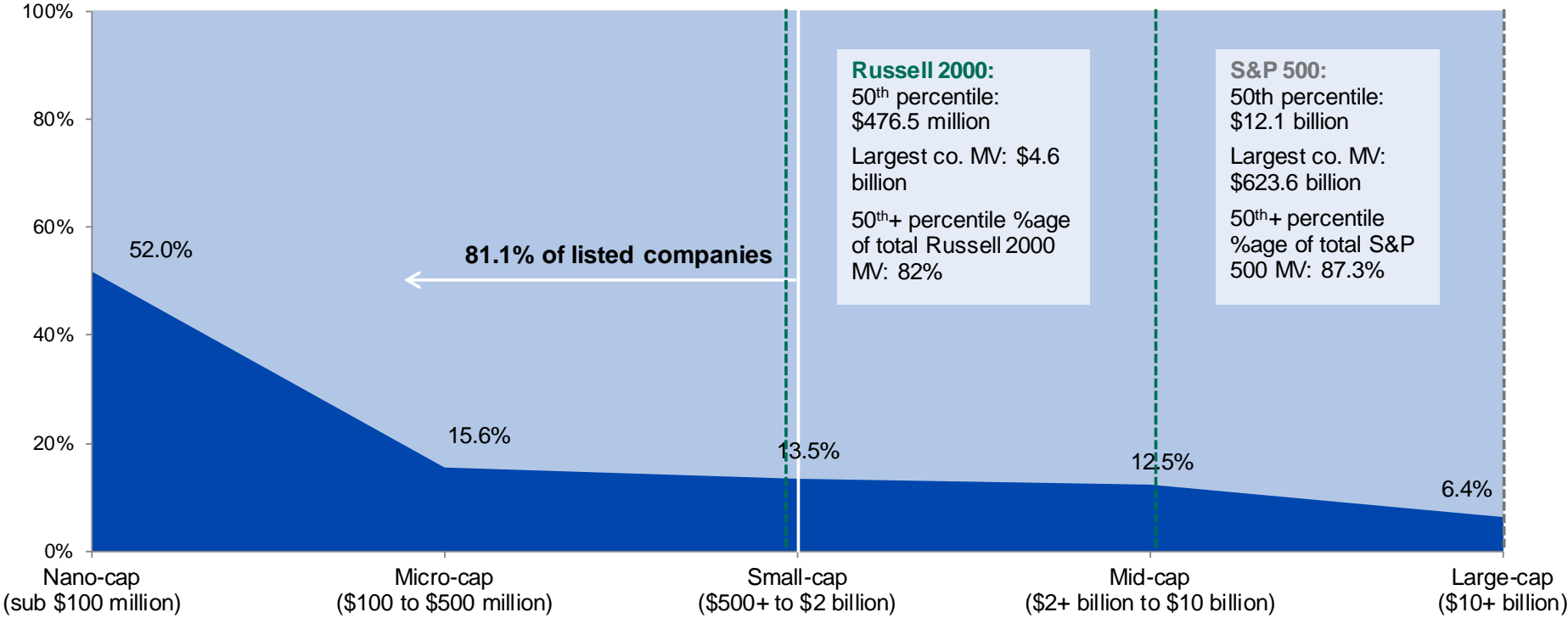
Domestic corporate companies going public in the U.S. as of Dec. 31, 2011, excluding funds, REITs and other trusts, SPACs and LPs.

Assumes an annual growth rate of 2.57% (U.S. real GDP growth, 1991-2011) and 822 jobs created on average post-IPO (see "Post-IPO Employment and Revenue Growth for U.S. IPOs," *Kauffman Foundation*).

# While 81% of all public companies are sub-\$2 billion in market value...

Comments letters to the SEC Concept Release on Equity Market Structure made the point that spreads in the Russell 2000 have not declined materially while S&P 500 spreads have declined materially. This supports the conclusion that market structure harmed dealers, institutions and small-cap issuers.

● Percentage of total number of listed companies

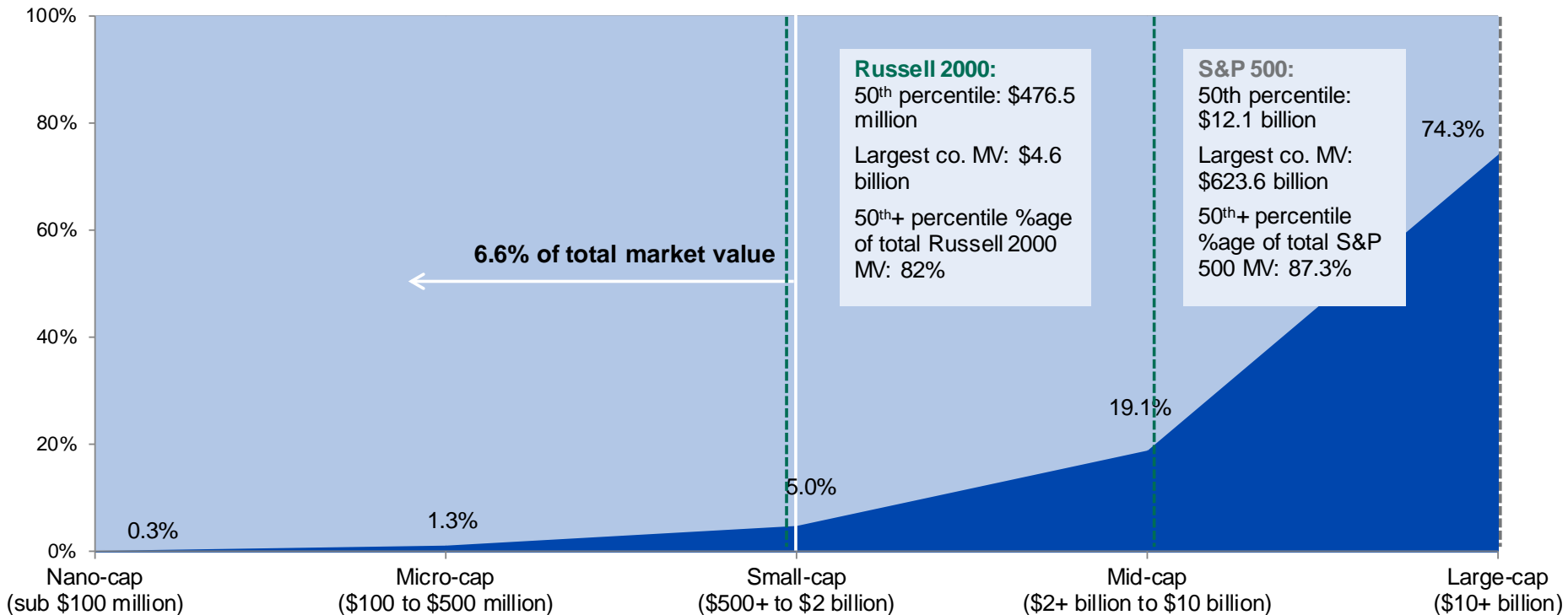


Sources: Grant Thornton LLP and Capital IQ  
Includes NASDAQ, NYSE (including AMEX) and OTC listings. Corporate issuers only, excluding holding companies, funds, MLPs, SPACs, REITs and other trusts.

# ...sub-\$2 billion companies represent only 6.6% of total public company market value

Given the disparity in the size of small-cap stocks, a “reasonable practitioner” must conclude that a one-size-fits-all market structure for large- and small-cap stocks will always be less than optimal for one or both groups of stocks. The only real question is, “How should market structure vary?”

## ● Percentage of total public company market value



Sources: Grant Thornton LLP and Capital IQ

Includes NASDAQ, NYSE (including AMEX) and OTC listings. Corporate issuers only, excluding holding companies, funds, MLPs, SPACs, REITs and other trusts.



# The Jobs Act, Part 2: Two alternative solutions

## Could be used individually or in combination:

1. **Issuer choice of tick size**, where issuers of all sizes, but small-cap companies in particular, are given the authority to choose their own tick size within a range (e.g., up to 5 percent of share price)
2. **Algorithmic customization of tick size**, where the SEC could automate the “mass customization” of tick sizes via a simple algorithm (e.g., tick size = natural spread TTM or natural spread TTM/2)

# Issuer choice of tick size: sample implementation table

| “Issuer choice” tick size implementation table |                    |                                       |
|--|--------------------|---------------------------------------|
| Stock price per share                          | Tick size range    | Relative tick size range <sup>*</sup> |
| < 1.00   | 0.0001 to 0.049995 | 0.01% to 5%                           |
| 1.00 to 4.99                                   | 0.01 to 0.2495     | 0.2% to 5%                            |
| 5.00 to 9.99                                   | 0.01 to 0.4995     | 0.1% to 5%                            |
| 10.00 to 49.99                                 | 0.01 to 2.4995     | 0.02% to 5%                           |
| 50.00 to 99.99                                 | 0.01 to 4.9995     | 0.01% to 5%                           |
| ≥ 100.00                                       | ≥ 0.01             | ≤ 5%                                  |

\* Tick size as a percentage of price per share.

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# Algorithmic customization of tick size

- The algorithm used might be:

***[(average quoted spread over trailing 12 months) divided by 2  
= tick size]***

or simply

***[(average quoted spread over trailing 12 months) = tick size]***

- Algorithmic approach can be used as default option for “issuer choice”

# The Jobs Act, Part 2: Issuer Bill of Rights

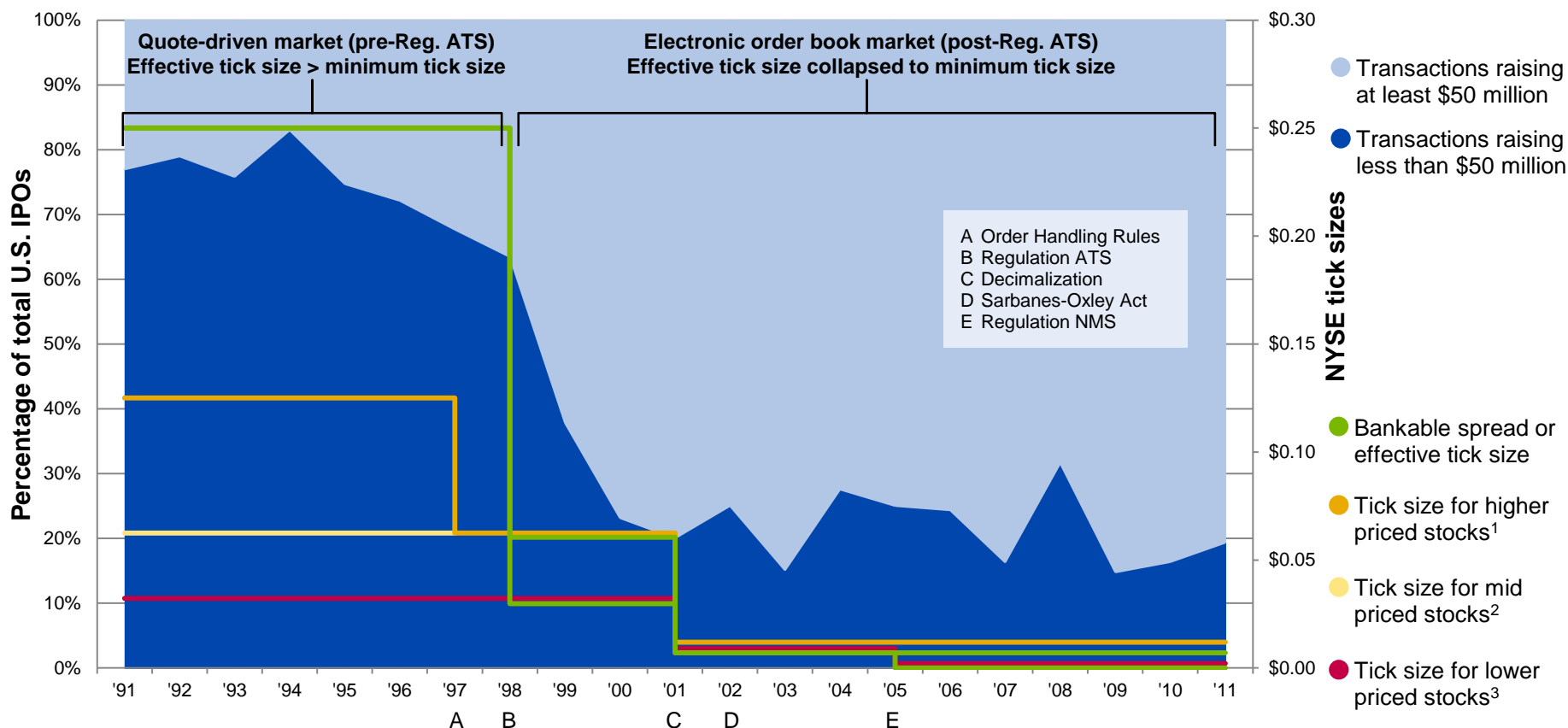
We call on the SEC and Congress to provide issuers (job creators) with:

1. **Equal standing:** Issuers must have equal input to the trade execution community on market structure.
2. **Representation:** A standing issuer advisory council to the SEC made up of issuers and issuer advocates
3. **Transparency, timeliness and completeness:** Issuers deserve real-time trading and ownership data of all long and short activity.
4. **Choice in market structure:** No more one-size-fits-all market structures
5. **Market structures that encourage fundamental investment strategies over trading strategies**

*As compiled from a group of panelists at the National Investor Relations Institute conference, June 4, 2012.*

# Appendix

# Tick size changes on the New York Stock Exchange overlaid on the drop in the number of small IPOs



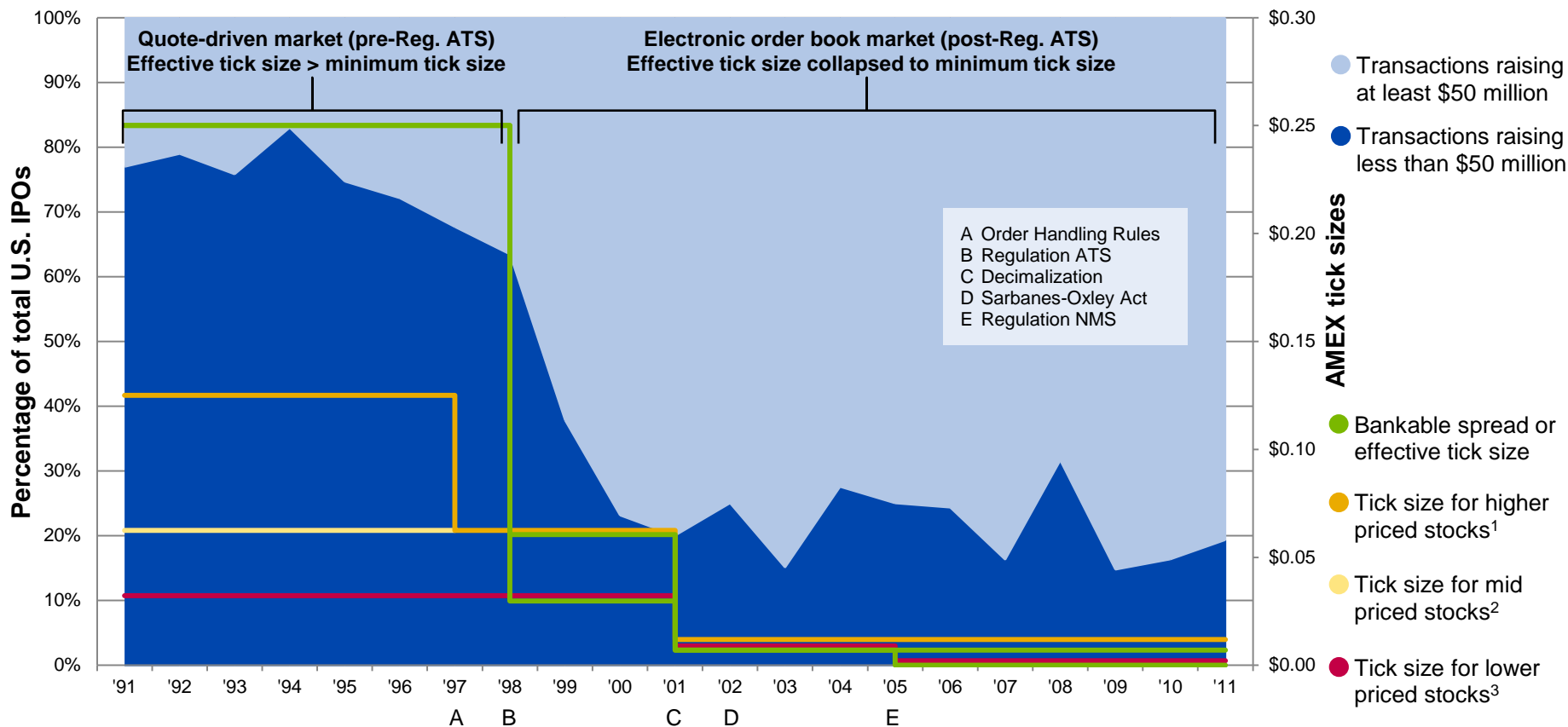
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Data includes corporate IPOs as of Dec. 31, 2011, excluding funds, REITs, SPACs and LPs.

<sup>1</sup>1991: \$0.125 for NYSE stocks > \$1; 1997: \$0.0625 for NYSE stocks ≥ \$0.50.

<sup>2</sup>1991: \$0.0625 for NYSE stocks > \$0.50 and < \$1.

<sup>3</sup>1991: \$0.03125 for NYSE stocks < \$0.50.

# Tick size changes on the American Stock Exchange overlaid on the drop in the number of small IPOs



Sources: Grant Thornton LLP, Capital Markets Advisory Partners LLC and Dealogic

Data includes corporate IPOs as of Dec. 31, 2011, excluding funds, REITs, SPACs and LPs.

<sup>1</sup>1991: \$0.125 for AMEX stocks ≥ \$1 (raised to ≥ \$5 in 1992, raised again to ≥ \$10 in 1995); 1997: \$0.0625 for AMEX stocks ≥ \$0.25.

<sup>2</sup>1991: \$0.0625 for AMEX stocks ≥ \$0.25 and < \$1 (raised to < \$5 in 1992).

<sup>3</sup>1991: \$0.03125 for AMEX stocks < \$0.25.

# About Grant Thornton International

- 100+ countries
- 1,700+ publicly listed companies
- Significant cross-border deal flow
- Technical professionals with specialized industry experience
- Uniform platform and approach for attest and advisory services
- International scope and standards adherence
- Recognized institutional investor acceptance
- Demonstrated capital markets experience
- Global IPO readiness capabilities





# About Capital Markets Advisory Partners

- Issuer Aligned | Independent Advisor
- History of innovation and entrepreneurship in capital markets
  - Principals invented/created:
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    - Capped-Jump Ball Pots (Prudential Securities)
    - Accelerated Book Build Transactions (Prudential Securities – ROCS)
    - Incentive Underwriting Structures (Prudential Securities – Closed-end funds)
    - First Algorithmic Allocation Systems (Prudential Securities – CAMP)
- Methodologies to significantly improve institutional demand (IPOs and follow-on offerings)



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- Small Business Crisis Task Force
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  - Vice Chairman – Bill Foster (Former CEO of the New Zealand Stock Exchange)