Biotechnology after the Global Meltdown Building for the future

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AusBiotech
AUSTRALIA'S BIOTECHNOLOGY ORGANISATION

Origins of Current Global Financial Crisis

- 30 years of bank deregulation within market-based framework
- Competition enabled depositors to receive higher interest rates and borrowers to obtain more credit on better terms
- Less stable system; increased frequency of financial shocks
- At least seven significant financial shocks up to end of 2006
  - Early 1980s – Third World debt crisis*
  - Mid 1980s – S&L crisis in US*
  - Oct 1987 – Sharemarket bubble burst
  - Early 1990's - M&A and commercial property bubbles burst*
    - Worst period of financial failure for Australia
  - 1997/98 – Asian crisis*
  - 1998 – Long Term Capital Management hedge fund collapse
  - 2000 – Tech boom collapse

*** Credit events - Excessive lending to borrowers unable to pay it back**

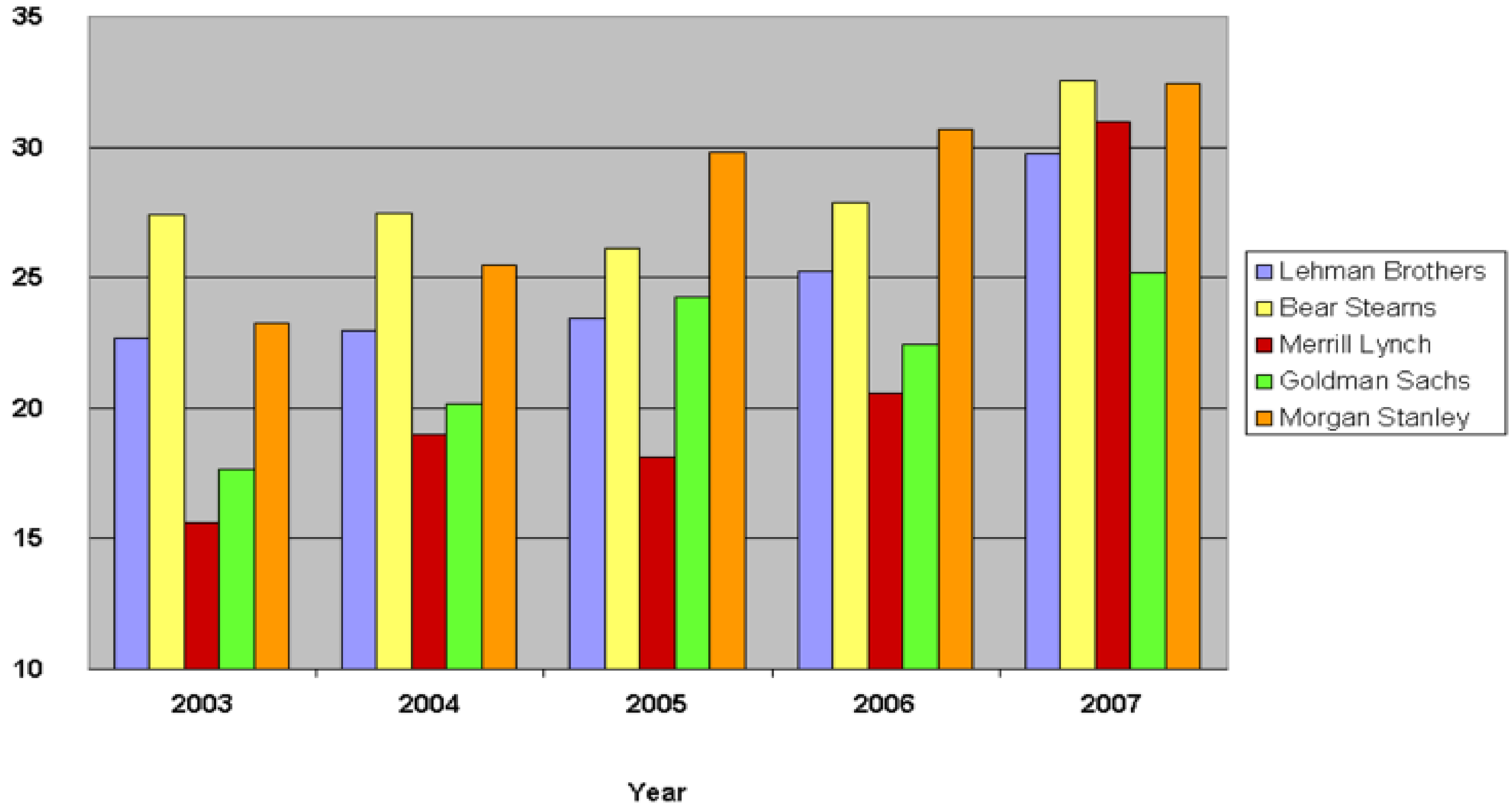
Crisis Number Eight, 2007 -

- Also a credit event
- More serious on international scene than predecessors
- Two main causes
  - Grossly excessive leverage in “shadow banking system” outside of plain vanilla commercial banks – investment banks, hedge funds, derivative instruments etc
    - Misdirected incentives to mortgage originators and ratings agencies
    - Misdirected performance-based pay structures to management on basis of short-term profit results
  - Use of leverage to increase number of bad loans
    - Two Bear Stearns hedge funds that collapsed in 2007 holding credit default options for sub-prime debt were geared at least 20 & 50 times, respectively
    - AIG vehicle that wrote credit default swaps geared at least 100 times
- Collapse of credit markets “I am not interested in the return <u>on</u> my money but on the return <u>of</u> my money” – Mark Twain

Ian Macfarlane, AC. 2008 Lowy Lecture

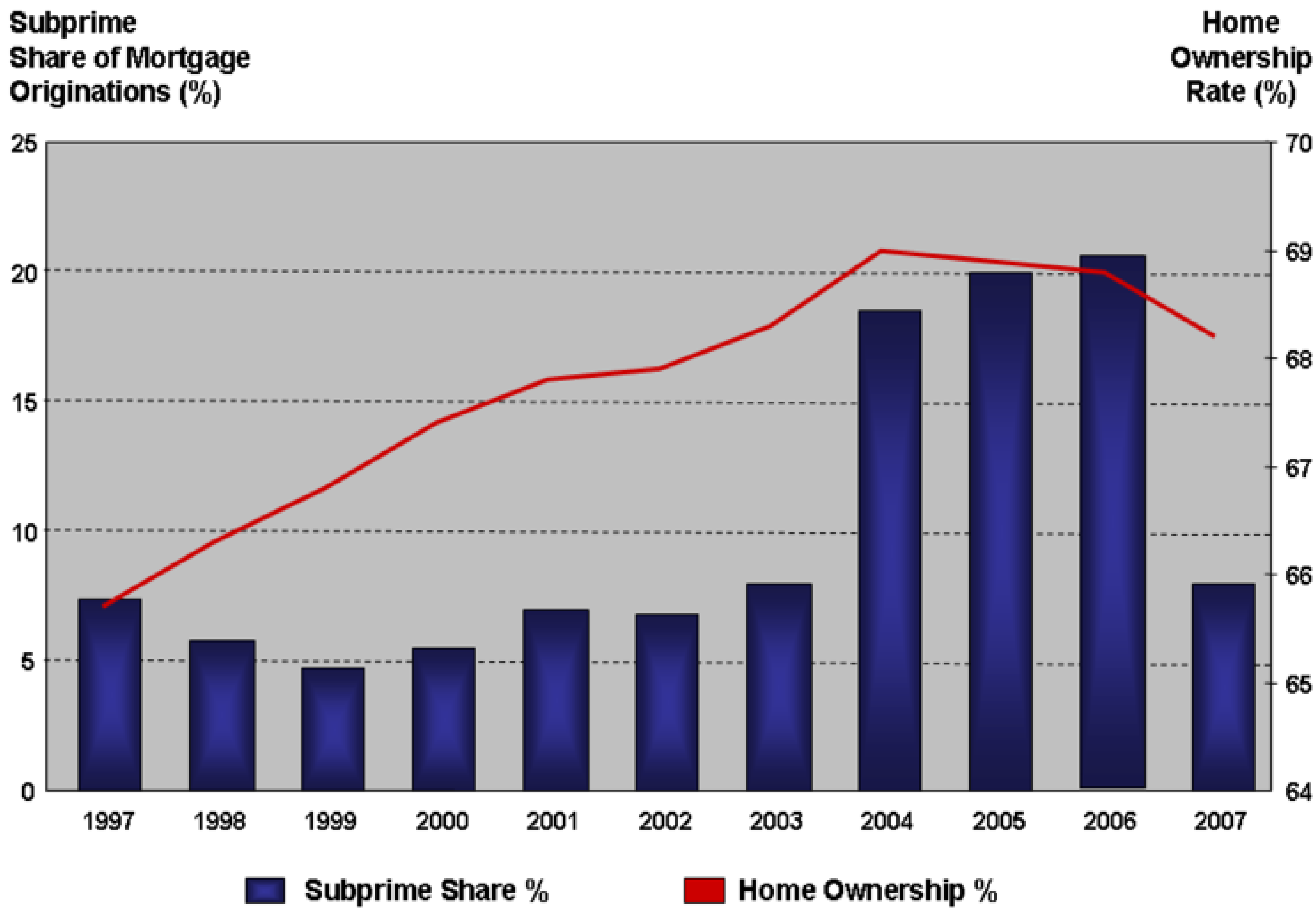
Leverage Ratios Major US Investment Banks

The leverage ratio is a measure of the risk taken by a firm; a higher ratio indicates more risk.
It is calculated as total debt divided by stockholders equity. Each firm's ratio increased between 2003-2007.



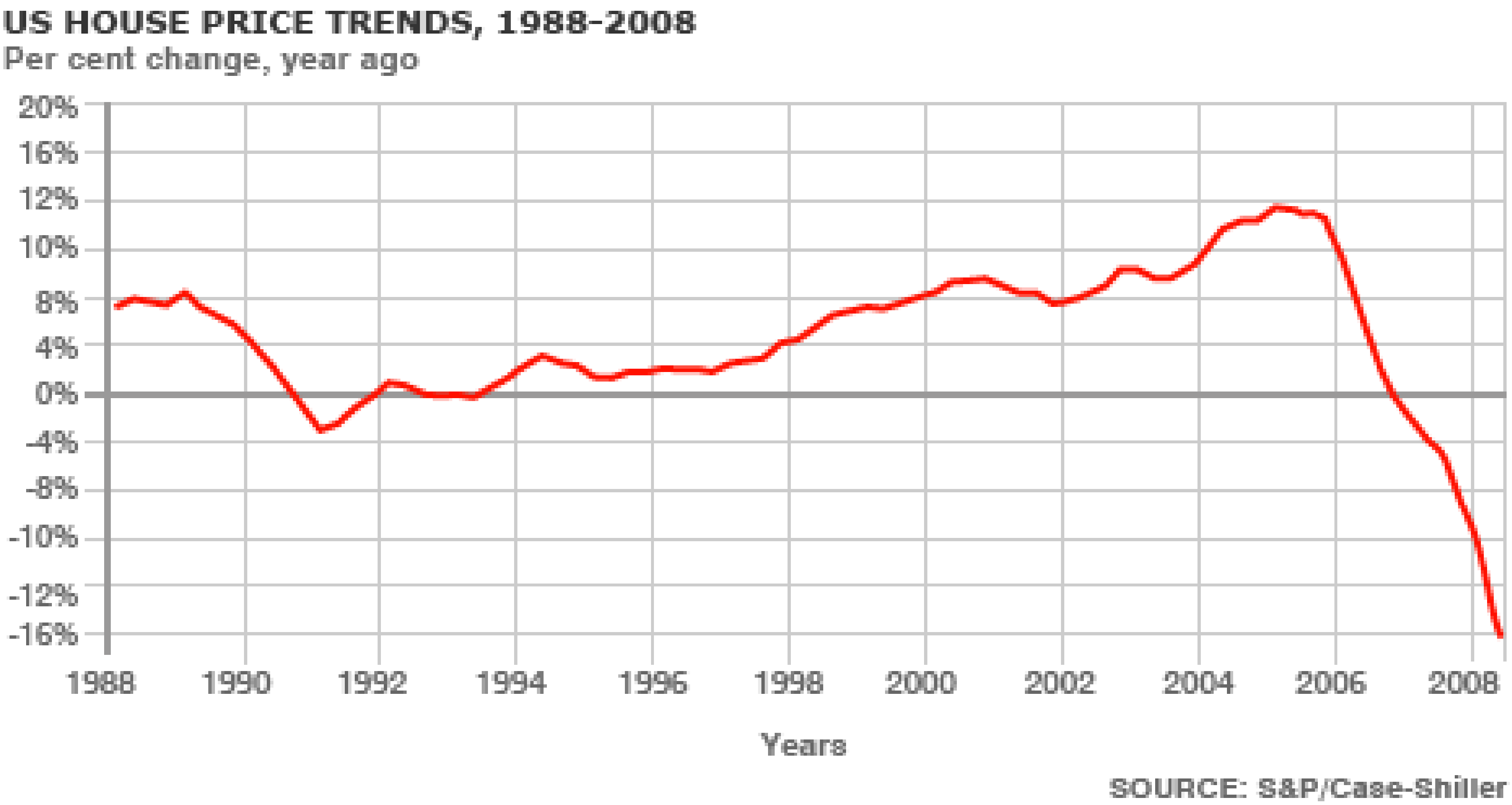
Source Data: Company Annual Reports (SEC Form 10K)

US Subprime Lending

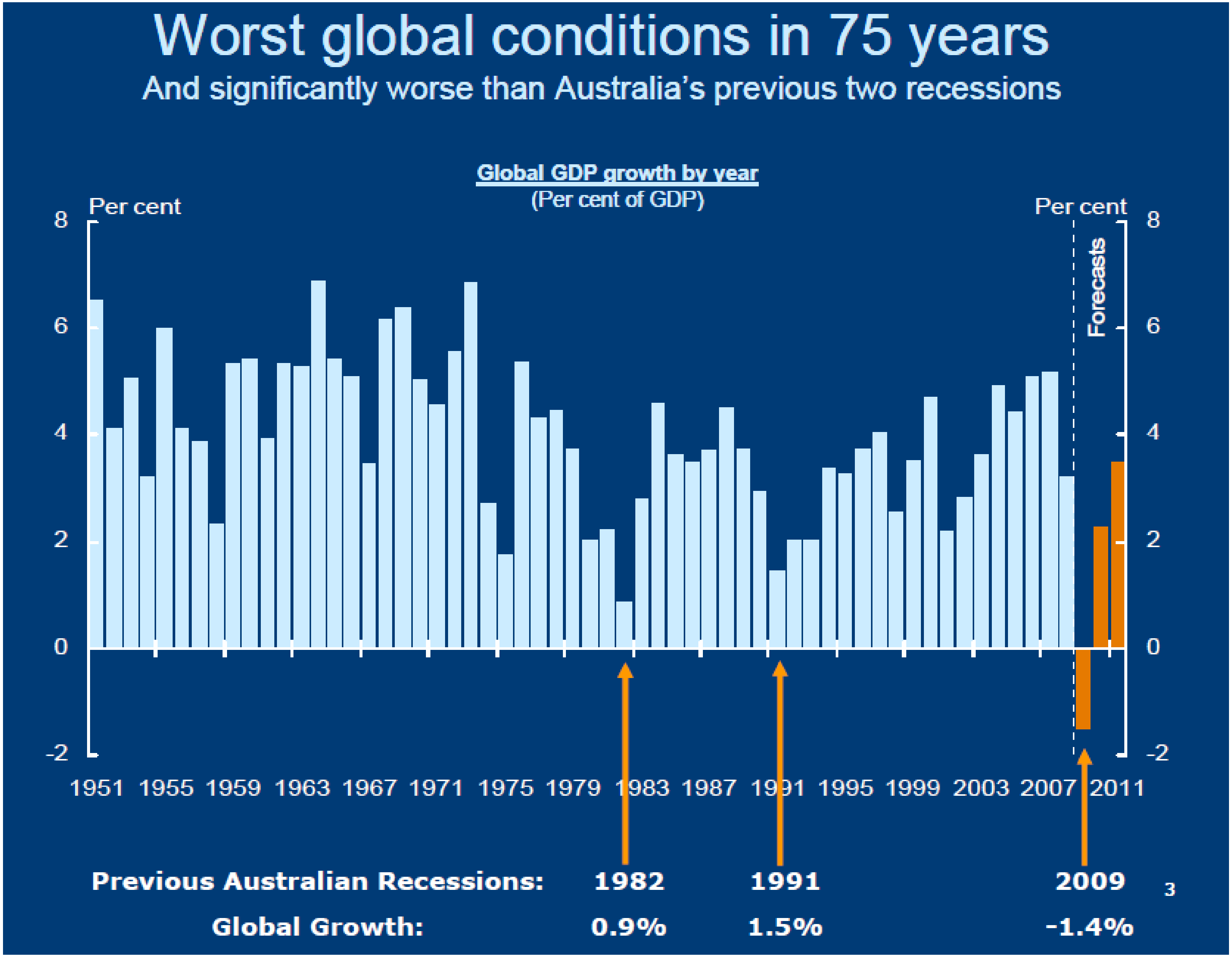


Sources: U.S. Census Bureau; Harvard University- State of the Nation's Housing Report 2008

Mortgage boom/bust in US



Sweeping wave of repossessions

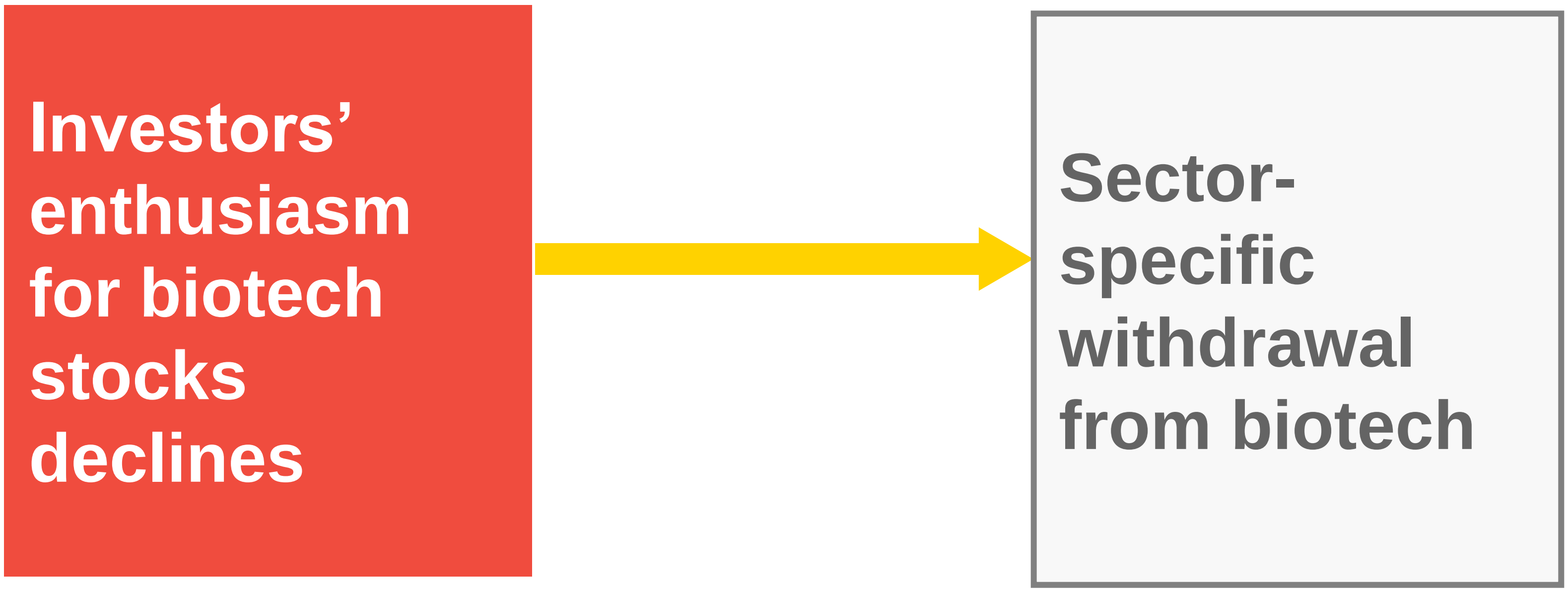


Rudd, AIG Forum 17 Aug 2009

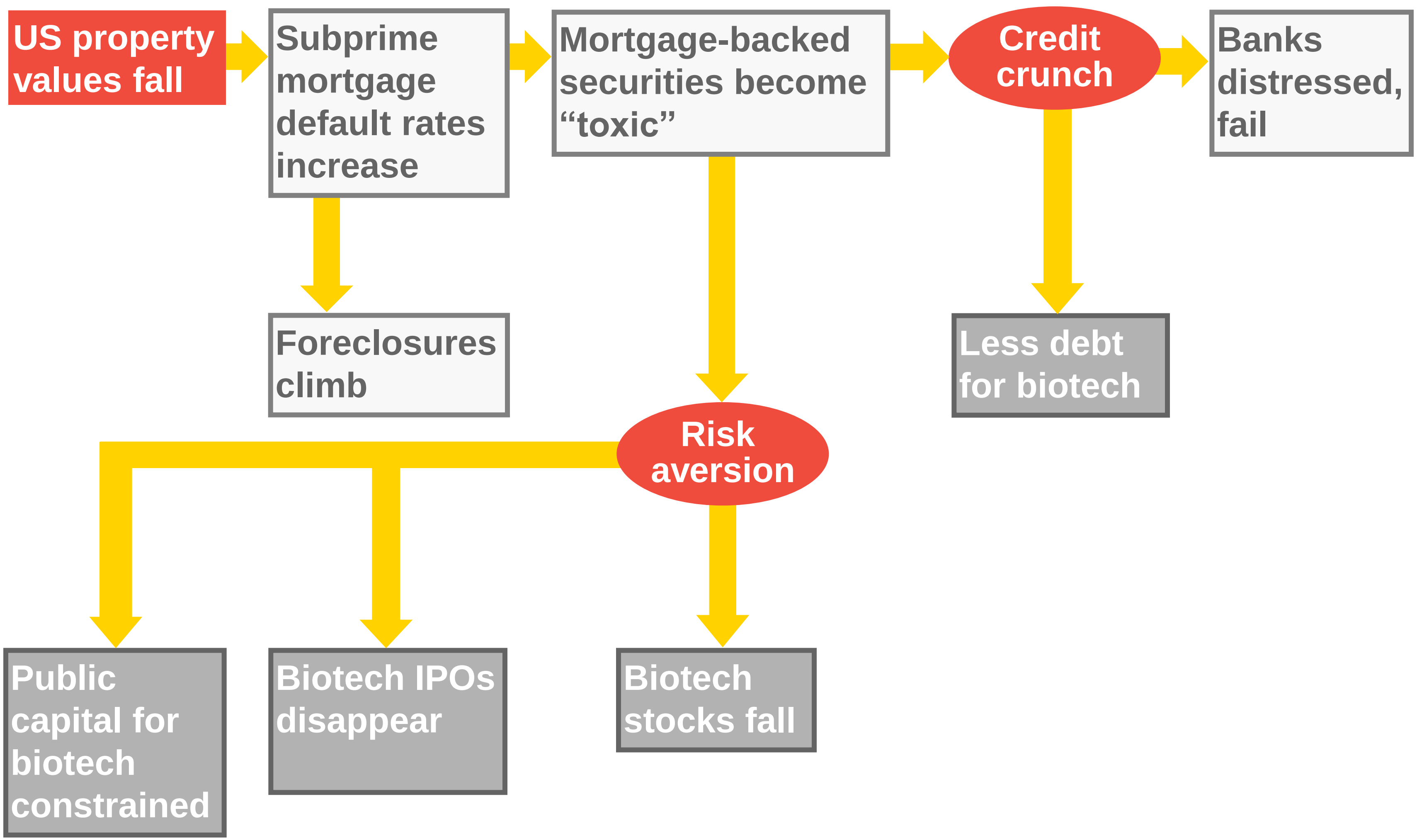
What happened to Life Sciences Biotech?

Beyond borders. Global biotechnology report 2009 (ey.com/beyondborders)

All Previous Crises



Housing Mkt Sneezes, Biotech Catches Cold



2008 E&Y Report: Robust Financial Results

- Double-digit revenue growth
- Net loss improves
- Deal activity remains strong

- Revenue grows 12% to US$90b
- Net loss falls 53%
- US reaches aggregate profitability
- New deal highs in US market

2009 E&Y Report: Systemic Crisis & Doubt

- Valuations plummet
- Financing falls sharply
- Haves and have-nots

- Markets down, Co's trading below cash
- Funding down 46%
- Large numbers with <1 year cash
- Restructurings up

Listed Australian Biotechs

Biotech Sector KPIs

	2008	2007
No. of companies (31/12)	128	131
Biotechs >$100M cap	9	25
Bioshares Index (change)	-60.0%	-14.2%
Nasdaq Biotech Index	-12.6%	4.6%
Capital raised ($M)	$183	$943
IPOs (Num)	3	11
Ave IPO raise ($M)	$5	$17
CEO Separations	19	23

On June 30 2008, 22% biotechs with < 6 months cash

On June 30 2009, 39% biotechs with < 6 months cash

2008/09 - 17 companies left the sector

GFC was imposed on a sector that was already re-thinking strategy

Armageddon Meets Pharmageddon

Armageddon – applied to current financial turmoil

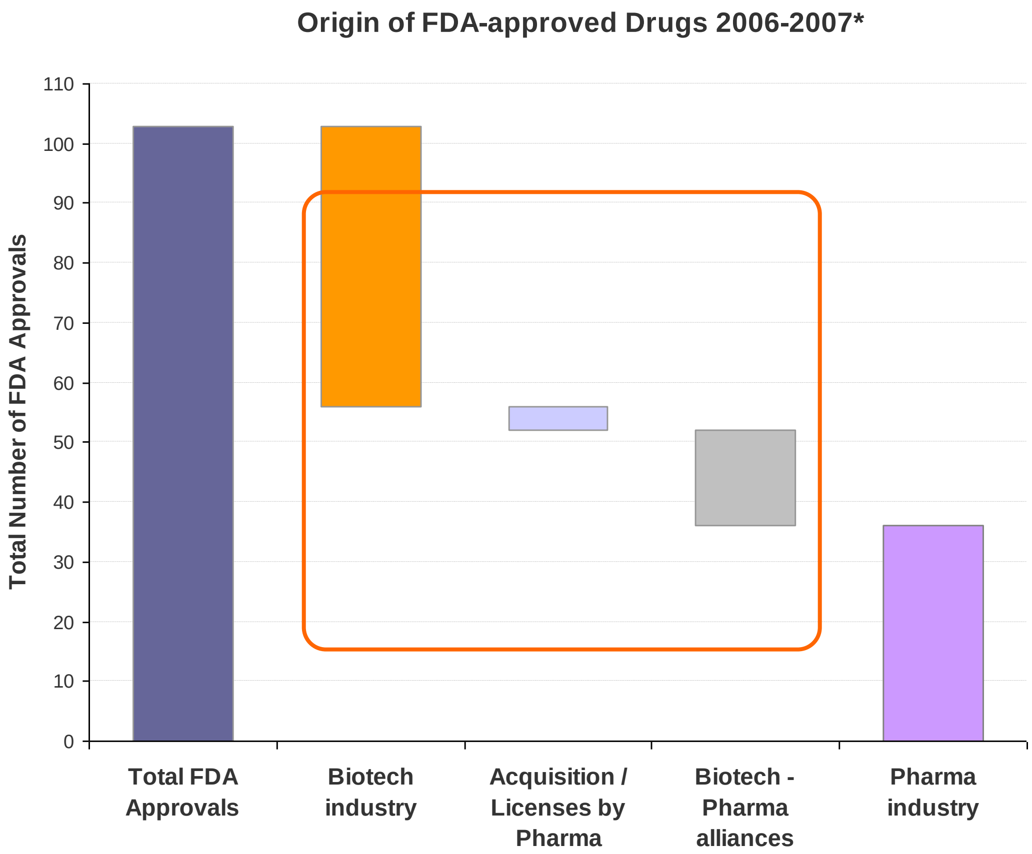
- (Hebrew *har megiddon*, `hill of Megiddo') An archaeological site in Israel on the plain of Esdraelon to the south of Haifa. In the New Testament, Armageddon is the name given to the last battle between good and evil before the Day of Judgment (Revelations 16:16)
- Leading to the re-making of the global economy

Pharmageddon – Big Pharma's own crisis

- Patent cliff - $64 B income loss 2009-2016
- Pipelines deficient
  - 2007, fewest NMEs approved in last 25 years
- Leading to the re-making the global industry
- Opportunities for biotech industry

Can the Biotech Industry Emerge Stronger?

Biotechs Now Dominate New Drug Approvals



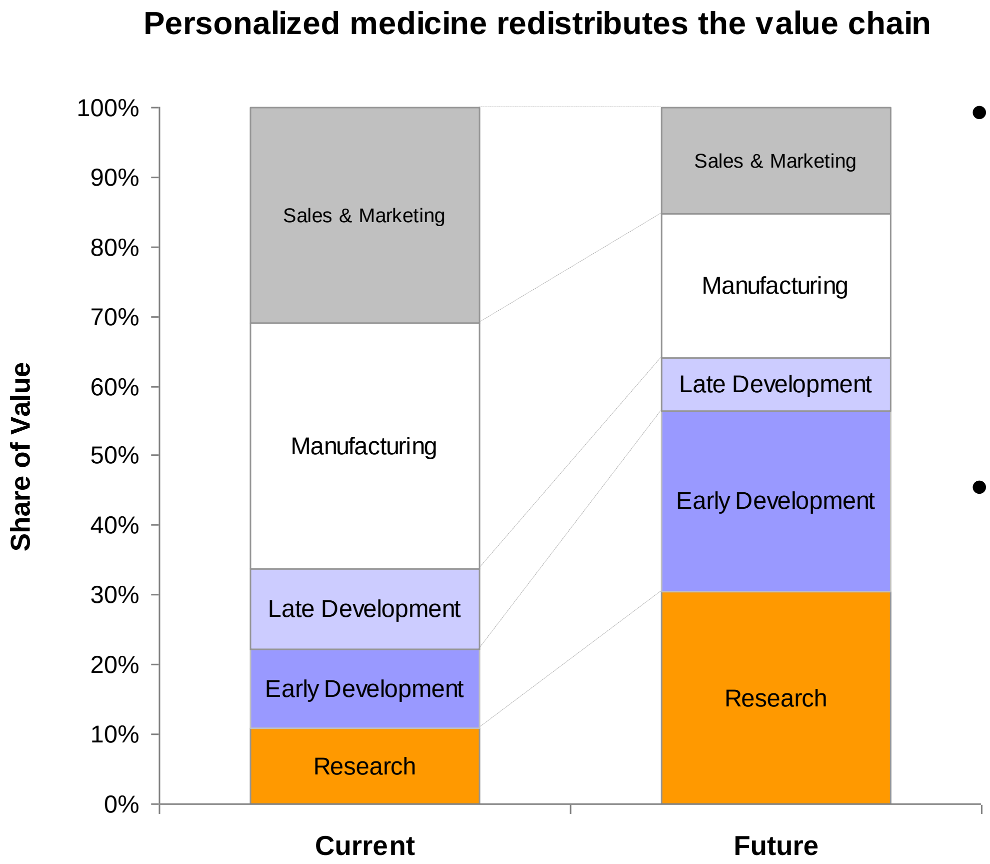
- **65% of all FDA-approved drugs in 2006-2007 originated from Biotech companies**

  Biotechs were responsible for OVER HALF of all NOVEL DRUGS approved by the US FDA in 2006–2007

  This is despite more failures because of higher risk taking & inexperience with pathways to regulatory approval

Source: Nature Reviews Drug Discovery 7:198, 2008 * Includes NME's, line extensions and me-too's

Value is Accruing to Novelty & Efficacy

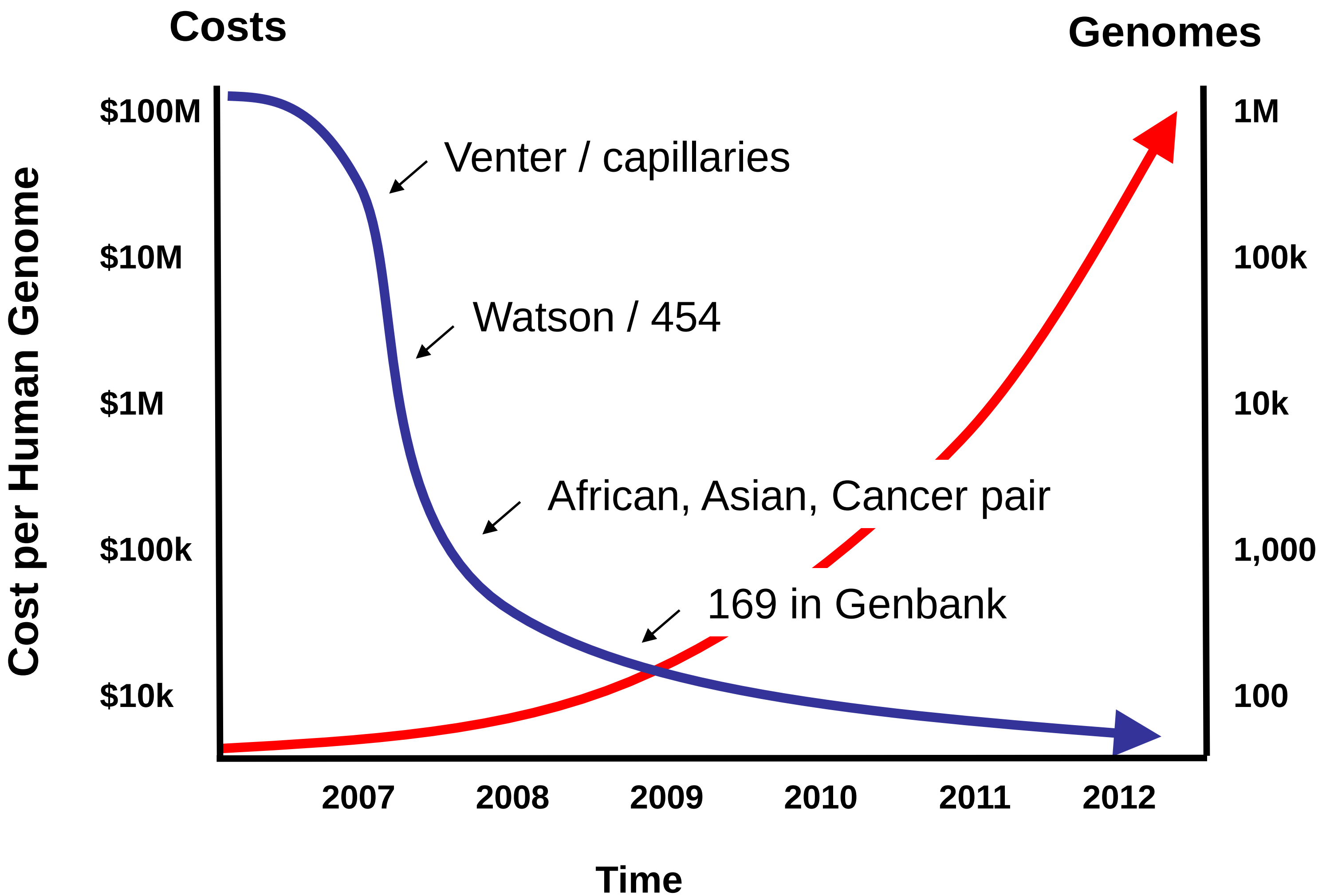


- Re-distribution of value chain places greater emphasis on early stage R&D

- Biotech companies anywhere in the world should be able to progress products further and command higher returns when they do exit or out- license

Source: Ernst & Young – Beyond Borders 2008

Era of Unprecedented Advances

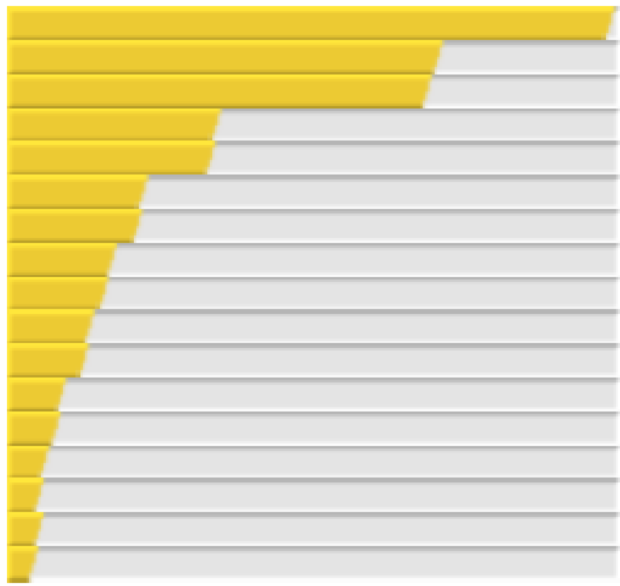


2009 – A tipping point in genome sequencing

US Venture Investment – 2Q 09

Investments by Industry / Q2 2009

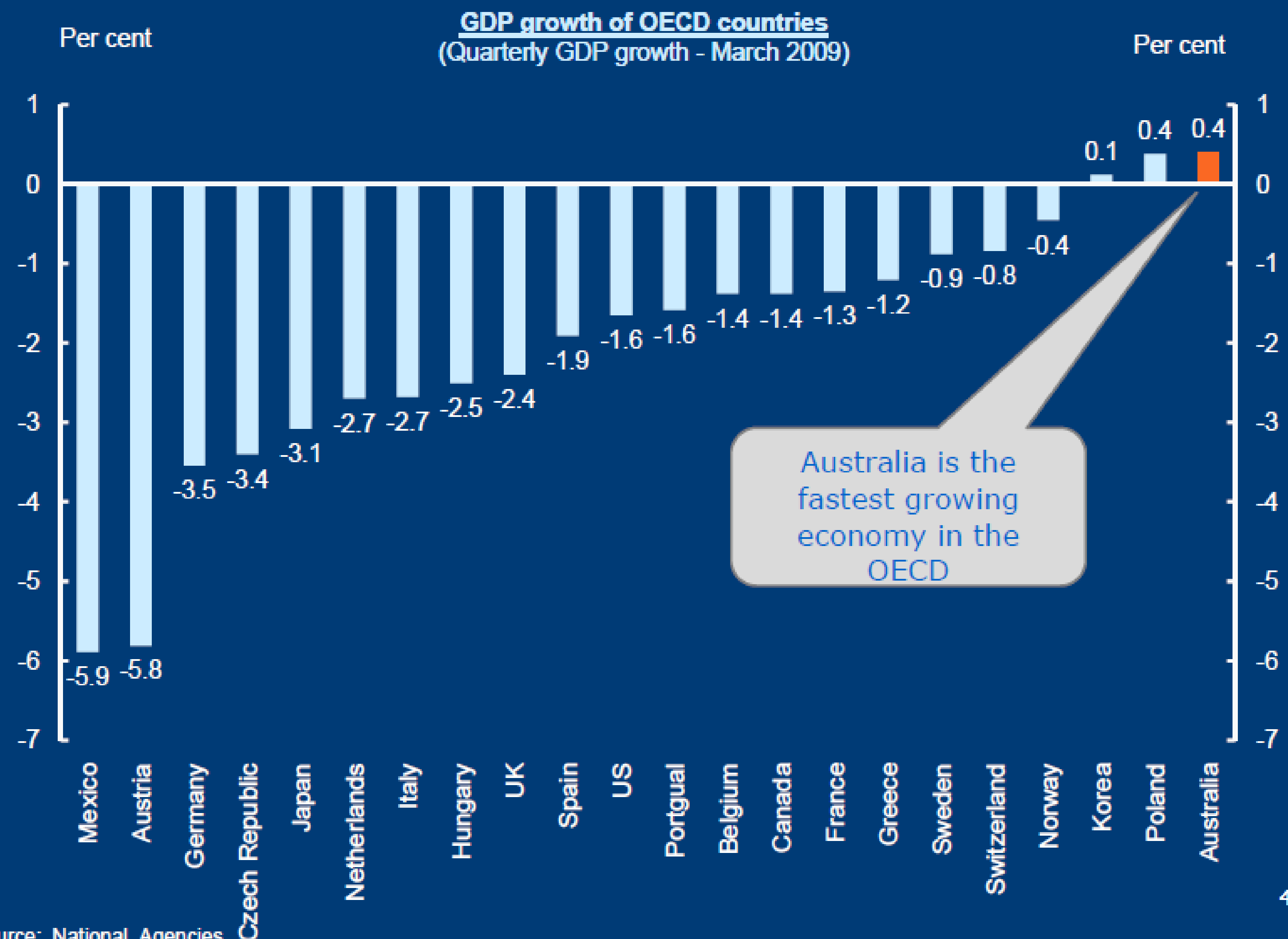
Industries Defined	Total $ Invested	Average $ Per Deal	Deals
All	$3,674,427,000	$6,003,966	612



	Amount	% of Total	Deals
Biotechnology	$888M	24.17%	85
Software	$644M	17.53%	135
Medical Devices and Equipment	$628M	17.10%	75
IT Services	$295M	8.03%	44
Industrial/Energy	$287M	7.80%	53
Networking and Equipment	$180M	4.91%	27
Semiconductors	$170M	4.63%	27
Computers and Peripherals	$132M	3.58%	15
Media and Entertainment	$116M	3.15%	52
Telecommunications	$95M	2.58%	26
Electronics/Instrumentation	$85M	2.30%	14
Business Products and Services	$50M	1.35%	15
Consumer Products and Services	$44M	1.18%	15
Healthcare Services	$23M	0.62%	7
Retailing/Distribution	$18M	0.48%	5
Financial Services	$16M	0.43%	11
Other	$6M	0.15%	6

www.pwcmoneytree.com

Australia stronger than other OECD economies



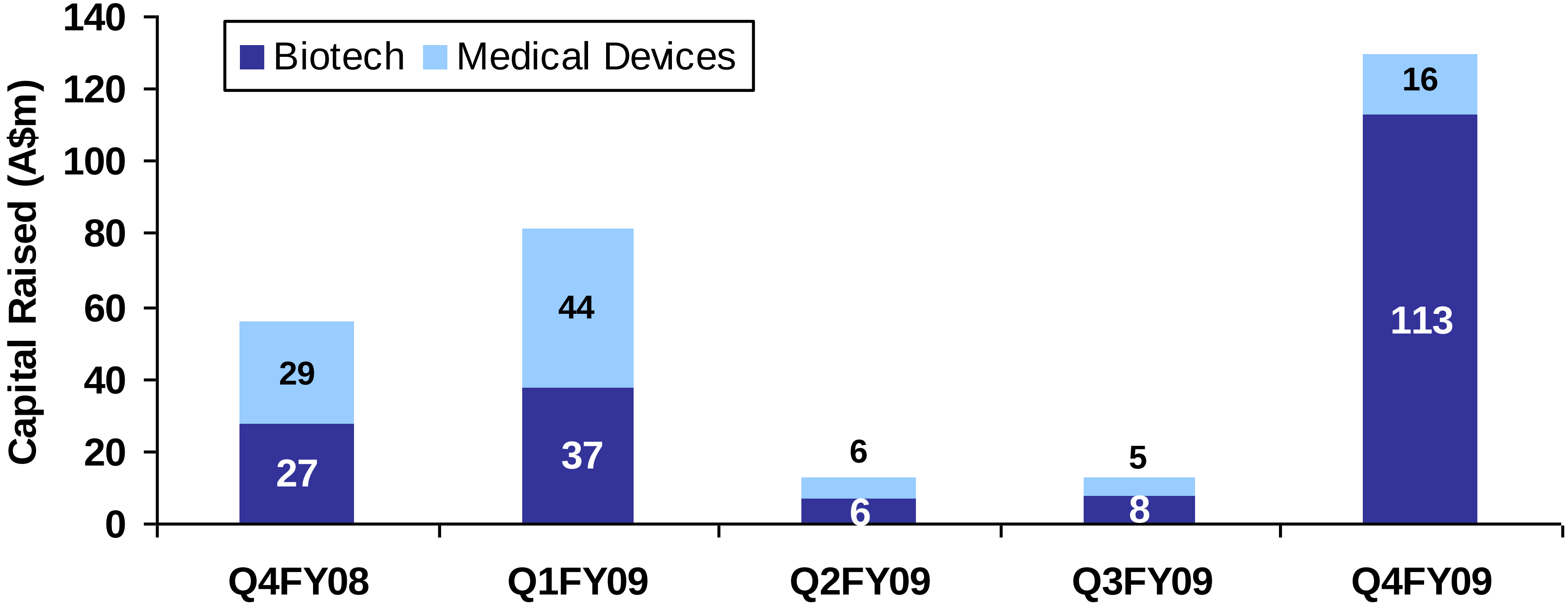
Source: National Agencies.

Rudd, AIG Forum 17 Aug 2009

Australian Biotech

- 55 products in clinical trial
- 11 Phase III studies underway or being planned
- CSL, ResMed, Cochlear – elaborate manufacturing
- Market cap ~ $30 B
- Stable, talented workforce
- 20 profitable companies in sector posting strong results
- State & Federal government support

Life Sciences 2 Financing in Australia by Q



Excluding $1.9b CSL raising in Q1FY09

the inaugural

Australasian

Life Science Investment Summit

Investment Growth **Future**

AusBiotech

Tuesday 27 October 2009 • Melbourne, Australia
(Immediately preceding the AusBiotech 2009 National Conference)
www.ausbiotech2009.com.au

Victoria AUSTRALIA

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