

FDA and Nanotechnology: Public Perceptions *Matter*

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October 10, 2006

Project on
Emerging Nanotechnologies
at the Woodrow Wilson International Center for Scholars





Nano: On FDA's Doorsteps



Over **320** consumer products on the market from **17** countries, using a variety of nano materials (carbon, silver, zinc oxide, titanium dioxide).

Cosmetics: 58 cosmetics (largest category in our inventory)

Dietary supplements: 16 supplements of various kinds

Foods: 3 foods (canola oil, nano "slim" shake, and a "nanotea" from China)

Food contact items: 10 (this includes food storage containers, refrigerators, a nanosilver cutting board, and a "nano cleaning agent" for food from China)

Drugs & Biomedical Devices: At least 9 drugs currently on the market (for breast cancer, cholesterol-lowering, topical estrogen therapy, and anti-nausea for chemotherapy side effects).

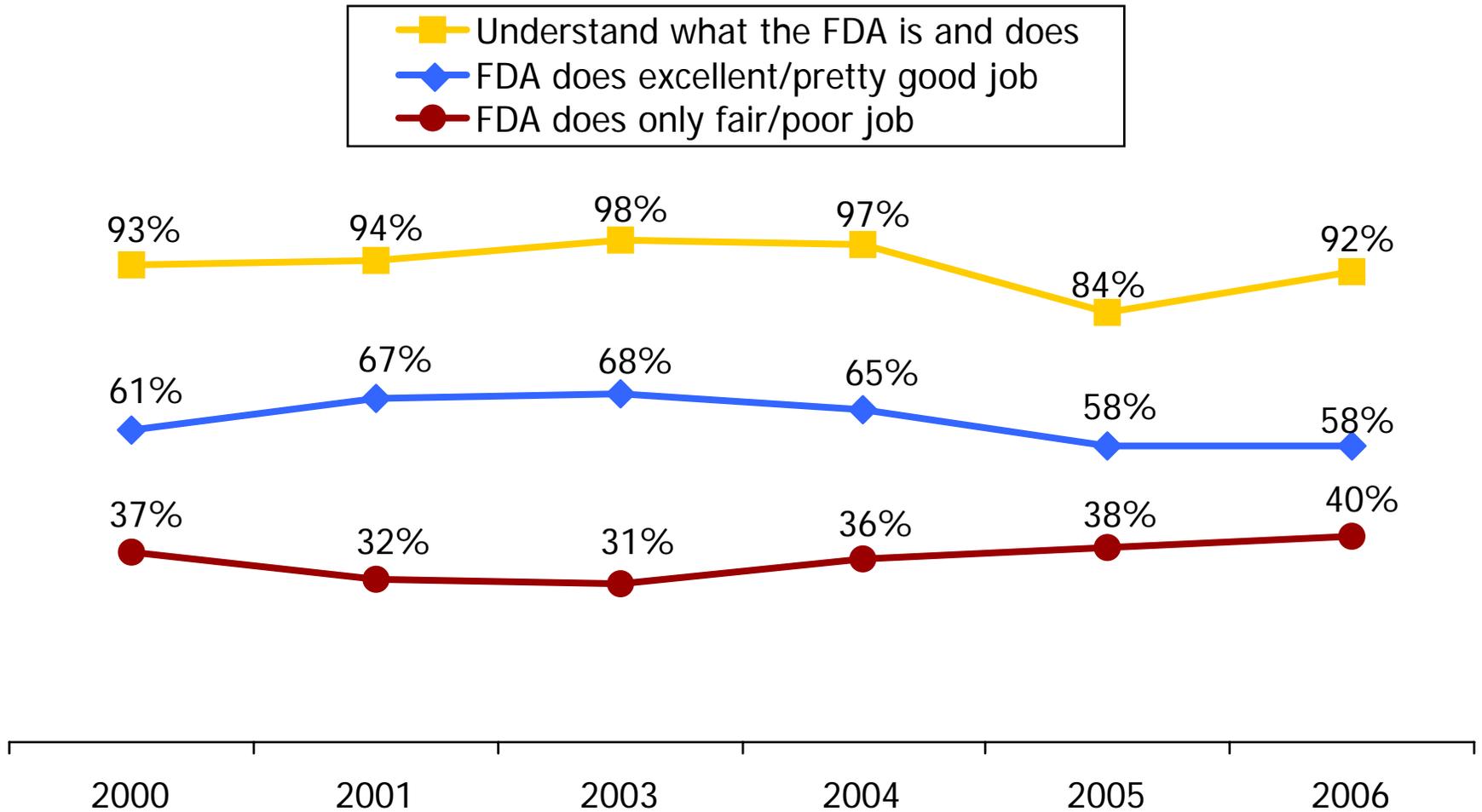
New Japanese data: 200+ consumer products, with 87 cosmetics and 10 products listed as food

See: www.nanotechproject.org/inventories

The Stakes Are High

- Worldwide public and private sector investment in nanotech R&D now exceeds \$10 billion annually.
- 2005 market size for nanotechnology drug delivery systems alone was estimated at \$980 million, expected to grow 54% annually over the next five years.
- Sales of nanotherapeutics, like nanosilver-based wound dressings, were \$28 million last year and are expected to increase every year by 62% through 2010.
- The number of nano-based drugs and biomedical devices in FDA's pipeline increased by 67% last year.
- Food industry experts project that nanotechnology will be incorporated into \$20 billion worth of consumer products globally by 2010.

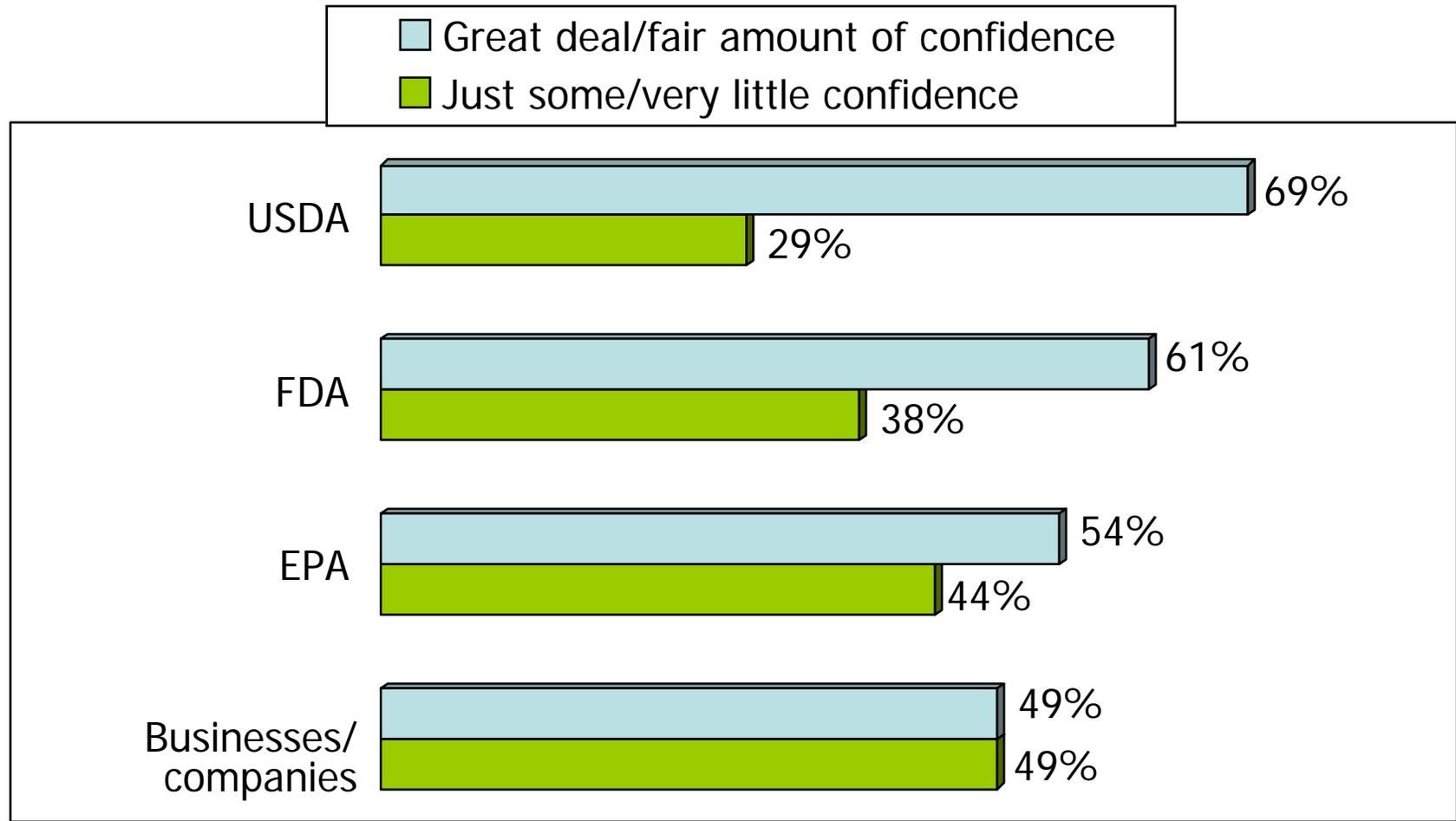
Public Confidence in FDA - Down



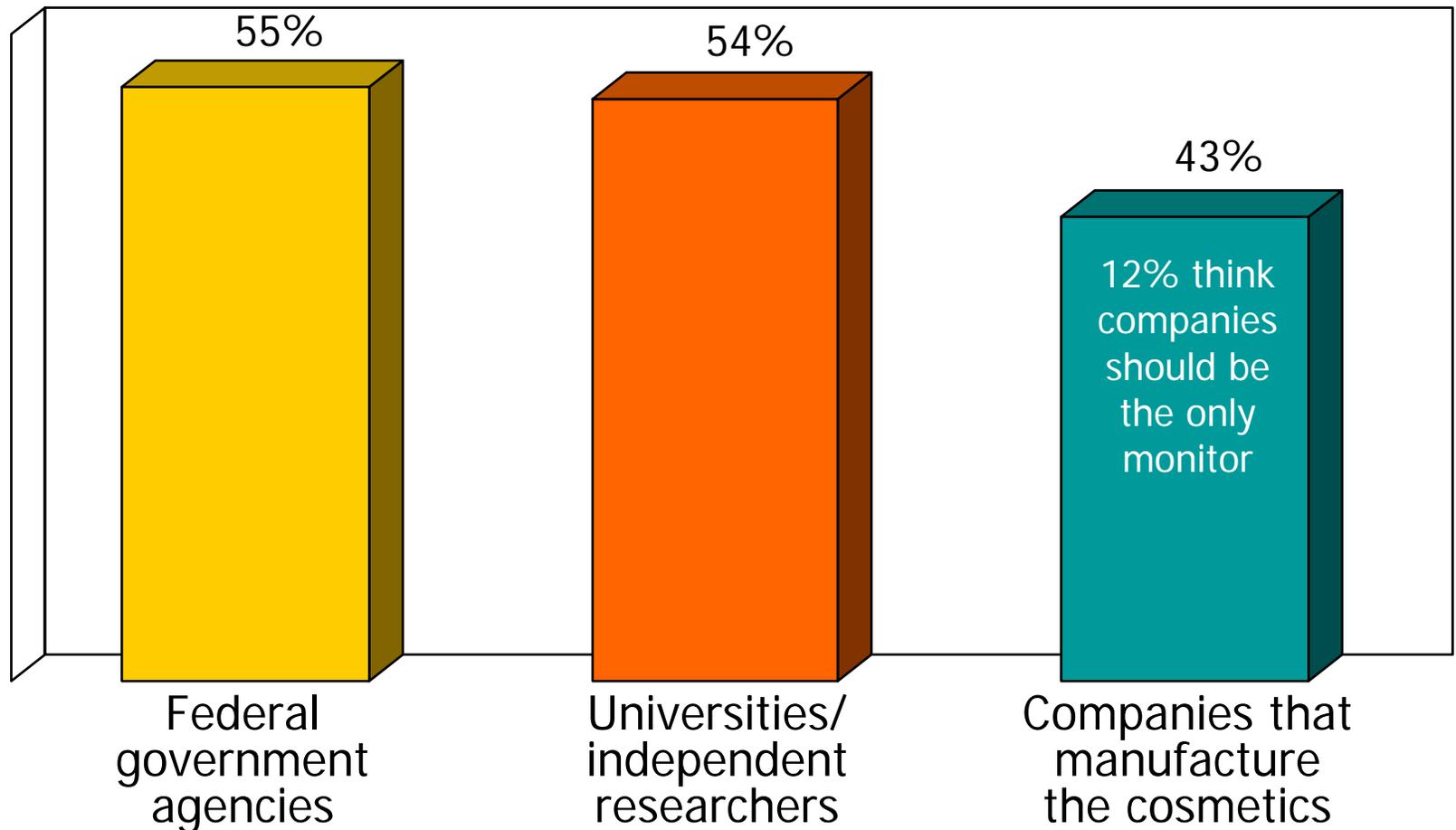
Sources: Harris Interactive 2000 – 2004, Harvard School of Public Health 2005

FDA versus Others

Confidence in Each to Maximize Benefits & Minimize Risks of Scientific/Technological Advancements



Who Should Monitor Cosmetics For Safety And Effectiveness?



Initial And Informed Impressions Of Risks/Benefits Of Nanotechnology

	Initial Impression		Informed Impression	
	Benefits outweigh	Risks outweigh	Benefits outweigh	Risks outweigh
All adults	16%	35%	26%	49%
Men	21%	39%	34%	45%
Women	10%	31%	19%	53%
Age 18 to 34	20%	41%	31%	45%
Age 35 to 49	18%	34%	25%	53%
Age 50 to 64	15%	36%	25%	52%
Age 65 and older	7%	26%	20%	47%
Men age 18 to 49	25%	40%	35%	44%
Men age 50 and older	17%	36%	32%	47%
Women age 18 to 49	12%	35%	21%	54%
Women age 50 and older	8%	28%	16%	52%
Income under \$30K	11%	38%	21%	48%
Income \$30K to \$50K	11%	34%	21%	56%
Income \$50K to \$75K	16%	39%	26%	53%
Income over \$75K	26%	34%	38%	41%

Public Comments



FDA and Cosmetics

- “I think it’s definitely [the FDA’s] **responsibility** or their job to, with cosmetics, make sure that it’s safer for consumers...I think that if I had a product that was tested by the FDA, that I would feel more confident in using it.”
- "I think [the FDA] needs to be **responsible**. They need to have the manufacturer report to them, and they need to test supplies and products."

FDA and Nanotechnology

- “I would ask the FDA to **oversee** the research of nanotechnology as well as **oversee** the cosmetics industry”
- I would ask them to take the time it needs to find out the results [of risk research] ... **Before letting [products] on the market**, before the risk to us.“
- "I want a **watchdog**, you know, other consumer groups to be able to access [the FDA's risk research results].“

Nanotechnology and Industry

- "I think [manufacturers need] a **campaign to educate** people [saying]: ‘This is a technology, we don't know everything about it. ... these are some risks, but we think it's a better product, and this is why you want to use it.’“
- "I would say they should make sure they are really improving the products before they take on this unknown technology that could actually do a lot of damage."

Building Confidence in Nanotechnologies

Little public support for:

- A moratorium on nanotechnology research and development
- Industry self-regulation

When asked “How can public confidence in nanotechnologies be improved?” people converge around three recommendations:

- 1. Greater transparency and disclosure**
- 2. Pre-market testing**
- 3. Third-party testing and research**

Trust: The Ultimate Currency

“If you once forfeit the confidence of your fellow citizens, you can never regain their respect and esteem.”

Abraham Lincoln

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