

# Overview of US China ATP Trade



UNITED STATES  
INTERNATIONAL TRADE COMMISSION

*By Alex Hammer, Robert Koopman, and Andrew Martinez  
Office of Economics*

*Disclaimer: The views expressed are those of the authors and  
not those of the USITC or any of its Commissioners.*



## U.S.- China ATP Trade

- Challenges classifying ATP trade –
  - How to identify AT products out of thousands of tariff lines?
  - We use U.S. Census definition, which is a dynamic approach to classification. Applied these definitions to both US and China data. See Ferrantino, Koopman, Wang, Yinug, Chen, Qu, and Wang 2008 for more details. Can be found at [http://www.brookings.edu/~media/Files/rc/papers/2008/spring\\_china\\_btc/spring\\_china\\_btc.pdf](http://www.brookings.edu/~media/Files/rc/papers/2008/spring_china_btc/spring_china_btc.pdf)
  - It is not associated with any particular policy objectives.
  - There are no competing international standards.
- Even more challenging to look at Environmental and Clean Energy products – no agreed upon classification schemes. We did some preliminary work, but not reported here.
- We used a simple approach
  - look where US and Chinese bilateral export patterns diverged from their exports to the rest of the world.



# We use 10 broad categories

- Biotech
- Opto-electronics
- Electronics
- Advanced Materials
- Weapons
- Life Sciences
- Information and Communication
- Flexible Manufacturing
- Aerospace
- Nuclear Technology.



# Definitions

## General Advanced Technology Product Definitions

Code	Definition
(01) Biotechnology	Focuses on medical and industrial applications of advanced scientific discoveries in genetics to the creation of new drugs, hormones and other therapeutic items for both agricultural and human use.
(02) Life Science	Concentrates on the application of scientific advances (other than biological) to medical science. Recent advances, such as nuclear resonance imaging, echocardiography, and novel chemistry, coupled with new production techniques for the manufacture of drugs have led to many new products for the control or eradication of disease.
(03) Opto-Electronics	Encompasses electronic products and components that involve the emitting and/or detection of light. Examples of products included are optical scanners, optical disc players, solar cells, photo-sensitive semiconductors and laser printers.
(04) Information & Communications	Focuses on products that are able to process increased volumes of information in shorter periods of time. Includes central processing units, all computers and some peripheral units such as disk drive units and control units, along with modems, facsimile machines and telephonic switching apparatus. Examples of other products included are radar apparatus and communication satellites.
(05) Electronics	Concentrates on recent design advances in electronic components (with the exception of opto-electronic components) that result in improved performance and capacity and in many cases reduced size. Products included are integrated circuits, multi-layer printed circuit boards and surface-mounted components such as capacitors and resistors.
(06) Flexible Manufacturing	Encompasses advances in robotics, numerically-controlled machine tools, and similar products involving industrial automation that allow for greater flexibility to the manufacturing process and reduce the amount of human intervention. Includes robots, numerically controlled machine tools and semiconductor production and assembly machines.
(07) Advanced Materials	Encompasses recent advances in the development of materials that allow for further development and application of other advanced technologies. Examples are semiconductor materials, optical fiber cable and video discs.
(08) Aerospace	Encompasses most new military and civil helicopters, airplanes and spacecraft (with the exception of communications satellites that are included under Information & Communications Technology). Other products included are turbojet aircraft engines, flight simulators and automatic pilots.
(10) Nuclear Technology	Encompasses nuclear power production apparatus. Includes nuclear reactors and parts, isotopic separation equipment and fuel cartridges. Excludes nuclear medical apparatus, which is included under Life Science Technology.

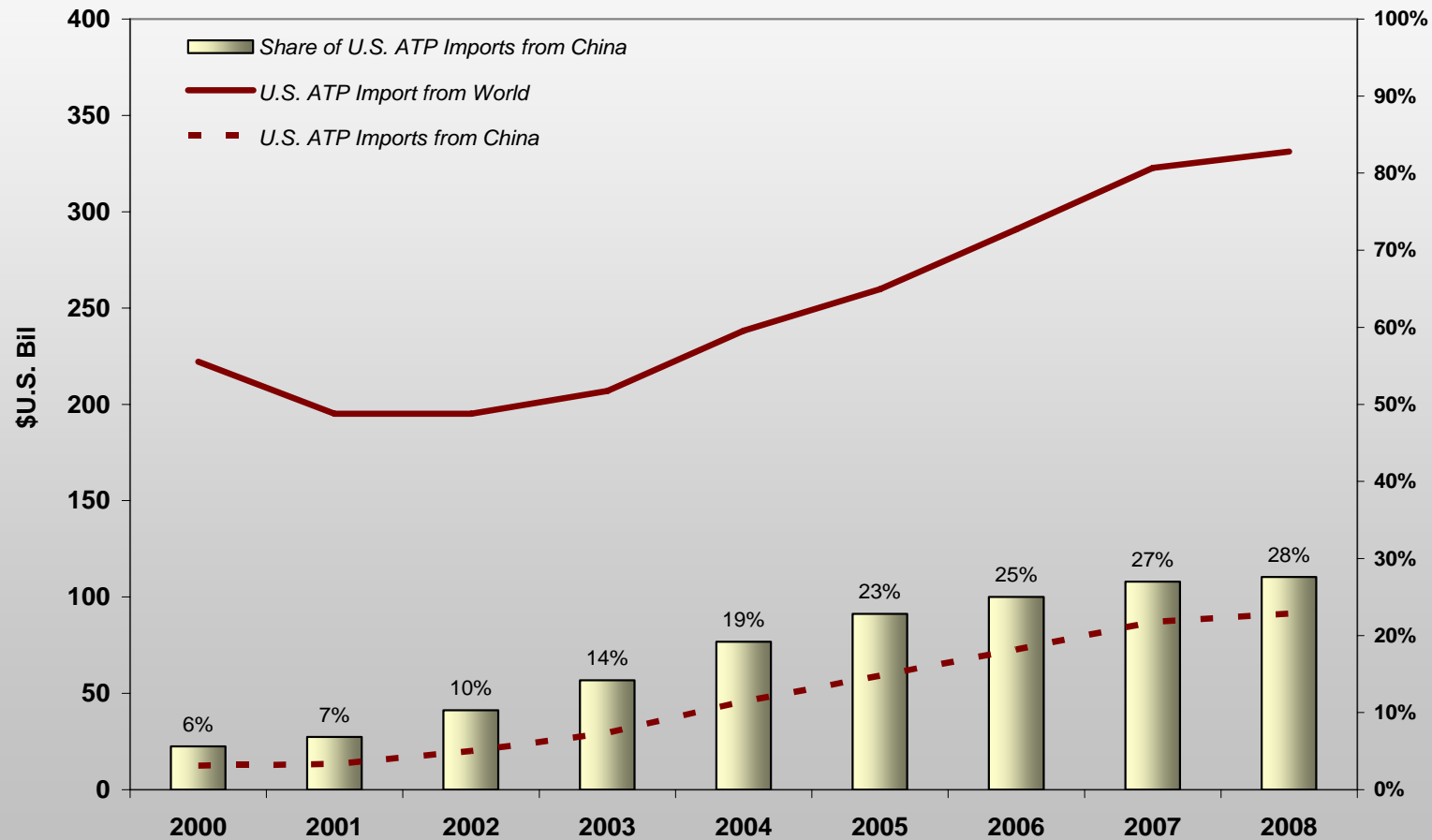


# What we found...

- U.S. exports to China
  - underperform compared to ROW in Biotech, Life sciences, Opto-Electronics, Info and Communication technology, Aero Space, Weapons and Nuclear Technology
  - Do better than ROW in Electronics (recently), Flexible Manufacturing, and Advanced Materials (recently).
- China's exports to the U.S.
  - Underperform compared to ROW in Electronics.
  - fairly comparable to its ROW exports in Biotech, Life sciences, Flexible Manufacturing, Advanced Materials, Aerospace, Weapons, and Nuclear Technology.
  - Do better than ROW in Opto-electronics and Info and Communication technology (recently)



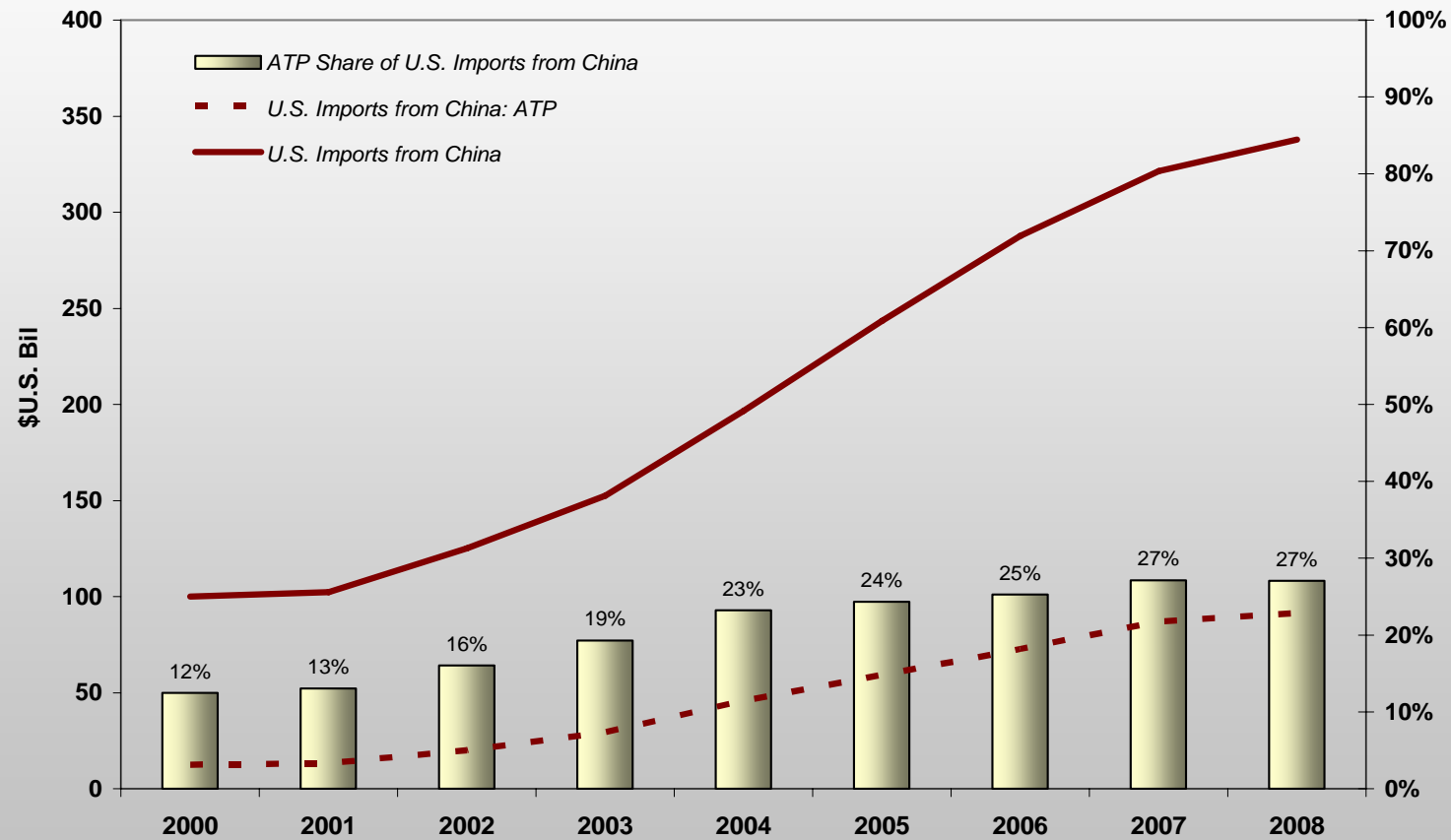
Figure 1: U.S. ATP IMPORTS  
(In \$US Billions)



Source: World Trade Atlas



Figure 2: U.S. ATP IMPORTS FROM CHINA  
(In \$US Billions)



Source: World Trade



Figure 3: U.S. ATP IMPORTS FROM CHINA  
(As share, using U.S. Data)

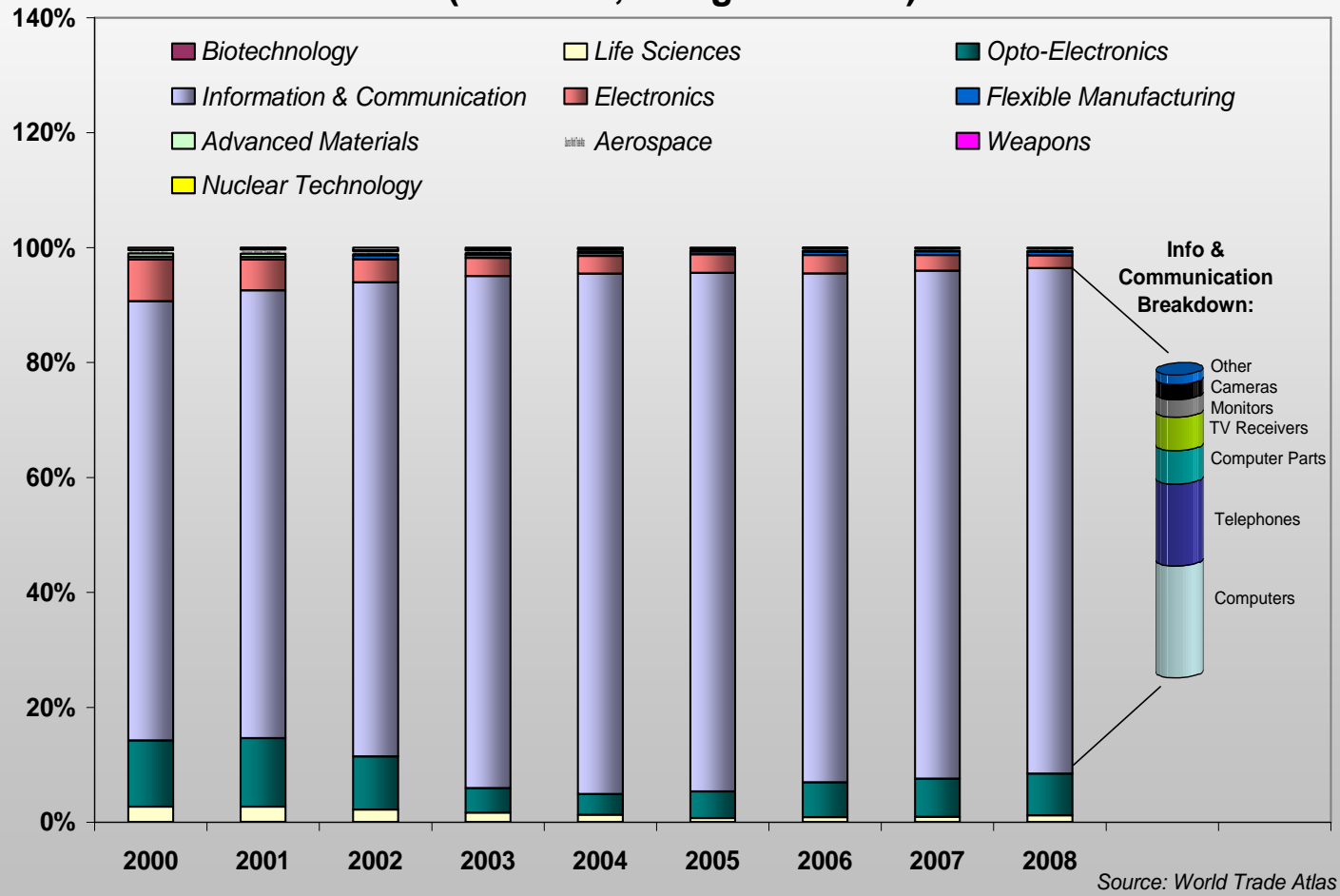
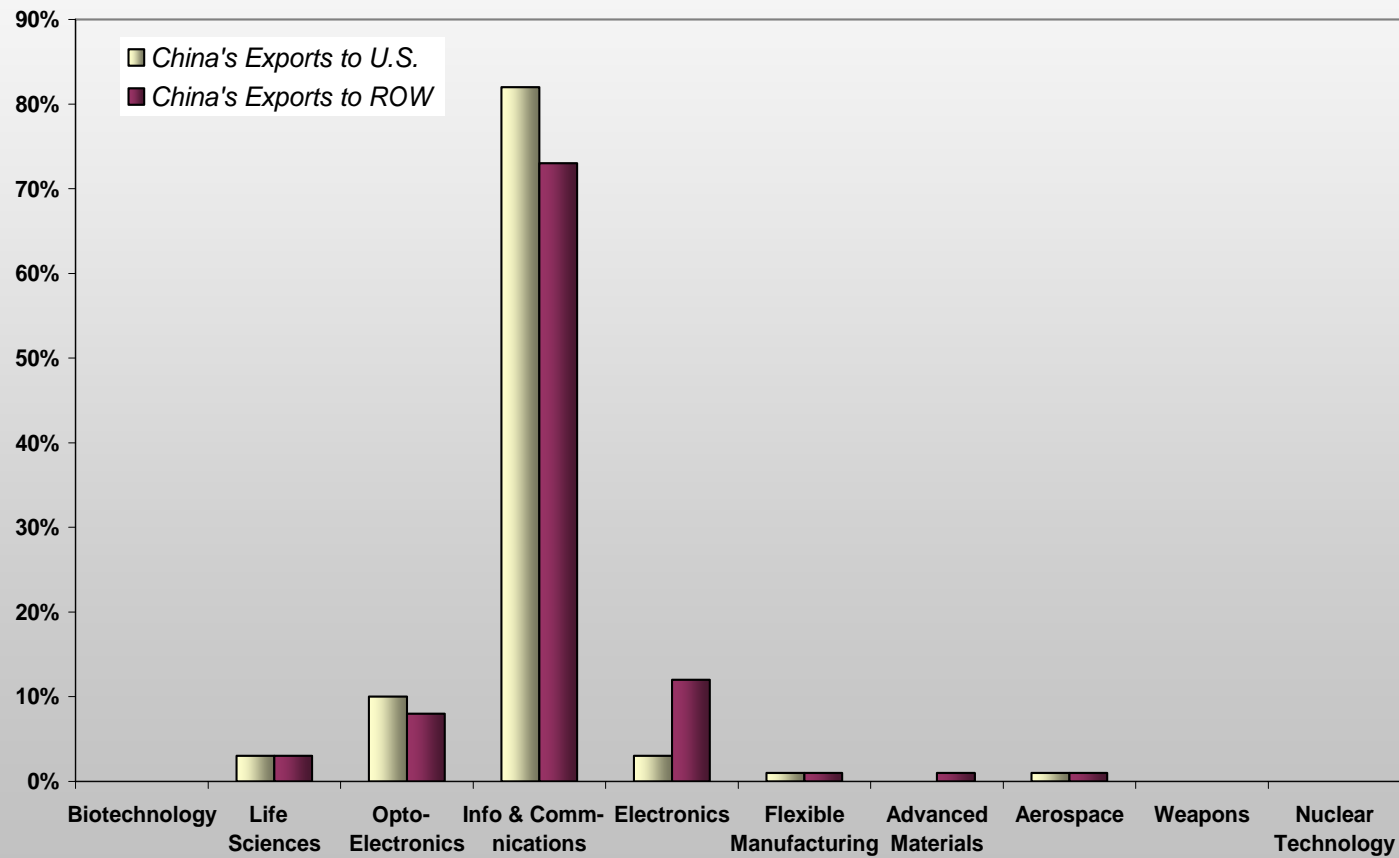






Figure 4: Composition of China's ATP Exports to the U.S. and ROW  
(2008)

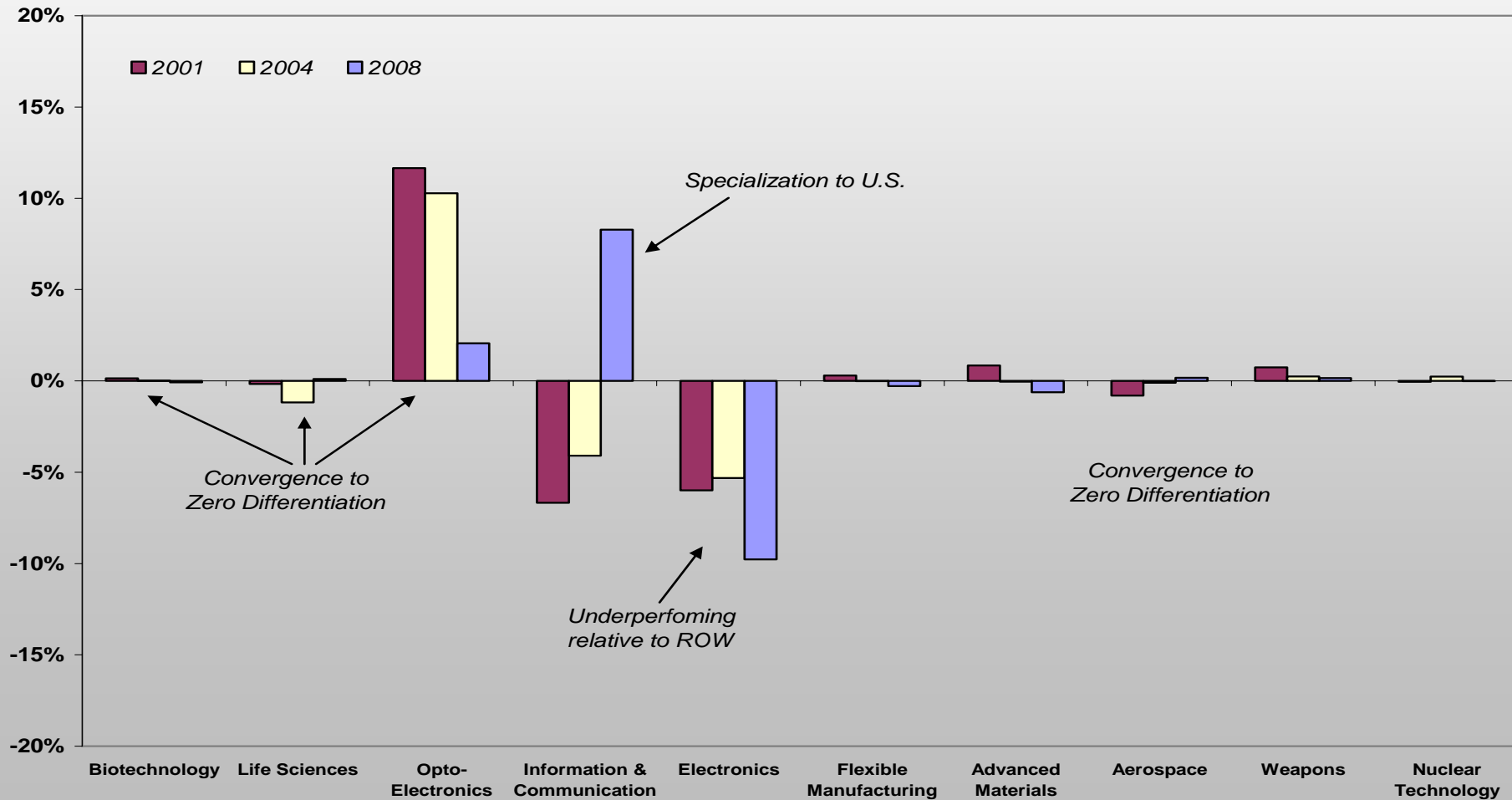


Source: World Trade Atlas



## Distinctive Aspects of China's ATP Exports to the U.S.

Share of China's ATP Exports to U.S. - Share of China ATP Exports to ROW, 2001-2008





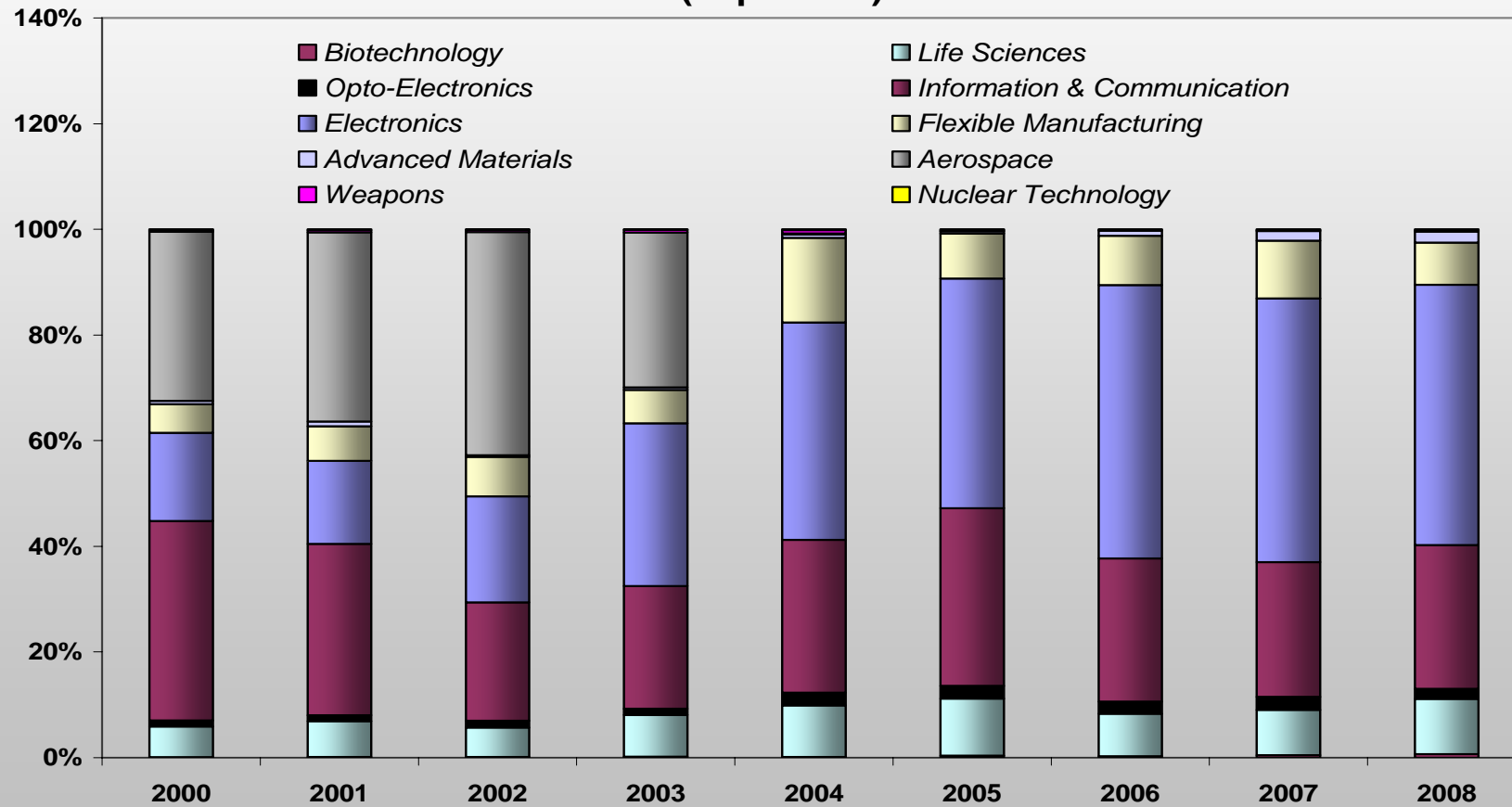
### Figure 1: U.S. ATP EXPORTS TO CHINA (In \$U.S. Billions)



Source: World Trade Atlas



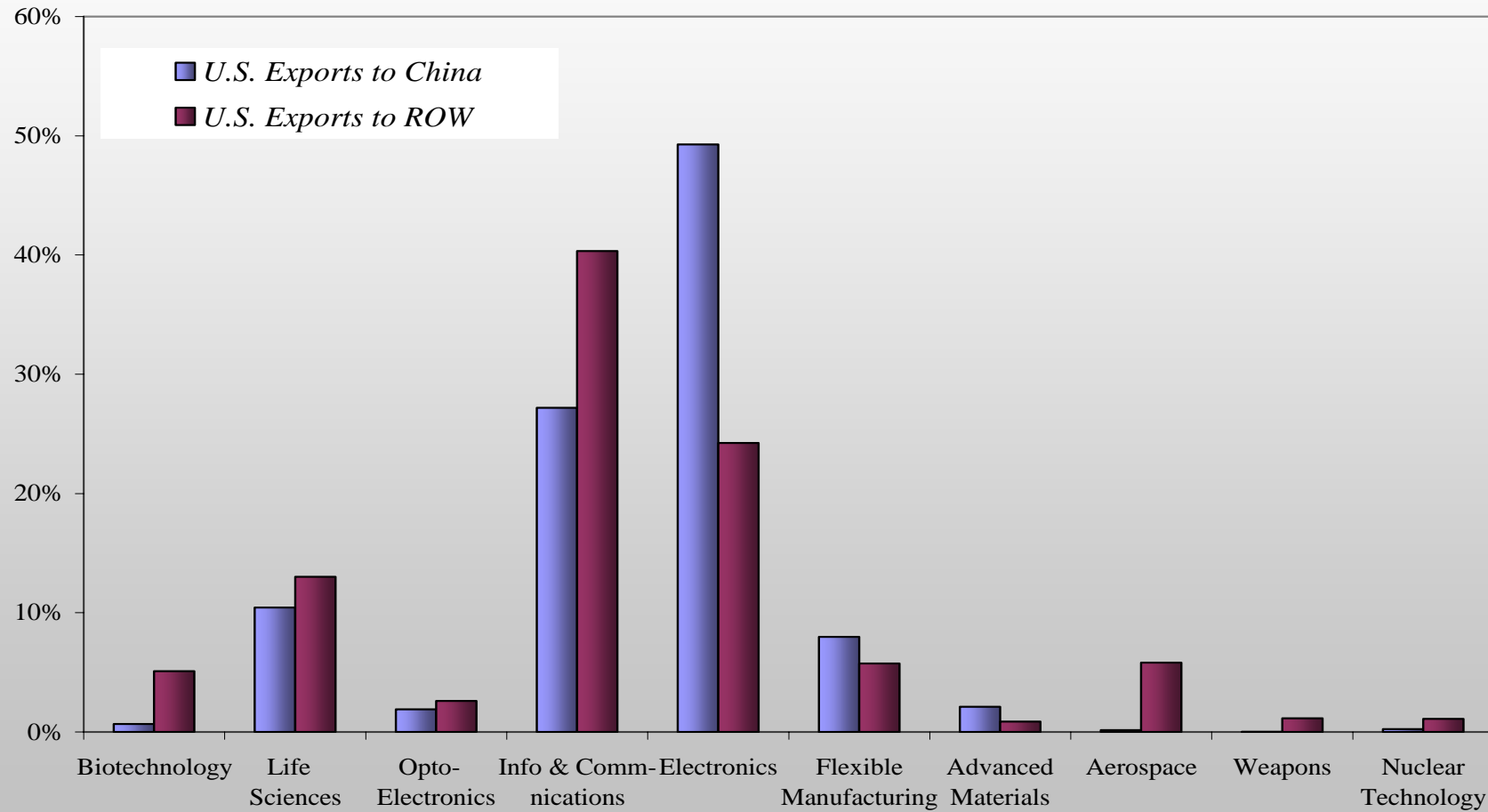
Figure 2: COMPOSITION OF U.S. ATP EXPORTS TO CHINA  
(In percent)



Source: World Trade Atlas



**Figure 3: Composition of U.S. ATP Exports to China and ROW by Sector, 2008**

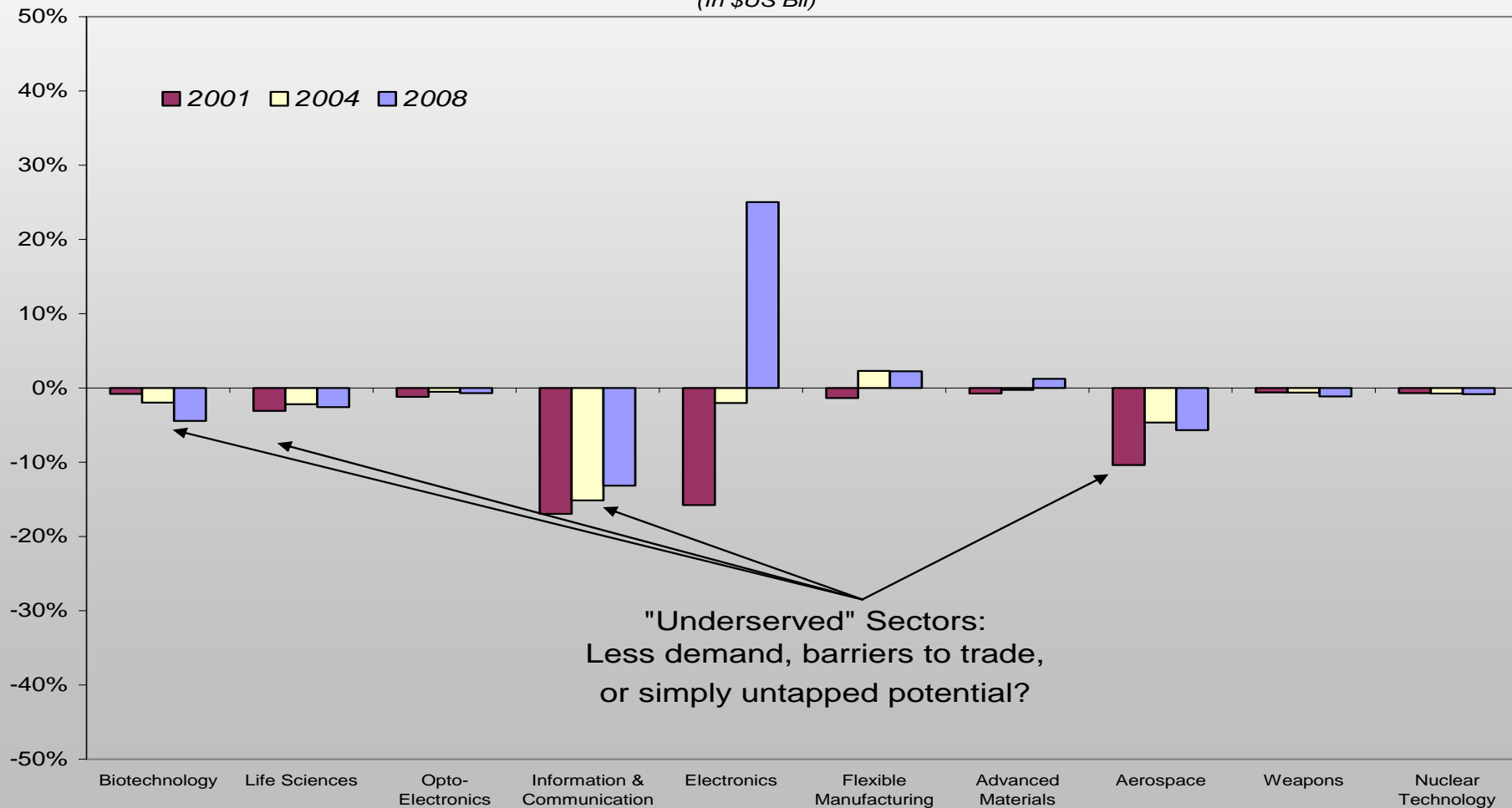


Source: World Trade Atlas



## Distinctive Aspects of U.S. ATP Exports to China (2001-08)

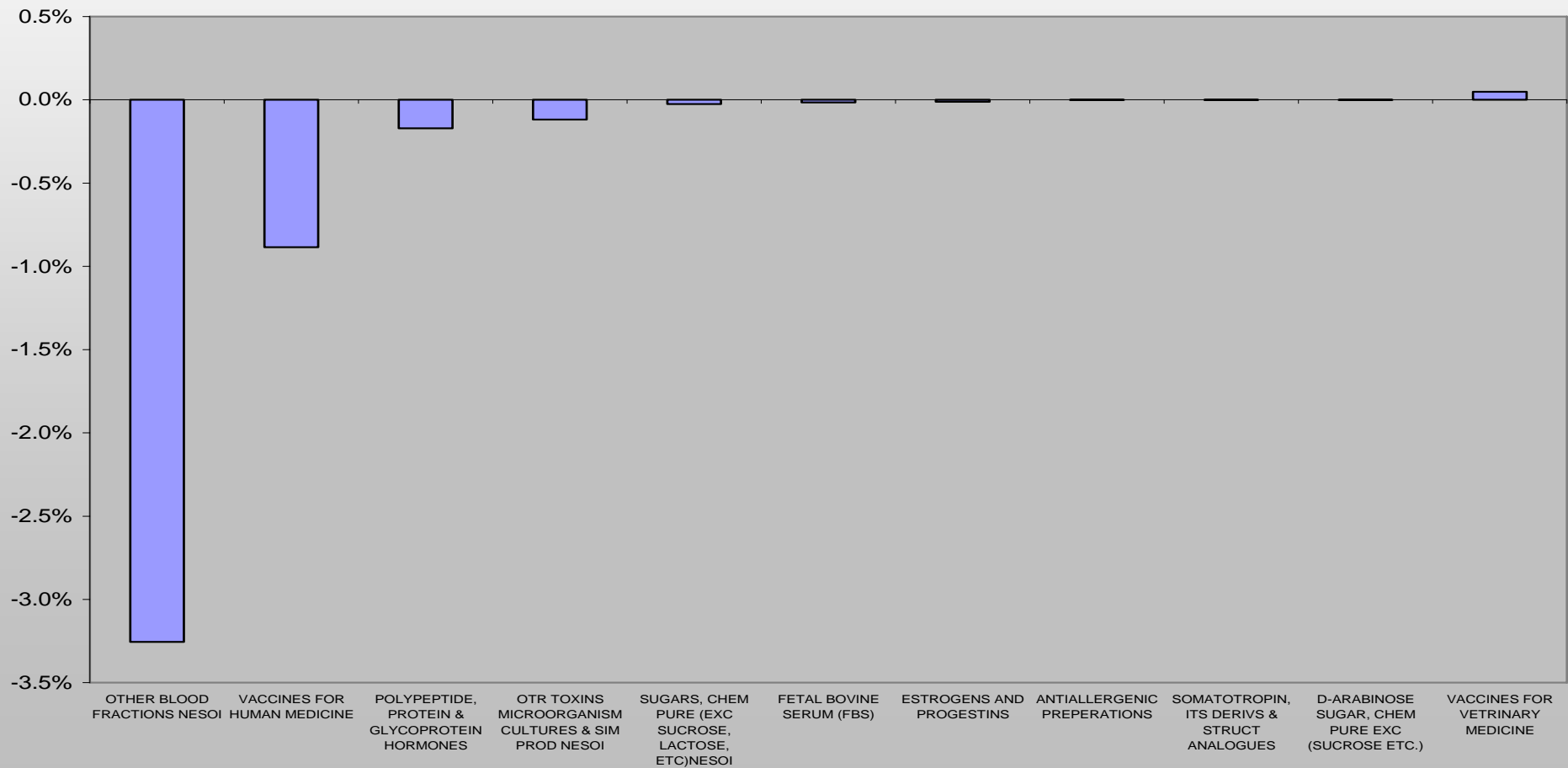
Share of U.S. ATP Exports to China- Share of U.S. ATP to ROW, 2001-2008  
(In \$US Bil)





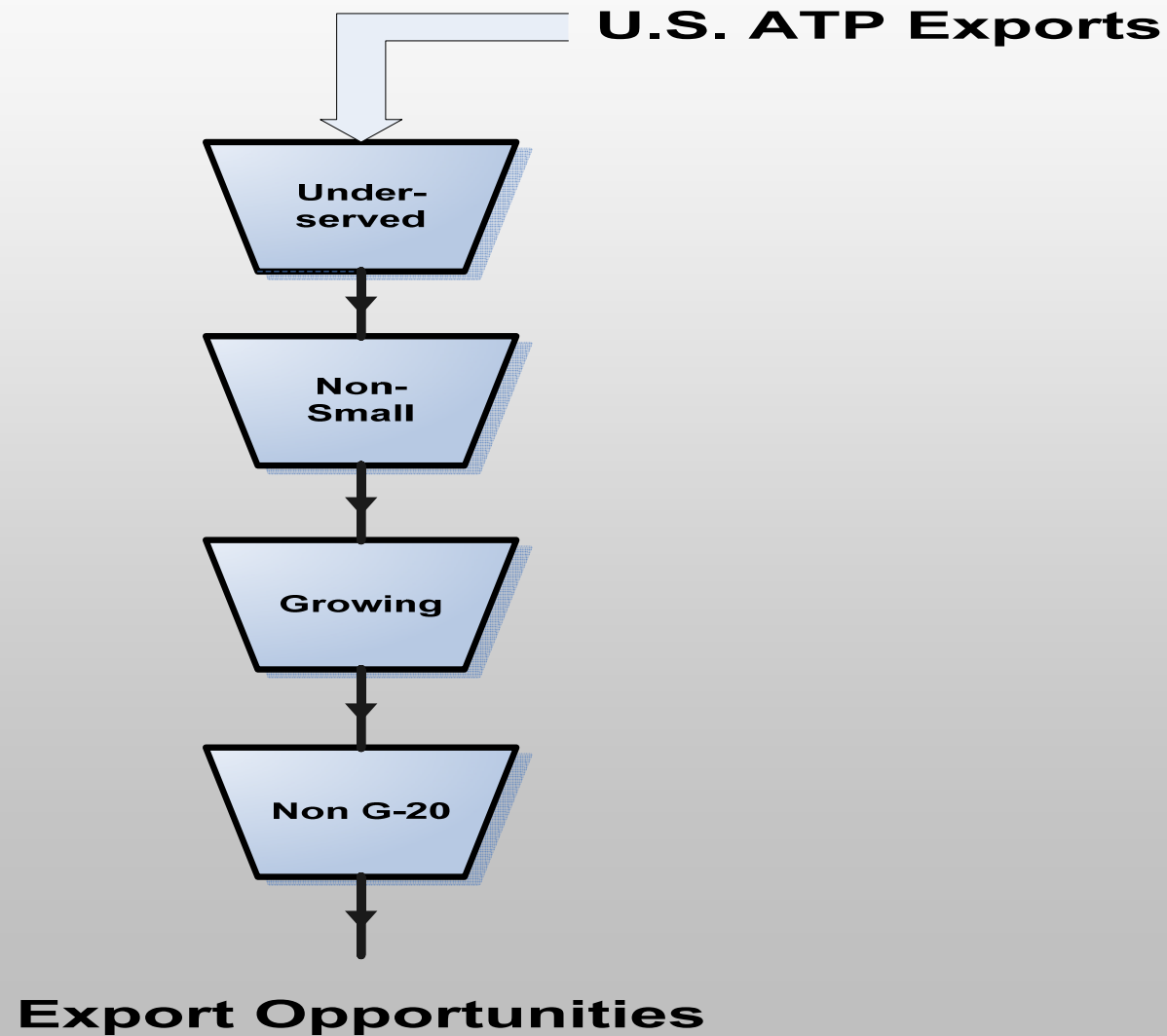
## Opportunities in ATP Biotechnology Exports (2008)

Share of US ATP Exports to China - Share of US ATP Exports to ROW, BIOTECH 2008





## *Filtering the Data*

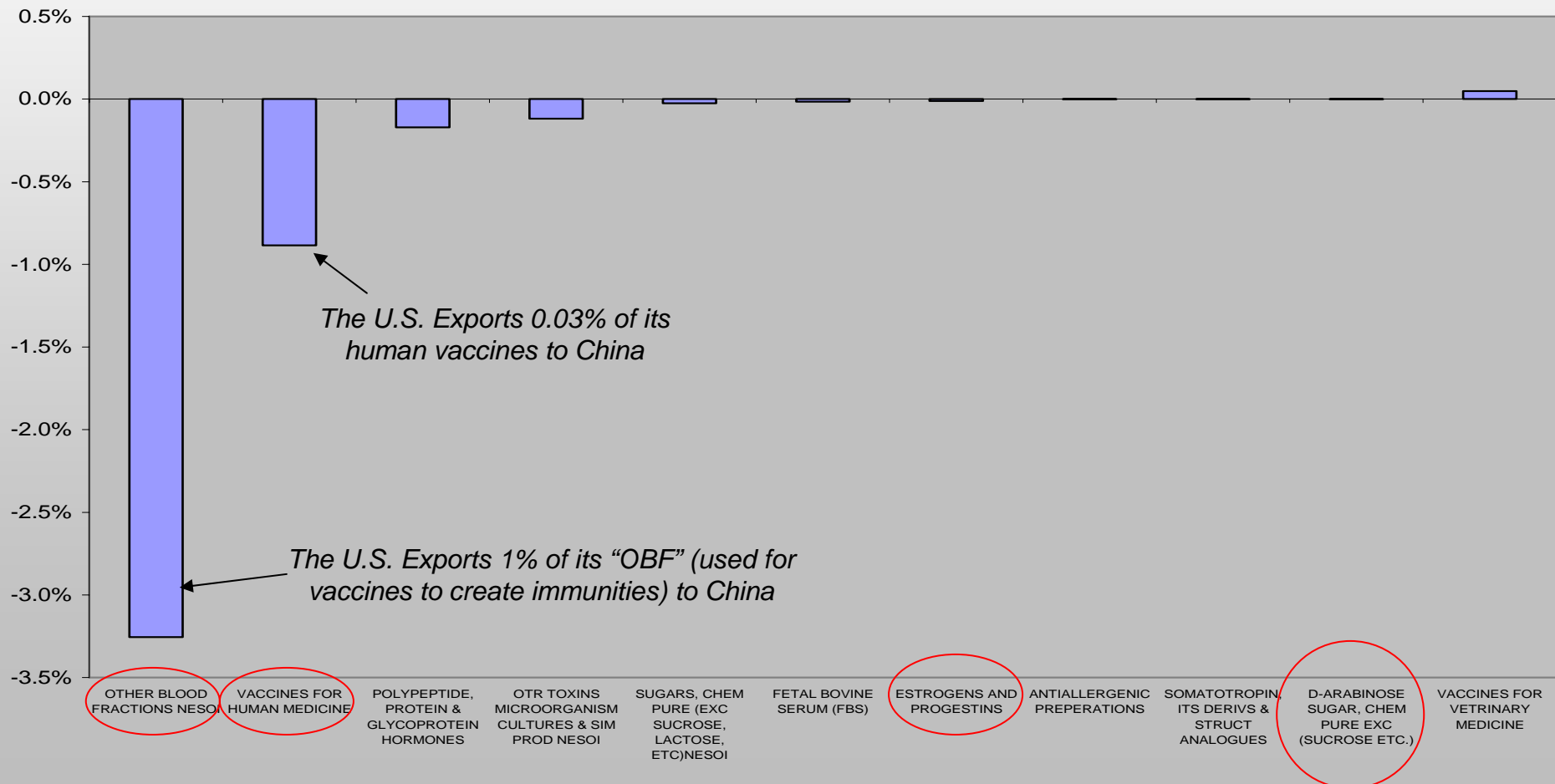






## Opportunities in ATP Biotechnology Exports (2008)

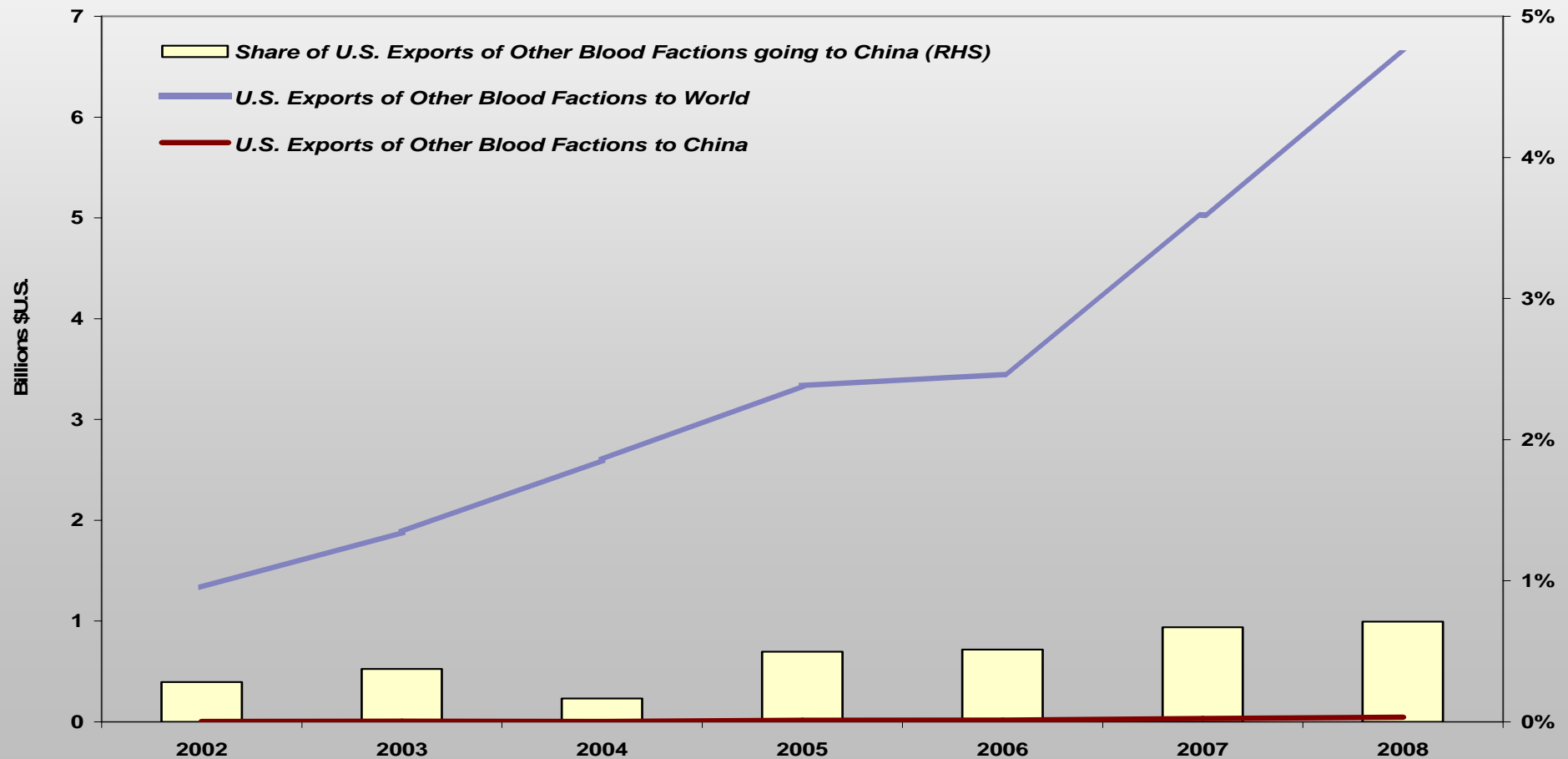
Share of US ATP Exports to China - Share of US ATP Exports to ROW, BIOTECH 2008





## *U.S. Exports of "Under-Performing" Biologic Exports to China*

### U.S. EXPORTS OF OTHER BLOOD FRACTIONS





## Opportunities in ATP Biotechnology Exports (2008)

### CHINA IMPORTS OF OTHER BLOOD FRACTIONS

