



U.S.-India Space Cooperation

Center for Strategic and International Studies (CSIS)

November 17, 2006



U.S.-INDIA BUSINESS COUNCIL

31 YEARS of GROWING ENTERPRISE

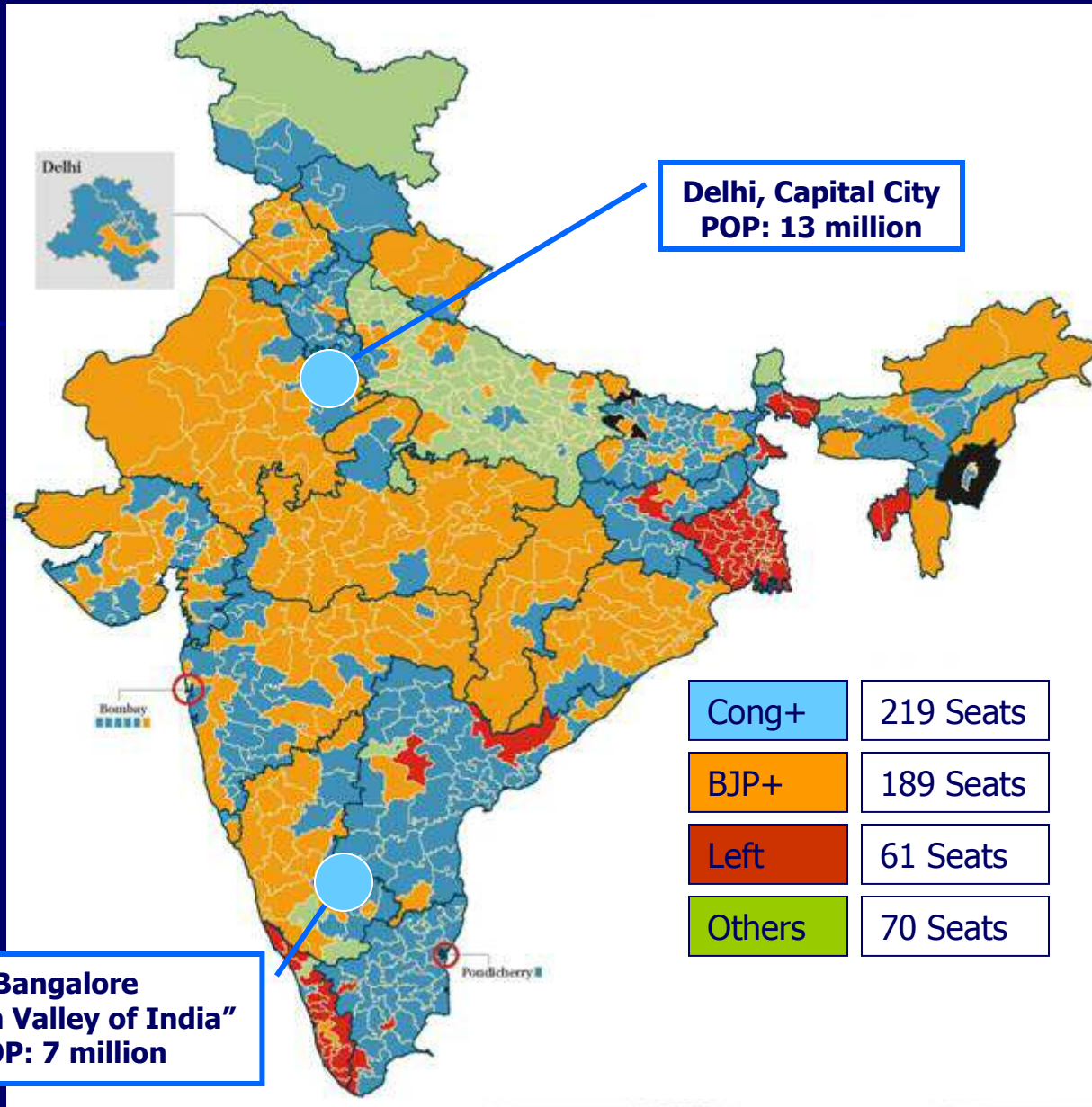
Akin Gump LLP
 Altria Group, Inc.
 AM General LLC
 Amas Investment & Project Services
 Amway Corporation
 Andrews Kurth LLP
 Baker & McKenzie LLP
 Bank of America
 Bloomberg
 Boeing Company
 Cargill
 Caterpillar, Inc.
 CBay Systems

CMS Energy
 The Coca-Cola Company
 Computer Associates
 Covanta Energy
 Dell Computer Corp.
 Deloitte & Touche
 Discovery Communicatio
 Dow AgroSciences
 Dow Jones
 DuPont, Inc.
 eBay Inc.
 Estee Lauder
 Ford Motor Company
 Fremont Group Limited

General Motors
 Gerson Lehrman Group
 Guardian Life Insurance
 Gerson Lehrman
 Guardian Life Insurance
 Hughes Network Systems
 IBM, Corporation
 IDFC Ltd.
 Johnson & Johnson
 J.P. Morgan Chase
 K. Raheja Universal
 Kotak Mahindra
 L-3 Communications
 Lockheed Martin

Merck & Co.
 Microsoft Corporation
 Monsanto
 Motorola, Inc
 News Corporation Ltd.
 Northrop Grumman
 Oracle Corporation
 PanAmSat
 Paul Weiss LLP
 Pfizer Inc.
 Pratt & Whitney/United Technologies
 Sony Pictures Entertainr
 Standard Chartered Bank

Tata, Inc.
 Texas Instruments
 Textron Inc.
 Time Warner Inc.
 Thomson Financial
 United Parcel Service
 Vickers International
 Wal-Mart Inc.
 Watson Wyatt Worldwide
 Xerox Corporation



Bangalore
 "Silicon Valley of India"
 POP: 7 million

Delhi, Capital City
 POP: 13 million

Political Consensus in Favor of Reform
Coalition Governments are here to stay
Power is devolving to the States

India's Economic Leadership



- Considered the "Father of India's Economic Reforms"
- Economist by training, Strong free-market advocate
- Excellent rapport with President Bush

Manmohan Singh
Prime Minister

Montek Singh Ahluwalia
Planning Commission Deputy Chairman



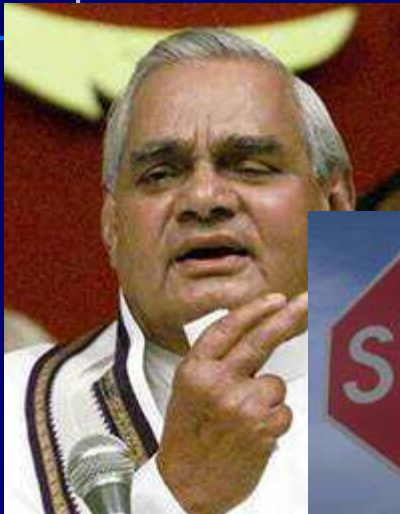
- Private / Public Sector Interlocutor
- Economist by training, Oxonian
- World Bank background / Easily accessible

P. Chidambaram
Minister of Finance

- Dream Budget visionary
- Supreme Court Advocate, Harvard MBA
- Pragmatic reformer



~~Pokharan and Sanctions~~



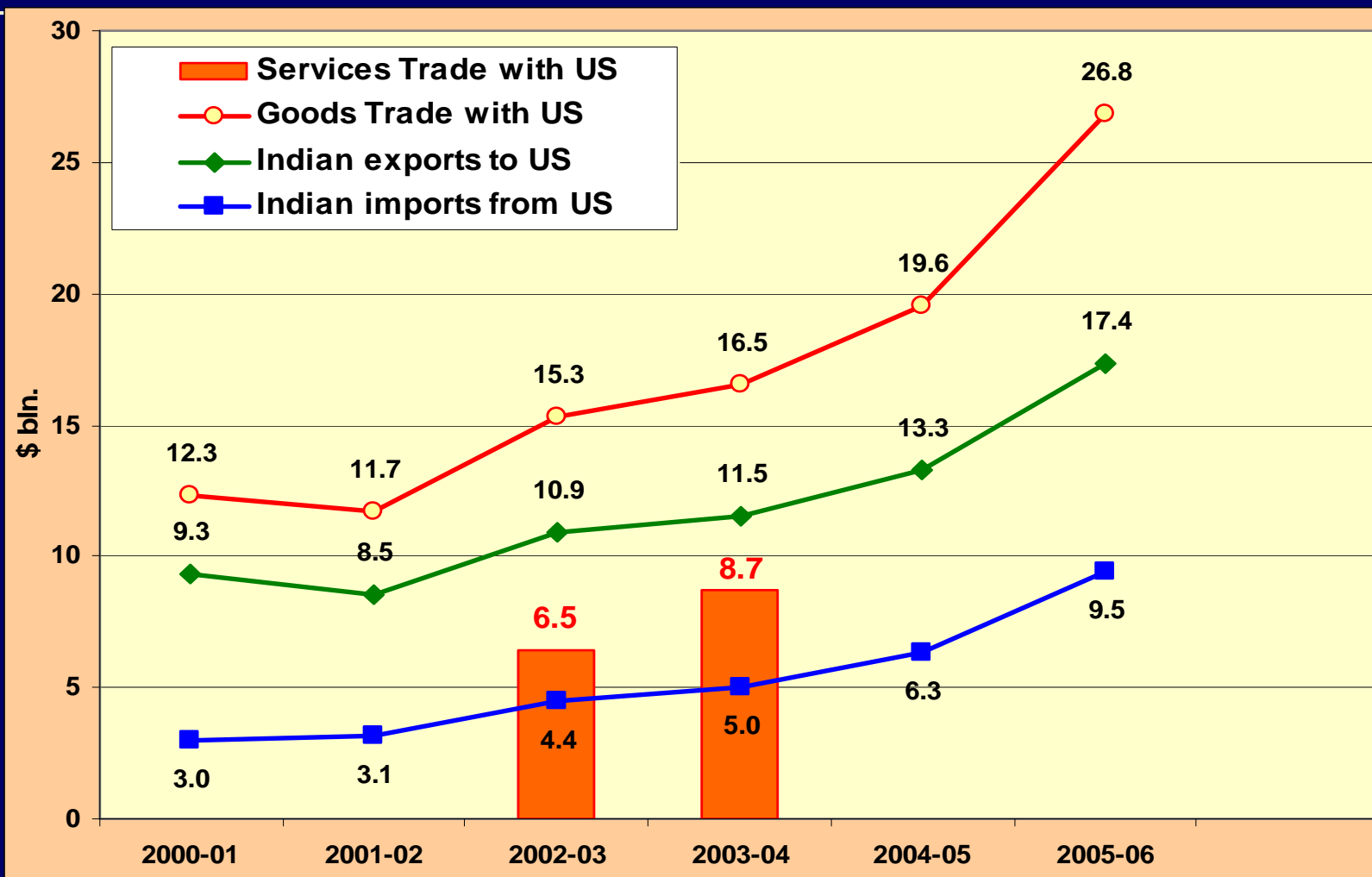
- Cold War Legacy – India's reliance on USSR
- U.S. Sanctions imposed in 1998 for nuclear tests
- Sanctions lifted by President Bush after 9/11
- India declares itself an ally in war on terror
- Tsunami Cooperation
- Strategic partnership lift-off in July 2005.

Transformation of the Indo-US Partnership

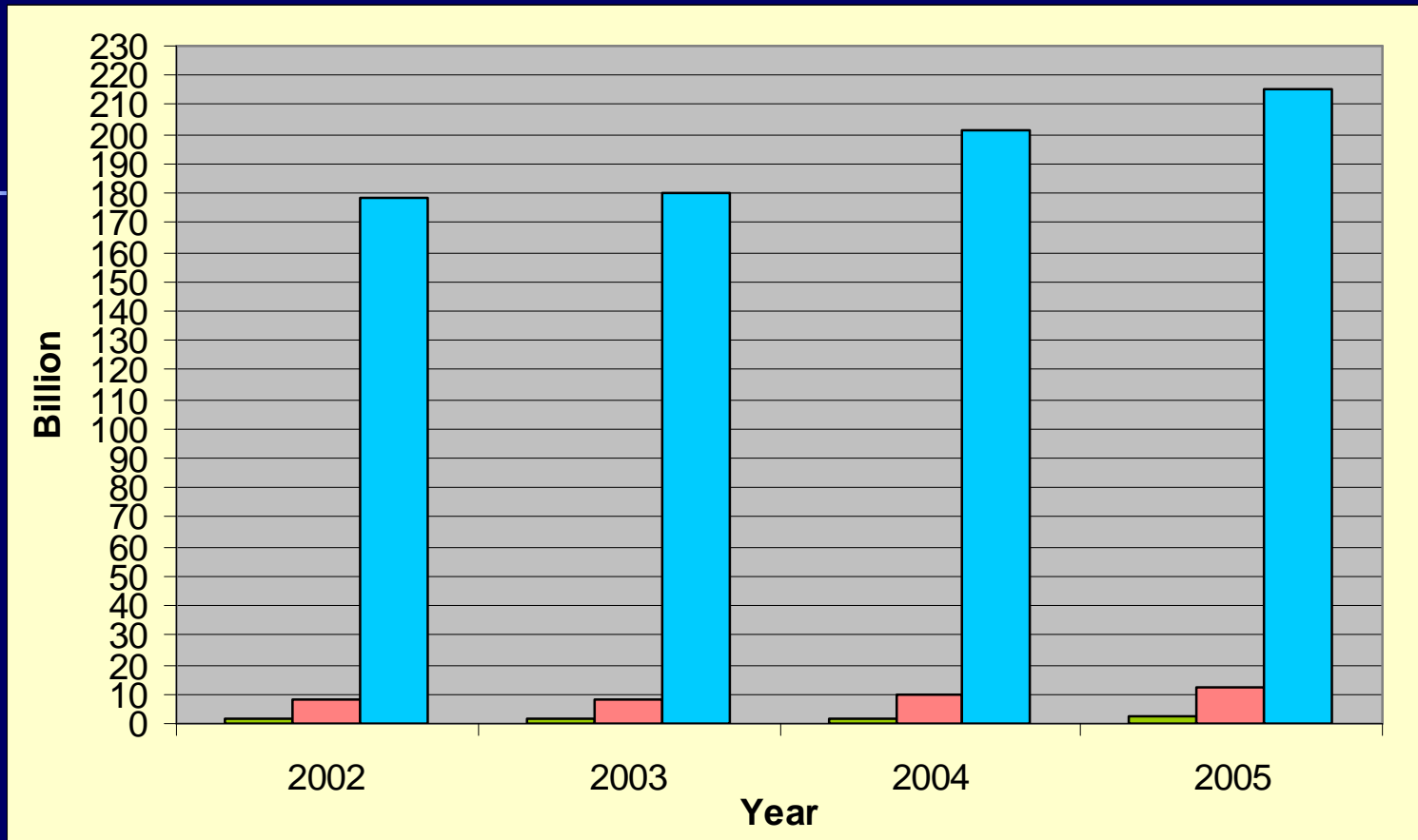
- *After September 11...*
- India pledged support
- Common enemy identified: international terrorism – (12/13/01)
- President Bush and PM Vajpayee initiated Space Cooperation initiative – (11/01)
- Next Steps in Strategic Partnership (1/04)
- JWG on Civil Space Cooperation (3/05)
- PM Singh visits the US – (7/05)
- Science and Technology Agreement (10/05)
- President Bush visits India – (3/06)



Two-Way Trade: To Double in Next Two Years



U.S High Tech Exports



US High Tech Exports (in \$bn)	2002	2003	2004	2005
High Tech Exports to India	\$1.26	\$1.31	\$1.51	\$2.05
High Tech Exports to China	\$8.23	\$8.29	\$9.42	\$12.32
High Tech Exports to the World	\$178.6	\$179.8	\$201.4	\$215.6

Civilian Nuclear Cooperation

- Update on S. 3709: United States-India Peaceful Atomic Energy Cooperation Act
- India's economy growth = Energy Security Imperative
- India's Nuclear Capacity: From 3,500 to 40,000 MW ?
- India's installed capacity: 132,000 MW
Needs augmentation of 100,000 MW in next 5 years
- At \$1bn / 1000 MW – Massive FDI Required

Next Steps: Nuclear Initiative

- House and Senate version reconciliation
- Full Congressional vote on the Final Bill
- 123 Bilateral Agreement
- IAEA Inspection/Safeguard Agreement
- Nuclear Suppliers Group (NSG) approval

U.S.-India Space Partnership

- Indian Space Program 5th largest: U.S., Russia, Europe, China
- \$450 mn annual budget: lower wage equivalent to multi-billion dollar program
- Space Exploration – Chandrayan I: India plans to launch its first unmanned mission to the moon by 2008
- Export Control Regimes; Strategic Partnership Challenges
- Next Steps: Commercial Space Launch Agreement – ISRO

Space Cooperation Important Component of Strategic Partnership

Economic, Ideological, and Strategic Partners

- Coherent democracy; Pluralist; Secular
- 1/5th World's Population; Second Largest Military
- Common Values: Anti-Terrorism, Anti-Human Trafficking, Anti-Narcotics
- Ideological Partner re: Nepal, Sri Lanka, Bangladesh, China
- Common Law Judicial System
- 2nd largest number of doctors, engineers and PhDs in the world
- 100,000 Students to U.S. Each Year
- 1.8 mil Americans of Indian Origin
- Politically significant; Politically integrated
- 54% of Indian Population is under the Age of 25

India is Rising, Becoming Vital to U.S. Interests