The US-China Relationship in the Space Sector

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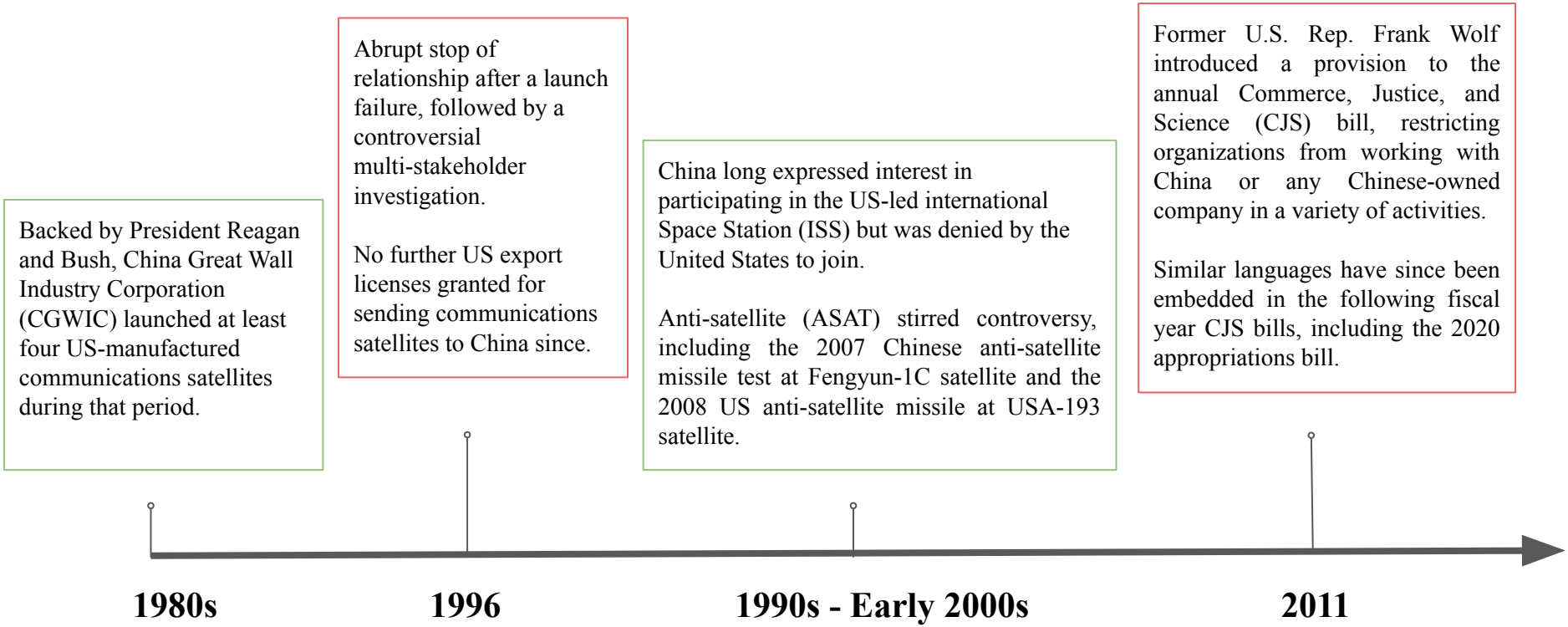
US-China Space Relationship: A Turbulent Relationship



Johnson, 2010; Goldberg,1988; Smith, 2005; Congress (2019-2020); News.bbc.co.uk, 2007; Grego, 2011;Weeden and V. Samson, 2019; T. Harrison, 2020

Past Interactions Between NASA-China

2004

NASA sponsored **"International Exploration Workshop"** for President Bush's Vision for Space Exploration, which Chinese space officials participated in.

"*The Bush Administration now believes that* ***'measured and appropriate levels of space cooperation with China are viable".***

2010

NASA Administrator Charles Bolden **led a small delegation to China at the direction of President Obama** and met the China National Space Administration to review the efforts of Space and Earth Science working groups to explore areas of mutual interest.

2018

During IAC, NASA Administrator Jim Bridenstine **showed interest in enhanced cooperation with China,** including a meeting with Zhang Kejian, administrator of the China National Space Administration.

2019

NASA and Chinese scientists collaborated in an attempt to **coordinate the Chang'e-4 lunar far side landing** in January.

NASA's Lunar Reconnaissance Orbiter unable to view the landing, but image the site during its next pass.

2020

U.S. and Chinese officials working towards meeting for a **bilateral Civil Space Dialogue around March 2020.**

Dialogue established through the U.S.-China Strategic and Economic Dialogue in 2015, to enhance cooperation and transparency in the face of Congressional barriers to NASA engaging with China.

Refer to Table 1 in our paper for a list of the past interactions between NASA and China in the last two decades.

Smith, 2005; Jones, 2020; Logan; Weaver, 2010

Major Players on Both Sides

National Aeronautics and Space Administration (NASA)

- The independent US federal agency that is responsible for science and technology related to civilian air and space.

China National Space Administration (CNSA)

- Most similar counterpart to NASA on the Chinese side
- CNSA oversees the **Chinese Society of Astronautics**

Chinese Academy of Sciences (CAS)

- Merit-based learned society and a system of higher education, comprising 104 research institutes, 12 branch academies, three universities and 11 supporting organizations across the country

China Aerospace Science and Technology Cooperation (CASC) and the **China Aerospace Science and Industry Cooperation Limited (CASIC)**

- Both are state-owned enterprises succeeding from military ministries

Chinese Aviation Establishment (CAE)

- State-owned, government-sponsored aeronautics research organization and key coordinator of bilateral and multilateral cooperation in aeronautical science and technology

Wolf Amendment: History and Background

The United States House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies (CJS)

- One of the US House subcommittees and is within the US House Committee on Appropriations.
- Has jurisdiction over the budgets of Departments of Commerce and Justice and several independent agencies, including NASA and NSF
- The CJS Appropriations Act makes investments for each fiscal year to support *law enforcement, economic prosperity, scientific research, space exploration, and other national priorities.*

In 2011, Representative Frank Wolf (R-VA) introduced the so-called "Wolf Amendment".

- Continued to be included in the annual CJS appropriations bill including the 2020 fiscal year.
- **Unprecedented law whose main purpose is targeted on restricting the collaborations between U.S. government agencies like NASA, OSTP and National Space Council with Chinese commercial and governmental agencies**
- Significantly hindering any bilateral civil space projects

FY2020 Commerce, Justice, Science Appropriations Bill Approved for Senate Consideration, 2019

What is the Global Impacts of the Wolf Amendment?

- Creating an impression that space is no longer a multilateral environment
- Increasing number of international space cooperation projects between China and space faring countries other than the US
- Equating China with the Soviet Union, despite the vast difference between them
- Further decentralizing international space governance with ambiguous outcomes for developing space faring countries.

The progress in moving towards a more fluid and potentially collaborative space relationship between the US and China has been slow and non-systematic, oftentimes disrupted by the fluctuating political situation of the two countries.

Key Policy Recommendations

- With the understanding of the importance of the Wolf Amendment in defense and national security space, we **recommend against a full repeal** of the Amendment.

- Given the negative global impacts, as well as the administrative and political barriers that the Wolf Amendment has created, we propose **a revision to permit the existence of certain types of space collaboration** where interests are aligned between the two countries, in the areas of:
  - Human spaceflight and lunar exploration missions
  - Planetary and Earth Science
  - Space traffic management

- We propose that any new agreement for the US-China space collaboration shall have the following **hard requirements for both sides** to clearly understand and be willing to abide by:
  - Transparency
  - Reciprocity
  - Mutual Benefit

- With the understanding of Congress's operational fashion, we propose **identifying key Congress members who would champion international space collaboration** and/or support an open and collaborative US-China relationship as one of their top priorities.

Summary

Despite the current political tension between the US and China and the isolated past in the space sector in the last two decades, there are clear benefits and urgency to continue the push for a peaceful and collaborative relationship between the two countries.

Combining history, we learn the various efforts form civil space actors on both sides to promote collaborations.

These actions serve as baseline and inspirations for our policy recommendations, hopefully to be adopted in the near future.

Future work

We would continue our work in a Space Policy Group at MIT. We hope to conduct more extensive research on the past commercial satellite launch services between the two countries, as well as examine future civil space missions from both sides to identify possible collaborative areas and specific projects, including but not limited to astronaut participation, joint research, and commercial collaborations. We hope to interview multiple political science professors and space policy experts, and hopefully present these policy recommendations on the Hill in the future.

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