IAP 2020
The Politics of Defense Spending

Lecture 1
Defense Spending, Congress, and the Military-industrial Complex

SUBRATA GHOSHROY
Program in Science, Technology, and Society
Massachusetts Institute of Technology
Cambridge, Massachusetts, USA

7 January, 2020
Today’s discussion topics

• The federal budget process
  – U.S. federal budget
  – Defense budget and the so-called “guns vs. butter” debate
  – The annual legislative process for passing the defense bills and the politics of defense

• The “military-industrial complex” (MIC)
  – Helps sustain the unjustifiable spending
  – The “black budget”
  – Many unnecessary, but expensive weapons programs
  – The missile defense program is an example of both the power of the MIC, and extreme waste of taxpayer money
Composition of the Proposed FY 2020 Budget

Total Outlays = $4.7 trillion

Outlays in billions of dollars:
- Defense Discretionary: $662
- Nondefense Discretionary: $630
- Social Security: $1,102
- Medicare: $679
- Medicaid: $418
- Other Mandatory: $642
- Net Interest: $479
- [Defense R&D]: $64
- [Nondefense R&D]: $70
- Other: $642

Source: Budget of the United States Government FY 2020. Projected deficit is $1.1 trillion. © AAAS 2019
Trump FY 2020 Discretionary Budget Request, $1.3 Trillion

By Department

Defense $718 billion 57%
Veterans Affairs $93 billion 7%
Health & Human Services $90 billion 7%
Education $62 billion 5%
Homeland Security $52 billion 4%
Housing & Urban Development $44 billion 4%
Energy $32 billion 3%
International $43 billion 3%
Justice $29 billion 2%
Agriculture $21 billion 2%
Transportation $21 billion 2%
Interior $13 billion 1%
Treasury $13 billion 1%
Commerce $12 billion 1%
Labor $11 billion 1%

Source: OMB, National Priorities Project
Nationalpriorities.org
Two spending categories

• Mandatory Spending
  – Over $3 trillion ($3000 billion)
  – Mostly entitlements
    • Social Security, Medicare, Medicaid (Income Security)
  – Fixed by law, not subject to alterations

• Discretionary Spending
  – About $1.3 trillion in 2020
  – Subject to Congressional appropriation
  – Over 50% is defense (nearly untouchable)
  – The “budget battles” every year are mostly about
    moving the money around smaller social programs
The legislative process

• Separate defense bills in each chamber of Congress
  – One each for Authorization and Appropriation
  – Four bills in total
  – The “Authorization Bill” describes in detail each program
  – The “Appropriation Bill” is basically a listing of all the programs and the associated funding levels.

• Authorization
  – The House and the Senate Armed Services Committees hold hearings on the bills and “mark up” the bills

• Appropriation
  – Similar process for the House and the Senate Appropriations committees

• From Legislation to law
  – The House and the Senate pass its own version
  – The differences are reconciled in a joint House- Senate Conference
  – The President signs it into law and the spending frenzy starts
The President’s Budget and the Annual Congressional Appropriation of funds

• This is where the power of Congress lies!!
Historical trend in U.S. military spending

Source: Center for Strategic and Budgetary Assessments
The United States spends more on defense than the next seven countries combined.

**Defense Spending (Billions of Dollars)**

- **China**: $609 Billion
- **United States**: $649 Billion
- **Saudi Arabia**, **India**, **France**, **Russia**, **United Kingdom**, **Germany**


Notes: Figures are in U.S. dollars, converted from local currencies using market exchange rates. Data for the United States are for fiscal year 2018, which ran from October 1, 2017 through September 30, 2018. Data for the other countries are for calendar year 2018.
## Military expenditure of Major US Adversaries and non-Allied Nations

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenditure ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>224</td>
</tr>
<tr>
<td>India</td>
<td>55</td>
</tr>
<tr>
<td>Russia</td>
<td>44</td>
</tr>
<tr>
<td>Brazil</td>
<td>29</td>
</tr>
<tr>
<td>N. Korea</td>
<td>7</td>
</tr>
<tr>
<td>Pakistan</td>
<td>7</td>
</tr>
<tr>
<td>Mexico</td>
<td>7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7</td>
</tr>
<tr>
<td>Iran</td>
<td>6</td>
</tr>
<tr>
<td>Iraq</td>
<td>6</td>
</tr>
<tr>
<td>Malaysia</td>
<td>5</td>
</tr>
<tr>
<td>S. Africa</td>
<td>5</td>
</tr>
<tr>
<td>Argentina</td>
<td>4</td>
</tr>
<tr>
<td>Venezuela</td>
<td>4</td>
</tr>
<tr>
<td>Cuba</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL** $411 billion
Military expenditure of US and selected Allies

<table>
<thead>
<tr>
<th>Country</th>
<th>($ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A</td>
<td>733</td>
</tr>
<tr>
<td>Other NATO</td>
<td>270</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>70</td>
</tr>
<tr>
<td>Japan</td>
<td>47</td>
</tr>
<tr>
<td>S. Korea</td>
<td>38</td>
</tr>
<tr>
<td>Australia</td>
<td>26</td>
</tr>
<tr>
<td>Israel</td>
<td>20</td>
</tr>
<tr>
<td>UAE</td>
<td>19</td>
</tr>
<tr>
<td>Colombia</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$1255 billion</strong></td>
</tr>
</tbody>
</table>

- **US and allies together spend** -
  - 4 times as much as its principal adversaries combined
    - China, Russia, Iran, N. Korea, Venezuela and Cuba
  - 3 times as much as the rest of the world

Source: Forbes/NATO
The Evolution of the Military-Industrial Complex (MIC)

• President Eisenhower warned of the danger arising from the “conjunction” of an immense military establishment and a large arms industry
• He called it the “military-industrial complex” leaving out Congress, which is the linchpin
• The term MIC stuck, although it grew to encompass many other institutions
  – The Pentagon, military contractors, Congress and intelligence agencies (CIA, NSA), the State Department
  – The media, think tanks, lobbyists, and universities
  – It employs millions of people, including several million engineers and scientists
    • US military alone directly employs 3 million
The “Black Budget”

- Secret programs hidden in the defense budget under code names
- Only a few people are allowed access to the programs called “Special Access Programs”
- The budget itself was completely secret until recently
- The black budget is now estimated to be over $50 billion gathered from documents leaked by Edward Snowden
Politics of the Defense Budget: Jobs, American Hegemony, Campaign Contributions

- Contracts spread in all 50 states to ensure maximum Congressional support for programs
- Broad consensus about American hegemony and “exceptionalism”
- The “National Security State” forced Trump to alter his approach to Russia and Putin
- Strength of the defense lobby through campaign contributions and threats to members of Congress
Integrated Ballistic Missile Defense System

Boost Defense Segment

Midcourse Defense Segment

Terminal Defense Segment

Sensors

Defense Support Program
Space Tracking and Surveillance System
Sea-Based Radars
Forward-Based Radar with Adjunct Sensor
Midcourse X-Band Radar
Early Warning Radar

Command, Control, Battle Management, and Communications

NMCC, USSTRATCOM, USNORTHCOM, USPACOM, EUCOM, CENTCOM

Designated Lead Service:

Army
Navy
Air Force
TBD

Airborne Laser
Kinetic Energy Booster
Aegis Ballistic Missile Defense / Standard Missile-3
Multiple Kill Vehicle
Ground-Based Midcourse Defense
Terminal High Altitude Area Defense
Patriot Advanced Capability-3
Sea-Based Terminal

7 January 2020
The Strategic Defense Initiative was a massive failure and a waste of taxpayer money

- SDI attempted to develop missile defense systems against Soviet ICBMs carrying nuclear weapons
- Both ground- and space-based high power lasers were investigated
- Science-fiction type projects like “brilliant pebbles,” “brilliant eyes,” etc.
- President H. W. Bush scaled it back in 1989 after the Cold War ended
- But the program survived and Congress continued to fund it at $12 billion a year since the year 2000.
- Over $300 billion spent since its inception in 1983
- It is yet to field a single effective operational system
### Table 1: Development Cost Estimates and Baselines for 20 Major Weapon System Programs

(2008 dollars in millions)

<table>
<thead>
<tr>
<th>Program</th>
<th>Development cost estimate</th>
<th>Percentage difference</th>
<th>Development cost baselines</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Service</td>
<td>CAIG</td>
<td></td>
<td>Initial</td>
</tr>
<tr>
<td>Global Hawk</td>
<td>$905</td>
<td>$992</td>
<td>10</td>
<td>$967</td>
</tr>
<tr>
<td>UH-60M helicopter upgrade</td>
<td>311</td>
<td>379</td>
<td>22</td>
<td>311</td>
</tr>
<tr>
<td>WIN-T</td>
<td>338*</td>
<td>807</td>
<td>139</td>
<td>796</td>
</tr>
<tr>
<td>C-130 Avionics Modernization Program</td>
<td>1,020</td>
<td>1,175</td>
<td>15</td>
<td>720</td>
</tr>
<tr>
<td>EFV</td>
<td>1,056</td>
<td>1,438</td>
<td>36</td>
<td>1,472</td>
</tr>
<tr>
<td>Advanced Extremely High Frequency Satellites</td>
<td>3,031</td>
<td>3,175</td>
<td>5</td>
<td>2,923</td>
</tr>
<tr>
<td>Wideband Global SATCOM</td>
<td>296</td>
<td>414</td>
<td>40</td>
<td>199</td>
</tr>
<tr>
<td>Future Combat Systems</td>
<td>20,248</td>
<td>27,184</td>
<td>34</td>
<td>20,248</td>
</tr>
<tr>
<td>JSF</td>
<td>30,500</td>
<td>31,476</td>
<td>3</td>
<td>33,939</td>
</tr>
<tr>
<td>COBRA JUDY replacement</td>
<td>1,398</td>
<td>1,521</td>
<td>9</td>
<td>1,527</td>
</tr>
<tr>
<td>E-2 Advanced Hawkeye</td>
<td>3,495</td>
<td>3,720</td>
<td>6</td>
<td>3,589</td>
</tr>
<tr>
<td>EA-18G</td>
<td>1,707</td>
<td>1,795</td>
<td>5</td>
<td>1,797</td>
</tr>
<tr>
<td>VH-71 Presidential Helicopter</td>
<td>3,378</td>
<td>3,569</td>
<td>6</td>
<td>3,771</td>
</tr>
<tr>
<td>Replacement Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Land Attack Cruise Missile</td>
<td>1,781</td>
<td>1,926</td>
<td>8</td>
<td>1,894</td>
</tr>
<tr>
<td>Defense Elevated Netted Sensor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-5 Reliability Enhancement and</td>
<td>1,454</td>
<td>1,583</td>
<td>9</td>
<td>1,627</td>
</tr>
<tr>
<td>Reengineering Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH-53K Heavy Lift Replacement</td>
<td>3,970</td>
<td>4,293</td>
<td>8</td>
<td>4,149</td>
</tr>
<tr>
<td>Longbow Apache III</td>
<td>1,155</td>
<td>1,382</td>
<td>20</td>
<td>1,095</td>
</tr>
<tr>
<td>MMA</td>
<td>6,100</td>
<td>6,970</td>
<td>14</td>
<td>7,080</td>
</tr>
<tr>
<td>Small Diameter Bomb</td>
<td>416</td>
<td>427</td>
<td>3</td>
<td>415</td>
</tr>
<tr>
<td>Standard Missile 6</td>
<td>1,000</td>
<td>992</td>
<td>-1</td>
<td>1,009</td>
</tr>
</tbody>
</table>

Source: GAO analysis of DOD data.
So, why do such programs keep going?

- The defense contractors keep the pressure on Congress to not cut defense spending
- Defense contracts create high-paying jobs for skilled workers
- Ideological reasons to fight communism, terrorism, etc.
- A belief that having technical superiority is key to US world dominance
  - The public is fooled even when the technology fails
Jobs, jobs, jobs!

How Boeing protected ABL for a decade
Concluding Remarks

• Corrupting influence of money in American politics
  – Eisenhower’s prescient warning about the unwanted influence of the military-industrial complex on American democracy has come true
• These programs continue with the support of both Democrats and Republicans
• Critical reports frequently published by GAO, and others point out, for example,
  – Performance failures due to immature technology, cost growth, and schedule delays
• They are routinely ignored
• Secrecy keeps information from the public view
  – Pentagon’s books are unaccountable
  – Hundreds of billions of dollars are missing
Selected Reading

1. **U.S. missile defense system is 'simply unable to protect the public,' report says**
   - By David Wilman 14 July 2016, the Los Angeles Times

2. **Accountability Office Finds Itself Accused**
   - By WILLIAM J. BROAD  APRIL 2, 2006, the New York Times

3. **Coming not-so-soon to a theater near you: laser weapons for missile defense**
   - By Subrata Ghoshroy 1 November 2011, Bulletin of the Atomic Scientists

4. **How to Prevent Theater Nuclear Warfare**
   - By Masako Ikegami 15 July 2016, Bulletin of the Atomic Scientists

5. **Iron Dome: Behind the hoopla, a familiar story of missile defense hype**
   - By Subrata Ghoshroy

6. **X-Ray Laser Zapped; After $1 Billion in Research, A 'Star Wars' Project Ends**
   - By William J. Broad, 26 July 1992, the New York Times

7. **Military Industrial Complex Calls the Shots**
   - By Sherwood Ross, OpEdNews.com
   - [http://www.opednews.com/articles/opedne_sross_060825_military_industrial_.htm](http://www.opednews.com/articles/opedne_sross_060825_military_industrial_.htm)

8. **Major arms soar to twice pre-9/11 cost**
   - By Bryan Bender, 19 August 2006 The Boston Globe

9. **The Price for Blowing the Whistle**
   - By Subrata Ghoshroy, IEEE Conference on Social Implications of Technology, Medford, Mass., 14 November 2019