Fiscal Challenge Proposal 2019

Team #22
Economic Budgetary Outlook

Spending Versus Revenue

Sources: Congressional Budget Office
Impact of Debt

- Decreased Economic Growth
- Inability To Respond To Foreign Conflicts
- Increased Chance of Fiscal Crisis

Sources: Congressional Budget Office
Economic Budgetary Outlook

Projected Real Debt: $57.5 Trillion
Projected Real GDP: $37.1 Trillion
Projected Debt to GDP Ratio: 152 %

Sources: Congressional Budget Office
Additional Considerations
Political Feasibility

Polarization in the House
Party and regional mean DW-NOMINATE scores on the first dimension. Data from VoteView.com.

- REPUBLICANS
- DEMOCRATS

Sources: The Washington Post
Impending Recession

**US corporate debt-to-GDP ratio (%)**

Shaded regions represent periods of US recession.

**Full employment?**

The jobless rate has plunged in recent years to the lowest level since 2000. If it falls just a little bit more, unemployment will be at its lowest since 1969.

Sources: MoneyWeek, The Conversation

Chart: The Conversation, CC-BY-ND • Source: Bureau of Labor Statistics • Get the data
Agenda Overview

Next Generation Technology
- High Skilled Immigration
- Artificial Intelligence Efficiency
- Fraudulent Healthcare Claims
- Eliminate NSA Backdoors

Tax Reform
- Shift Social Security Burden
- Index Capital Gains Tax

Social Reform
- Cap and Trade
- Sustainable Infrastructure
- Education Stimulus
Next Generation Technology
Proposal
The United States Federal Government should increase yearly cap of H-1B visas from 65,000 to 195,000.

Justification

- **Domestic Talent Shortage:** 2% unemployment rate (low even during the 2008 recession) for software engineers, well below full employment
- **Innovation:** H-1B visa holders found innovative startups and companies, which create jobs for Americans and kick start the economy
- **Increases Tax Base:** Politically popular to increase tax revenue without increasing tax rate

Sources: Heritage Foundation, Bureau of Labor Statistics
High Skilled Immigration

Debt Reduction
592 B

GDP Increase
169 B

Debt/GDP Ratio
-2%

Projected Debt to GDP Ratio
Proposal

The United States Federal Government should invest 10 billion dollars into the development of artificial intelligence technologies that can reduce the time taken for labor-intensive or manual tasks.

Justification

- **Emerging Research Field:** Many applications and potentials, broad support to establish United States primacy in artificial intelligence
- **Efficiency:** Rapid investment into artificial intelligence is expected to reduce government man-hours worked by 40% in less than five years
- **Ripple Effect:** Federal R&D spending has a 68 times multiplier effect on the GDP due to technology transfers and commercialization

Sources: Deloitte Consulting, The Information Technology and Innovation Foundation
Proposal

The United States Federal Government should utilize machine learning techniques to detect and eliminate fraudulent, wasteful, and improper Medicare payments.

Justification

- **Costly**: Around 10% of Medicare spending (65 billion dollars) was lost to fraud, waste, abuse, an improper payments

- **Accurate Research**: Researchers used modern machine learning techniques to predict Medicare fraud, waste, and abuse with 87% accuracy

- **Feasibility**: Bipartisan support to eliminate Medicare fraud and costs without reducing benefits

Source: Center for Medicare and Medicaid Services, IEEE, Florida Atlantic University, AARP
Medicare Fraud

Debt Reduction: 3.7 T
GDP Increase: 0
Debt/GDP Ratio: -10%
Removing NSA Backdoors

Proposal

The National Security Agency should eliminate the usage of backdoors within United States cloud computing companies.

Justification

- **Foreign Confidence**: Foreign companies do not trust US cloud companies due to NSA backdoor spying (~180 billion dollar annual economic loss and ~36 billion dollar annual tax revenue loss)
- **Cyber Attacks**: NSA backdoors are vulnerable to security exploits. Criminal use backdoors to hack into companies, costing billions every year
- **Lack of Useful Information**: Backdoors have never discovered any important communication for terrorism/national security purposes

Top 10 countries by number of data breaches

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Data Breaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>1,023</td>
</tr>
<tr>
<td>U.K.</td>
<td>38</td>
</tr>
<tr>
<td>Canada</td>
<td>19</td>
</tr>
<tr>
<td>Australia</td>
<td>15</td>
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<td>India</td>
<td>8</td>
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<td>Ireland</td>
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<td>Japan</td>
<td>7</td>
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<td>Israel</td>
<td>6</td>
</tr>
<tr>
<td>Germany</td>
<td>5</td>
</tr>
<tr>
<td>Thailand</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Symantec

Sources: Carnegie Mellon University, Forrester Research, Symantec
Debt Reduction 2.4 T

GDP Increase 180 B

Debt/GDP Ratio -6%

Removing NSA Backdoors

Projected Debt to GDP Ratio

Year

Debt to GDP Ratio

2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048

Debt to GDP Ratio (Projected)
Tax Reform
Shifting Social Security Burden

Proposal

The United States Federal Government should institute the Social Security payroll tax (12.4% effective rate) on earned income above $400,000.

Justification

- **Currently Regressive:** Current Social Security tax structure charges low-income people a higher percentage of their income.
- **Broad Support:** Bipartisan support for increased taxes to maintain Social Security solvency (current 2100 Social Security Act is a good example).
- **Negligible GDP Impact:** Over the past 65 years, Congressional Research Service found no correlation between top marginal tax rate and investment, growth, or GDP.

Sources: Congressional Research Service, Congressional Budget Office, Social Security Administration
Debt Reduction: 14.3 T
GDP Increase: 0
Debt/GDP Ratio: -37%

Social Security:
- Projected Debt to GDP Ratio:
  - 2015: 70%
  - 2018: 87%
- 2019: 152%
Proposal

The United States Federal Government should index the capital gains tax for inflation.

Justification

- **Double Taxation**: Unfair to tax nominal profit rather than real profit, often causing investors to hold on to assets and stifles market transactions

- **Increased Investment**: Empirically, capital gains tax cuts in 1979 and 1997 increased investment, which stimulates spending during a recession

- **Political Quid Pro Quo**: Politically feasible to pass a capital gains tax cut in exchange for increased Social Security payroll tax

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**Capital Taxes**

<table>
<thead>
<tr>
<th>Year</th>
<th>Top Rates on Capital Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>25%</td>
</tr>
<tr>
<td>2000</td>
<td>20%</td>
</tr>
<tr>
<td>2010</td>
<td>23.8%</td>
</tr>
</tbody>
</table>

Since Jan. 2013

Note: Assets held for one year
Source: Tax Foundation
THE WALL STREET JOURNAL.
Capital Gains Tax

Debt Reduction
0

GDP Increase
1.5 T

Debt/GDP Ratio
-3 %
Social Reform
Proposal

The United States Federal Government should implement a cap and trade system, invest 15 billion dollars annually into green technology innovation, and provide 200$ per person subsidy to offset rising energy prices.

Justification

- **Economic Impact of Environment**: Each ton of carbon emitted will decrease the 2050 GDP by 23 dollars
- **Green Technology Subsidies**: Subsidize green innovation to minimize and ease the economic transition from fossil fuels toward renewables
- **Protects Poor**: 200 dollar person subsidy will offset rising energy prices passed down to the consumer

Sources: Congressional Budget Office, Brookings Institute, Energy in Depth
Debt Reduction: 4.5 T
GDP Increase: 1.1 T
Debt/GDP Ratio: -12%
Proposal

The United States Federal Government invest 1% of the federal GDP into infrastructure during the onset of every recession.

Justification

- **Automatic Stabilizer**: Immediate stimulus package to jumpstart the economy – no need to wait for Congressional action
- **Sustainable Infrastructure**: Investment into “green” infrastructure means there is less need to conduct maintenance and repairs
- **Politically Feasible**: Both Clinton and Trump supported investing more than 500 billion into infrastructure during the 2016 Election
Debt Reduction

-0.6 T

GDP Increase

1.2 T

Debt/GDP Ratio

-0.5 %

Infrastructure

Projecting Debt to GDP Ratio over the years, the graph demonstrates a steady increase, reaching 152% by 2051 and 71.5% by 2020.
**Proposal**

The United States Federal Government should invest 3.5% of GDP over a 10 year period into primary and secondary school educational resources.

**Justification**

- **Resources:** Students need to learn how to adjust to the new digital economy; increased funding is needed for more technological resources.
- **Election Pressure:** Upcoming 2020 Election means that neither party wants to be seen as the anti-education party.
- **Long Term Economic Growth:** Investing in human talent creates long-term innovation, efficiency, and a more productive society.

*Source: World Bank*
Debt Reduction
-1.6 T

GDP Increase
2.3 T

Debt/GDP Ratio
-0.5 %

Education Stimulus

Projected Debt to GDP Ratio

Year
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038

Debt to GDP Ratio
60 70 80 90 100 110 120 130 140 150 160

152% 71%
Budgetary Outlook after Proposals

Projected Real Debt: $32.0 Trillion
Projected Real GDP: $44.9 Trillion
Projected Debt to GDP Ratio: 71 %

Sources: Our Own Analysis + Congressional Budget Office
Thank You!
Appendix
Assumed Proposal
The United States Federal Government should eliminate F-35 fighter planes, reduce presence in Asia Pacific region, and decrease commitment to NATO

Contradictory Arguments

- **Positive Externalities:** Military R&D creates innovations that spill over to the general economy (aka internet)

- **Asia:** US presence is needed in Asia Pacific region to decrease Chinese aggressiveness (see South China Sea)

- **NATO:** Current International ties have grown tenuous and we should not break our friendship with NATO allies

Contrary Proposals

Techncial Details
Facts:
- Gov’t will save **41.1 billion dollars** per yr after investment into AI with 5 yrs [Deloitte Consulting Group]
  - S=$41.1 billion
- For every **$1.00** on average saved over the next 30 years, there is a reduction of the 2048 debt by **$2.20** due to lowered cumulative interest payments. [CBO]
  - R=$2.2 per dollar saved
  - Y=30 years
- Every **$1** invested into federal R&D translates into **$68** in GDP growth [Information Technology and Innovation Foundation]
  - G=$68 per dollar invested

Debt Calculation:
**2048: reduction by 2.4 trillion dollars**
- Linear Model to estimate Lower Bound
  - total reduction in debt over 30 yrs
  - RSY=$2.4 trillion

GDP Calculation:
**Generate $680 billion dollars in GDP with our one time R&D investment.**
- G*$10 billion=$680 billion