Establishing the Connect America Fund

Dr. David Reed, Technology, Cybersecurity, and Policy, CU Boulder

Today's Lecture

- Reading Reviews Feedback and Discussion

- Project Ideas Discussion

- Finish U.S. National Broadband Plan Lecture

- Establishing Connect America Fund Lecture

Reading Review Feedback

✤ Only summarize to the extent necessary to support your discussion

✤ Use interdisciplinary policy framework concepts to focus or target your critique

  ✤ Is there clear justification for new policy initiatives by identifying market or regulatory failures that need to be addressed?

  ✤ Does the plan take into account how technology is evolving or creating new problems?

  ✤ Have the impact on stakeholders been accounted for?

Project Assignments

- <u>Broadband & Internet Governance</u>

  - #7 Automated Cars (Kaylee)

- <u>Privacy</u>

  - #5 Location-Based Advertising (Wil)

  - #6 Social Credit Systems (Eloise)

  - #13 NIST Framework (Madelyn)

- <u>Security</u>

  - #2 IoT legislation (Andrew)

  - #3 IoT Toy Security (George)

  - #4 DeepFake Technology (Ed, Pourna)

  - Consumer Education of Cybersecurity (Zachary)

- <u>Networking</u>

  - #4 Definition of Broadband (Nikhil)

Unit 2

Achieving Broadband Universal Service through Regulation and National Broadband Plans

Universal Service Primer

Government-sponsored subsidy to add or keep users of a desirable service by low rates

- ✤ Principal market failure justifications: network effects and natural monopoly

- ✤ Benefits society by enhancing economic development, democratic participation, and public safety

- ✤ Started with Vail's "one system, one policy, universal service" slogan in 1910 for the telephone network

Goals of Universal Service under 1996 Telecom Act

✤ Promote availability of quality services at just, reasonable and affordable rates for all consumers

✤ Increase nationwide access to "advanced telecommunications services"

✤ Advance availability to all consumers, including those in low income, rural, and high cost areas at rates comparable to those charged in urban areas

✤ Increase access to telecommunications and advanced services in schools, libraries and rural health care facilities

✤ Provide equitable and non-discriminatory contributions from all telecommunications providers to the fund supporting universal service programs
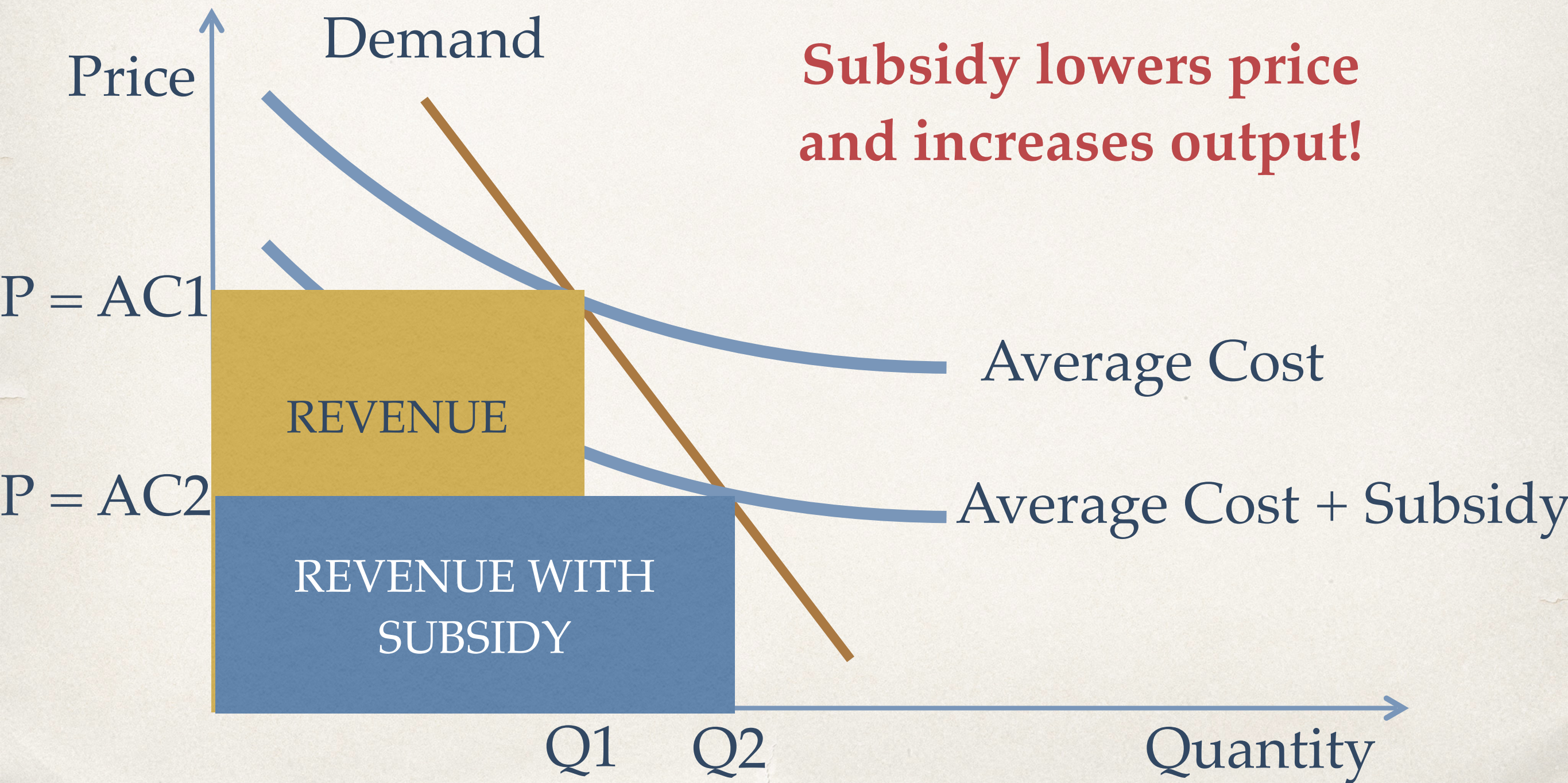
Definition of Subsidy
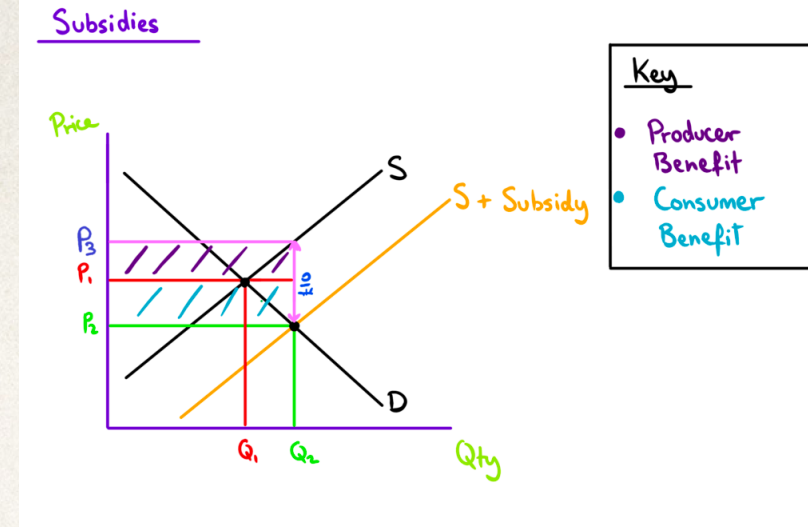
- ✤ Subsidy: money given as part of the cost of something, to help or encourage it to happen

  - ✤ Typically: granted by government to assist an industry so that price of a commodity or service may remain low or competitive

- ✤ Cross subsidy: Charging higher prices to one group of consumers to subsidize lower prices for another group

Impact of Subsidy

Price

Demand

Subsidy lowers price and increases output!

P = AC1

REVENUE

Average Cost

P = AC2

REVENUE WITH SUBSIDY

Average Cost + Subsidy

Q1   Q2

Quantity

Paying for Universal Service: *Implicit* Cross Subsidies

✤ Geographic rate averaging

✤ Business lines rates subsidizing residential lines

✤ Long distance rates subsidizing local

✤ Vertical services (e.g., call waiting) priced above cost

✤ Telecom Act of 1996: transition to *explicit* subsidies

Explicit subsidy example would be a tax for universal service on telephone bills

Universal Service Fund Programs ($8.7B in 2010)

- ✤ High-Cost Program ($4.6B, rates in high cost areas comparable to urban)

- ✤ Lifeline and Linkup Programs ($1.2B, need-based subsidies)

- ✤ E-Rate Program ($2.7B, schools and libraries program)

- ✤ Rural Health Care Program ($0.2B, for telecommunications services, including broadband, necessary for the provision of health care)

Reforming High Cost Program

✤ In 2011 USF-ICC Reform Order, FCC phased out existing High Cost Program, introduced the Connect America Fund (CAF) and smaller CAF Mobility Fund

  ✤ Size of fund frozen at $4.5 billion

✤ Modernizes support by expanding to fixed broadband and mobile availability

  ✤ Phase I provides immediate one-time infusion of funds to bring broadband and mobile to unserved areas

  ✤ Phase II provides ongoing support to deploy and maintain broadband, mobile, and voice service in high-cost areas at rates comparable to urban

Universal Availability and Affordability

1. Ensure universal service access to broadband network services. National Broadband Plan recommendations:
   1. Create the Connect America Fund (CAF) by shifting $15.5B over next 10 years from Universal Service Fund (USF) to deploy 4 Mbps broadband and voice
      - 2012: $4.5B annual budget approved (roughly in line with historical expenditures of $4.6B for USF)
      - 2014: establishes 10-year term of support for winners of the competitive bidding process; increases minimum speed required of high-cost support to 10/1 Mbps

Sidebar: CAF Principles

1. Provide funding in areas without private sector business case to provide voice and broadband
2. At most one subsidized provider of broadband per area
3. Eligibility for funding should be company and technology agnostic so long as service provided meets FCC specifications
4. Identify ways to drive funding to efficient levels
5. Recipients subject to enforceable timelines for achieving universal access

Recent CAF Phase II Auction

Universal Availability and Affordability (cont'd)

1. Ensure universal service access to broadband network services. Recommendations:
   2. Create a Mobility Fund that targets funding to ensure no states lag behind national average for 3G coverage
      - 2016: Mobility Fund Phase II targets funding of 4G LTE in rural areas
      - Mobility Fund web page

Universal Availability and Affordability (cont'd)

2. Create mechanisms to ensure affordability to low-income Americans. Recommendations:
   1. Expand the Lifeline ($9.25/month savings) and Link-Up (pays $35 activation charge) programs to include broadband
      - 2012: Established $25M Broadband Adoption Pilot Program to determine how Lifeline can best be used to increase broadband adoption among Lifeline-eligible consumers
      - Lifeline Program Web Site
   2. Ensure every American has opportunity to become digitally literate (launch National Digital Literacy Corps to provide training of digital literacy skills)
      - Website (that is stale)