WHAT DAMAGE HAS TITLE II WROUGHT?

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BACKGROUND

- FCC reclassified Internet service as "telecom" service subject to Title II in Feb. 2015
  - Claimed necessary to ban paid priority arrangements pursuant to "just and reasonable" standard
- Exposed ISPs to new risks
  - Lays groundwork but then forbears from unbundling
  - Lays groundwork but then preempts states from assessing telecom-based fees on ISPs unless/until FCC does so

ECONOMIC LITERATURE ON IMPACT OF UNBUNDLING ON INCUMBENT INVESTMENT

Study	Sample	Methodology	Lower Bound %	Upper Bound %
Singer (2015)	USA	DID	5.5	38.7
Hassett & Shapiro (2014)	USA	Regression	17.8	31.7
Wallsten & Hausladen (2009)	European Union	Regression	8.2	16.4
Grajek & Röller (2009)	European Union	Regression	NA	48.7

Note: W&H find that for every unbundled line per capita in a country, the number of fiber connections per capita declines by 0.041. Percent change based on simulation of move from 5% to 10/20% share of unbundled lines.

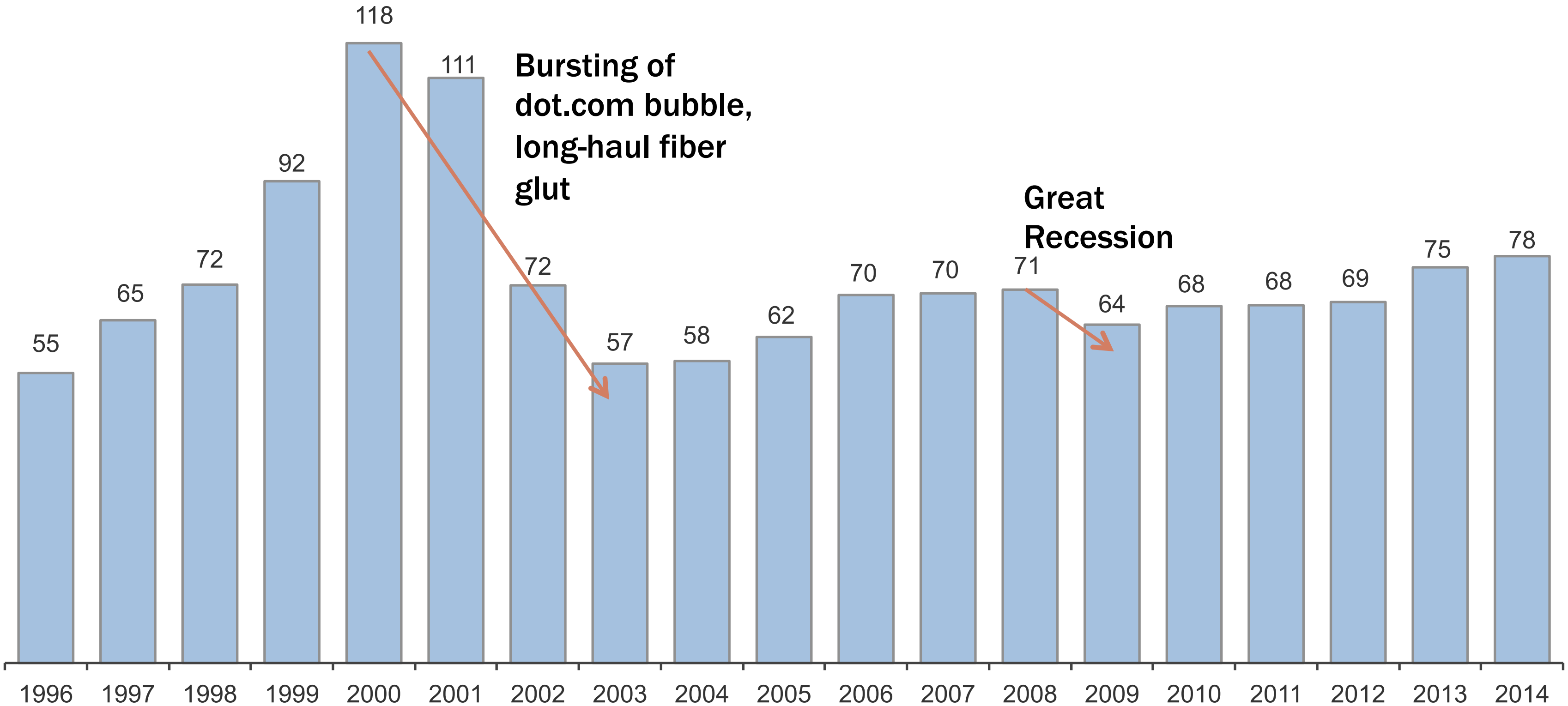
- To model impact of Title II on ISP capex, must discount these observed effects by *likelihood* that FCC will continue to forbear from unbundling provisions
- Several factors to consider
  - No principled approach by FCC; instead appears to track “popular” opinion
  - FCC included an unbundling provision in IP Transition order
  - Canadian telecom regulator just reversed course, appropriated FTTP investment by extending unbundling mandate

2015 WILL LIKELY MARK THE FIRST DECLINE NOT INDUCED BY A DEMAND SHORTFALL/SHOCK ($ MILLION)

ISP	First Half 2014	First Half 2015	Change	Percent Change
AT&T	11,649	8,328	-3,321	-29%
Verizon	8,494	8,153	-341	-4%
Comcast	3,246	3,697	451	14%
Time Warner Cable	2,074	2,397	323	16%
Century Link	1,385	1,267	-118	-9%
Charter	1,109	783	-326	-29%
Cablevision	425	381	-44	-10%
TOTAL	28,382	25,006	-3,376	-12%

Note: Excludes ISPs with < $100M in capex in 2014

ONLY TWO CAPEX DECLINES IN THE HISTORY OF BROADBAND ($ BILLION)



Source: USTelecom (1996-present) and Yankee Group (1996-2010).

WHAT EXPLAINS THE TWO OUTLIERS?

- Comcast and TWC are only cable ops with > 10M bbd subs (Charter has 5.2M)
- Comcast and TWC both cite increases in customer premises equipment among primary drivers of capex increase
- Holman Jenkins (*WSJ* Sept. 1, 2015): Title II could have disparate impact on cable, telecom
  - "The cable guys resisted Obama regulation because that's what cable guys do, but they can be expected to make their peace with a Netflix-FCC agenda that ***reinforces their incumbency***. Meanwhile, in a year or two, expect to notice that the broadband speed increases aren't coming quite as reliably as they once did."
  - Cable accounted for 60% of broadband subs, 86% of the net broadband additions in Q1-15

ALTERNATIVE EXPLANATIONS FOR CAPEX DROP

- Revenue declines
  - Capital intensity declined as well, GDP increased
- Cord cutting (Laperruque)
  - Shift out demand for Internet
- VZ & T "finished upgrades" (Kushnick, Shapiro)
  - Investment is never finished in dynamic industry
- Trend replace capex/hardware with opex/software (Bubley)
  - Can't explain a $3 billion savings
- Tinkering with capex for political leverage (Frieden)
  - If true, why start a war?

WHAT TO MAKE OF DUELING STATEMENTS BY CORPORATE EXECUTIVES?

- AT&T
  - CFO: "Once again, the network guys have done a great job in getting the Project VIP initiatives completed. And when they are done…the additional spend isn't necessary, because the **project has been concluded** not for lack of anything, but for success."
  - CEO: "The exact comment I made was **we're going to put a pause on our new broadband deployment plans** until we see how these rules came out. We have seen how the rules came out. As we read those rules, we do believe they're subject to modification by the courts and remand by the courts to the FCC."
- Charter
  - CFO: Decline in capex "was driven by the **completion** of All-Digital during the fourth quarter of last year."

COST-BENEFIT CALCULUS

- Cost side of the ledger
  - X% of $3.3 Billion capex decline at the "core"
- Benefit side of the ledger
  - FCC's estimated $100 Million incremental investment at the "edge"
    - No cost-benefit analysis in OIO itself
    - Compare with DOL's rigorous econometric modeling of claimed benefits of Fiduciary Rule
- Dismissed less-restrictive alternative of case-by-case (CBC) as "too cumbersome"
  - But CBC was somehow fine for interconnection, general conduct, adjudicating discrimination complaints in traditional video, May 2014 NPRM

RESOLVING THE NET NEUTRALITY DEBATE