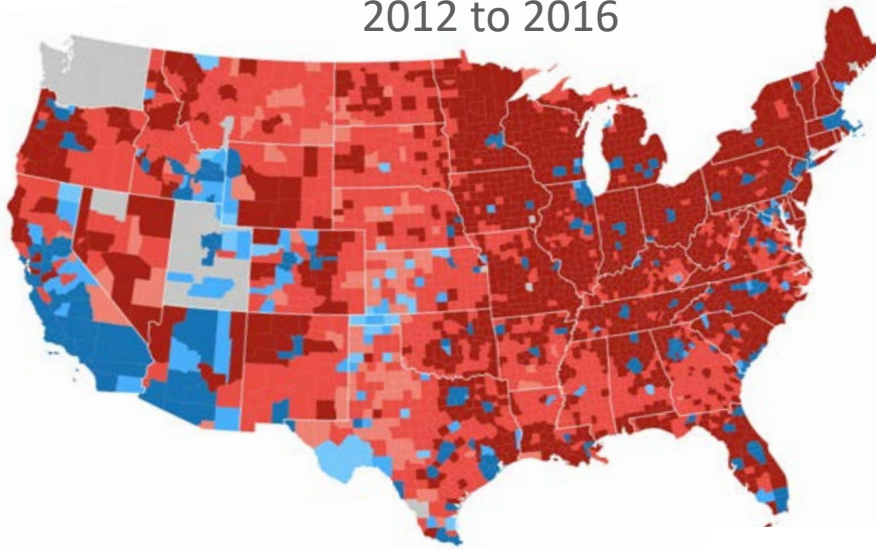


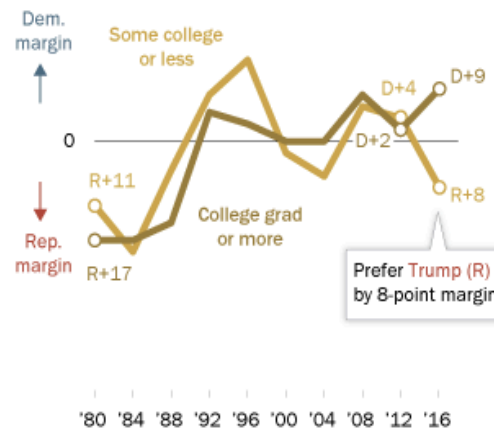
Wake Up call

Revenge of the economically anxious and left behind

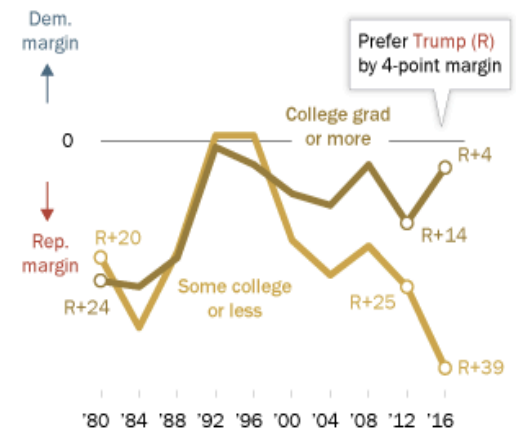
Vote changes by County
2012 to 2016



All voters

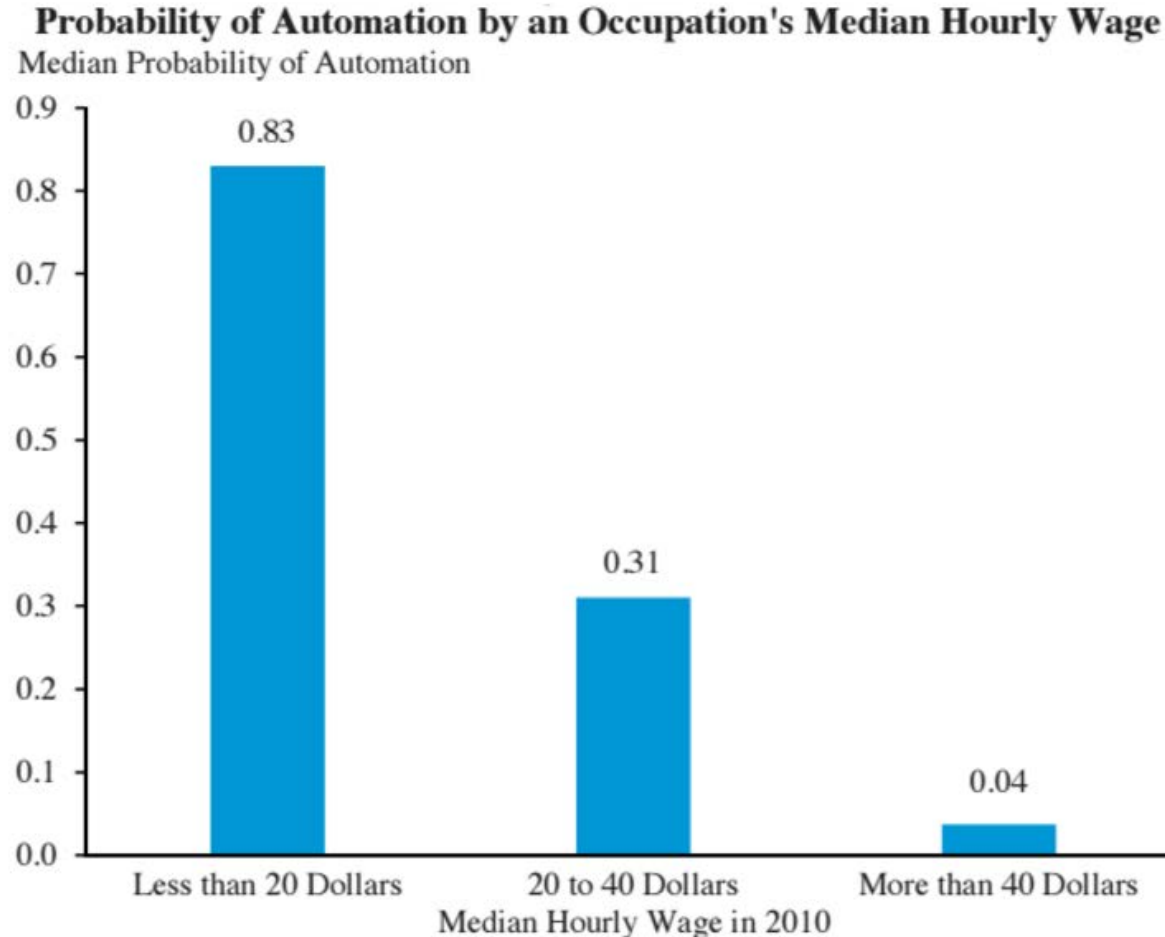


White voters



It may get worse before it gets better

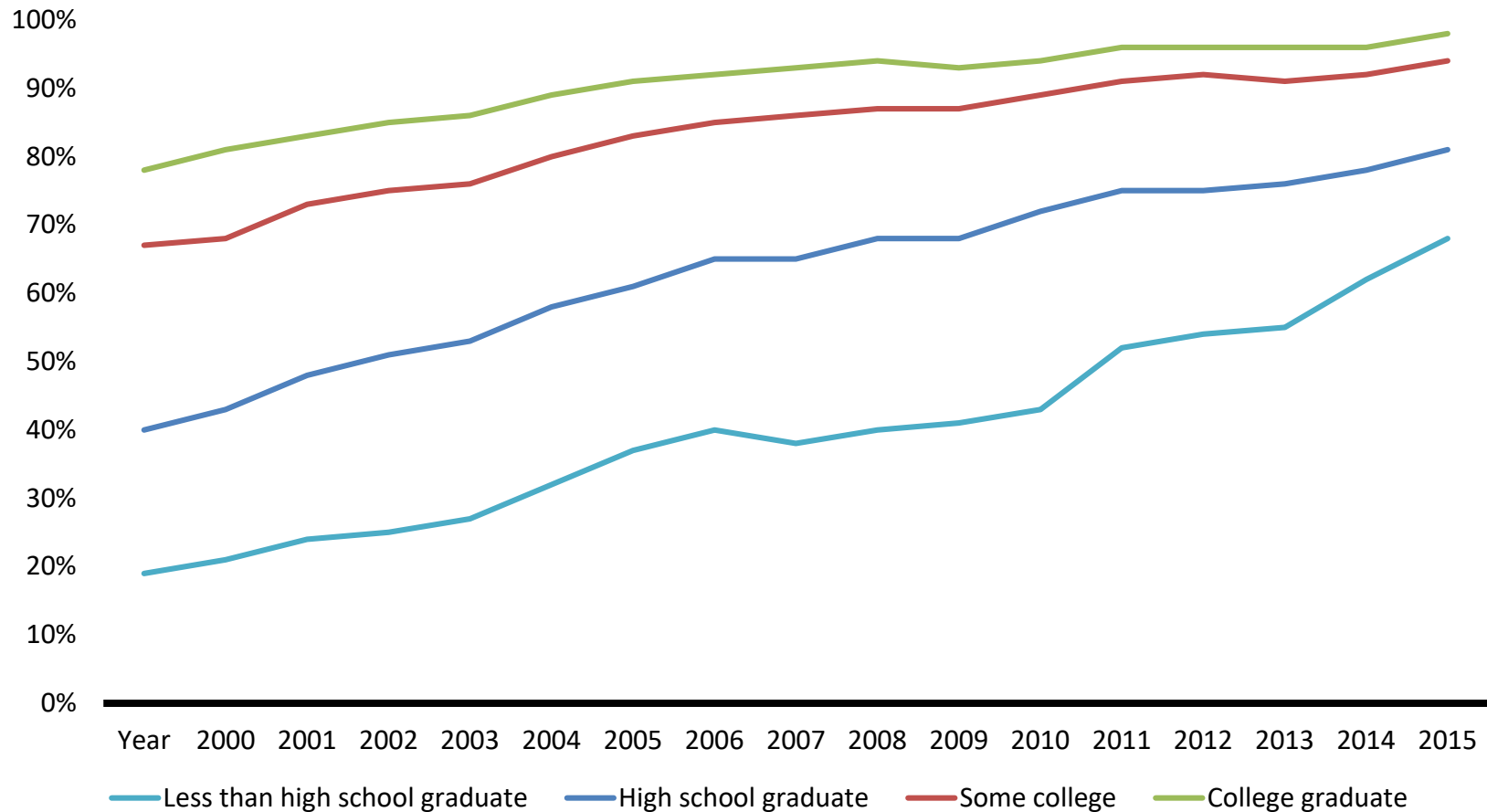
Artificial intelligence, robotics, virtual reality will increase productivity & disrupt jobs



Source: Bureau of Labor Statistics; Frey and Osborne (2013); CEA calculations.

Could we have done more?

% of U.S. Adults Who Use the Internet, by education level



How are the current ideas?

Pretty good chance we'll end up with a Universal Basic Income....



“Smart Industrial Policy”?

	Application
Innovation & Entrepreneurship Platforms	<ul style="list-style-type: none">• 5G• Higher Ed/Training• Financing• R&D
Portable Safety Net	<ul style="list-style-type: none">• Education• Health• Kids/Family/Poverty
Build on regional advantages	<ul style="list-style-type: none">• Health -- MN• Ag – MO• Renewable energy

Other pieces of the puzzle

Living Standards

A movie theater,
supercomputer,
printing press in your
pocket

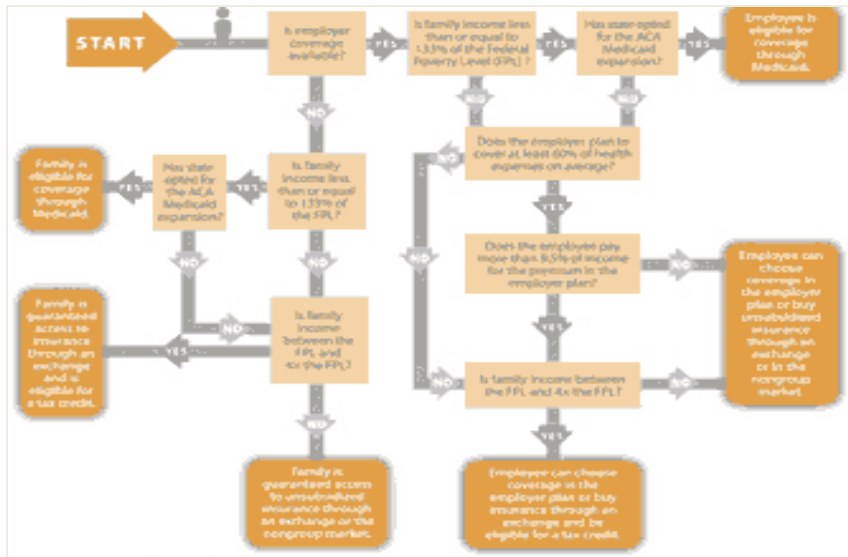
But at what price?

Strengthening Community

Libraries, schools/
Civic IoT

*Can we leverage
investments to build
social capital?*

What is possible in our political system?



HOW MUCH DOES THE NEW **E-RATE** MEAN FOR YOUR SYSTEM?

Boston Public Library did the math on what the new E-rate discount means for their 25 locations

\$6,291,500

\$5 - SQ FT 12/2014

\$2,894,090

\$2.30 - SQ FT 7/2014

\$1,258,300

\$1 - SQ FT 1/2014



URBAN LIBRARIES COUNCIL

INSPIRING LIBRARIES. TRANSFORMING COMMUNITIES.

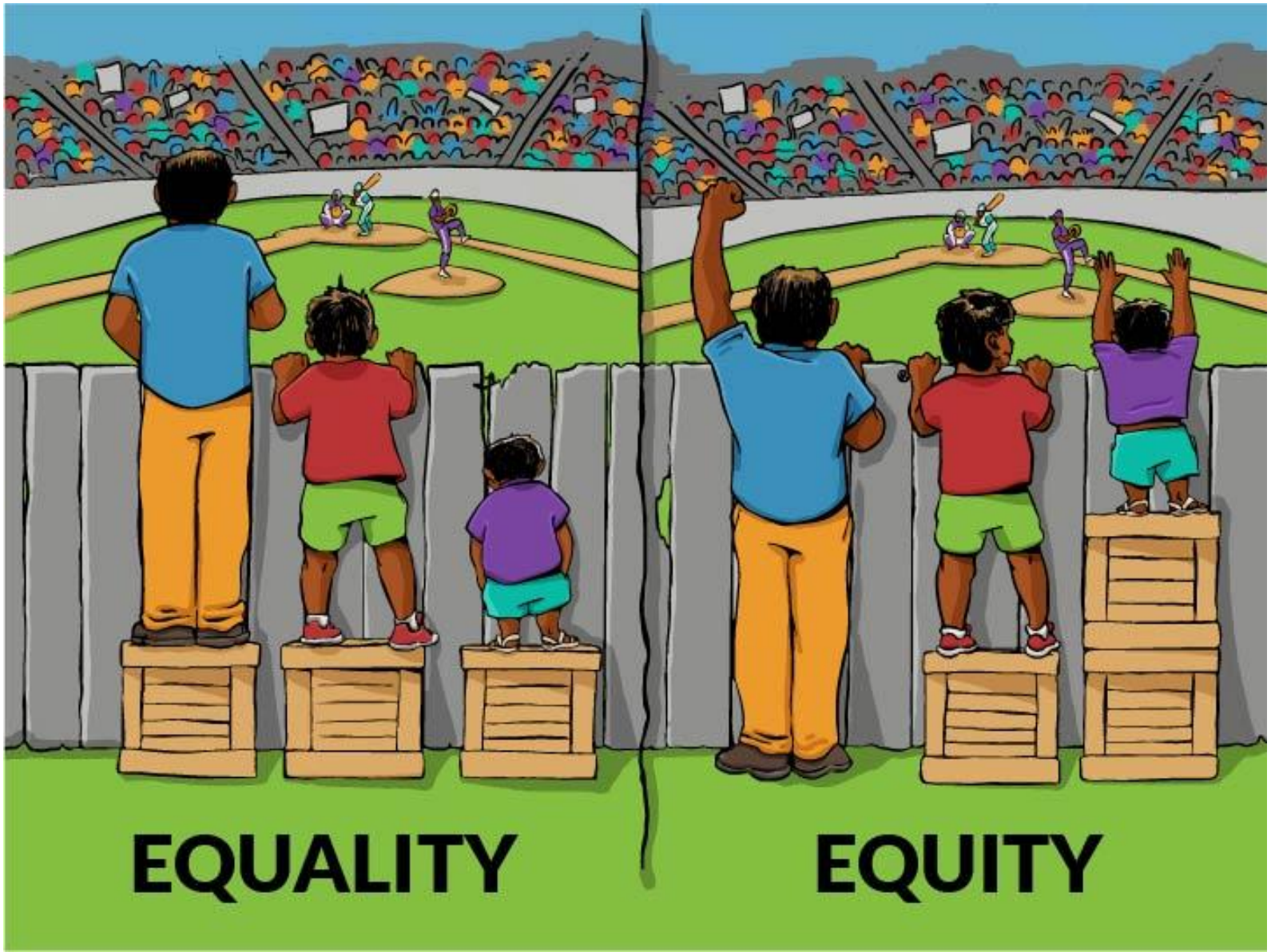
Equity and Efficiency in Financing Communications Equity

Jim Speta
Digital Broadband Migration
February 13, 2017



Overview

- New push for “digital equity” draws on significant history in communications policy
- Equity considerations are increasingly external to communications themselves
 - Not more tractable
- Equity in financing needs to be a bigger part of the conversation



Equity Definitions Aren't

- “Homework Gap”
 - Commissioner Rosenworcel
 - Sesame Workshop
 - Digital Learning Equity Act of 2015 (bill)
- “[C]ivic and cultural participation, employment, lifelong learning, and access to essential services.”
 - National Digital Inclusion Alliance

Internal v. External

- Most digital equity concerns are external to communications
 - Communications is largely (now?) an intermediate good
 - Needs approaches are about things communications helps us do
 - Not a clean line, of course

Mapping Education Equity to Communications

- Range of Education Policy outcomes are indeterminate from a communications perspective
 - *Equalizing the “homework gap”*: All children need to be able to equally access school digital homework and resources
 - Households should have equal communications resources (equality!)
 - Providing equal communications resources requires unequal financial resources (equity!)

- *Equalizing education outcomes*: Children in weaker schools should have greater access to alternative and supplementary online resources (equal outcomes)
 - Households should have unequal and compensatory communications resources (equity)
 - Even more unequal financial resources (equity)
- [Impertinent alternative on education outcomes]

- Equality more tractable for communications policy
 - Equality: more focus on current uses and current penetration
 - Equity: more focus on outcomes (again, external to comms)

Not Just Communications

- Of course, none of these policy conclusions could be satisfied just by traditional communications universal service policy
 - Devices
 - Education
 - New services!!

Expertise and History

- Old days
 - Universal service of broadcast
 - Education and citizenship
 - Universal service of telephone
 - Social service and cohesion
 - Later, employment and safety

- Broadband Plan Chs. 10-16
 - Health care
 - Education
 - Energy and the Environment
 - Economic Opportunity
 - Government Performance
 - Civic Engagement
 - Public Safety

Inequitable Financing

- Why finance broad social goals with fees on communications?
 - No economic reason
 - (Not capture of network externalities)
 - (Not a user fee)

- Current fees
 - Federal USF – 16.7%
 - Local service fees – 15-25%
 - Wireless taxes average 17%, as high as 25%
 - Many per-line fees/taxes
- Comparison: Weighted average sales tax in US is 7.3%

- Telecom fees are not “sin taxes”
 - Driving demand in the wrong direction for equity purposes
- Can be regressive
 - Flat taxes as regressive taxes
 - Truly regressive in current configurations
 - Higher tax rates on wireless services
 - Lower income families more dependent on wireless services

- Income taxes are less demand-distorting and less regressive

Realism

- Telecom funding is somewhat below the radar
- Increasing taxes and spending is difficult
- Infrastructure?

Conclusions

- Communications policy discourse has a history and expertise in the broader equity context
 - As an intermediate, connector good, communications enhancements can create a variety of benefits
- Equity and efficiency in financing should be a larger part of the conversation

- Thanks: j-speta@northwestern.edu

A Capabilities Approach to Communications Equity



Kevin Werbach

The Wharton School, University of Pennsylvania

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Silicon Flatirons Digital Broadband Migration Conference
February 2017

47 U.S.C. §151: “[T]o make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service....”



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

BUSINESS DAY

New F.C.C. Chief Would Curb Agency Reach

By **STEPHEN LABATON**

the new
Republican-appointed chairman of the Federal Communications Commission voiced skepticism today about a wide array of regulations affecting broadcasters, telephone companies, cable operators and Internet service providers.

The regulations have been intended to keep the largest companies from becoming much more powerful, to provide services to those who can least afford them, and to enable officials to supervise markets that they say continue to be controlled by monopolies or lack sufficient competition.

BUSINESS DAY

New F.C.C. Chief Would Curb Agency Reach

By **STEPHEN LABATON** FEB. 7, 2001

Signaling a marked departure from his Clinton administration predecessors, the new Republican-appointed chairman of the Federal Communications Commission voiced skepticism today about a wide array of regulations affecting broadcasters, telephone companies, cable operators and Internet service providers.

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Equity in the Communications Policy Silos

Telephony

Universal service
(rural/high-cost)

Lifeline/Linkup
(low-income)

No “undue/unreasonable
preference or advantage
to any particular person,
class of persons, or
locality” (§202)

Disability access
(TRS/VRS)

Rate-of-return rules

Broadcast/Media

Diversity in ownership

~~Fairness Doctrine~~

Must carry and
program access rules

Disability access
(closed captioning)

Low-power rules

Spectrum

~~Comparative hearings
and lotteries~~

~~Designated entities~~

Spectrum caps

Unlicensed/sharing (?)

Broadband

Schools & Libraries

Connect America Fund

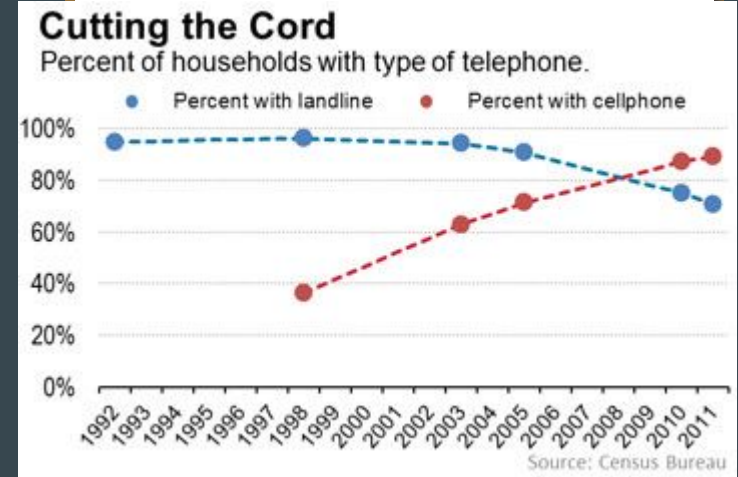
(Internet Essentials)

BTOP grants

Net Neutrality

~~NN exemptions for
small providers~~

(Ironically) Growing Significance of Equity Concerns



- Broadening of universal service:
Implicit subsidies—> telephony mandate—> schools/libraries—> broadband
- Net neutrality framing evolution:
 - Competition (Rules needed in absence of competitive pressure)
 - Freedom (Powell speech / FCC Policy Statement)
 - Openness (FCC proceeding name)
 - Equity (fast lanes and zero rating)

Equity in a Big Data World

- **Convergence**
 - Between communications services (telephony, broadcast, cable, data)
 - Among digital platforms (access, search, social, commerce, logistics, content)
- **Growing importance of big data and predictive analytics**
- **Danger of viewing algorithms as “just math” or “neutral”**
 - E.g., fake news during the Presidential campaign
 - E.g., hiring and credit algorithms with potential for biases and feedback loops
 - Growing interest in data ethics or “algorithmic accountability”
- **Equity shouldn’t automatically stop at silo boundaries**

Three Forms of Equity

1. Customer Equity

- No unreasonable/undesirable discrimination among users, groups, or regions
- Rawlsian fairness — treatment as you'd wish under veil of ignorance
- Fits universal service, but net neutrality?

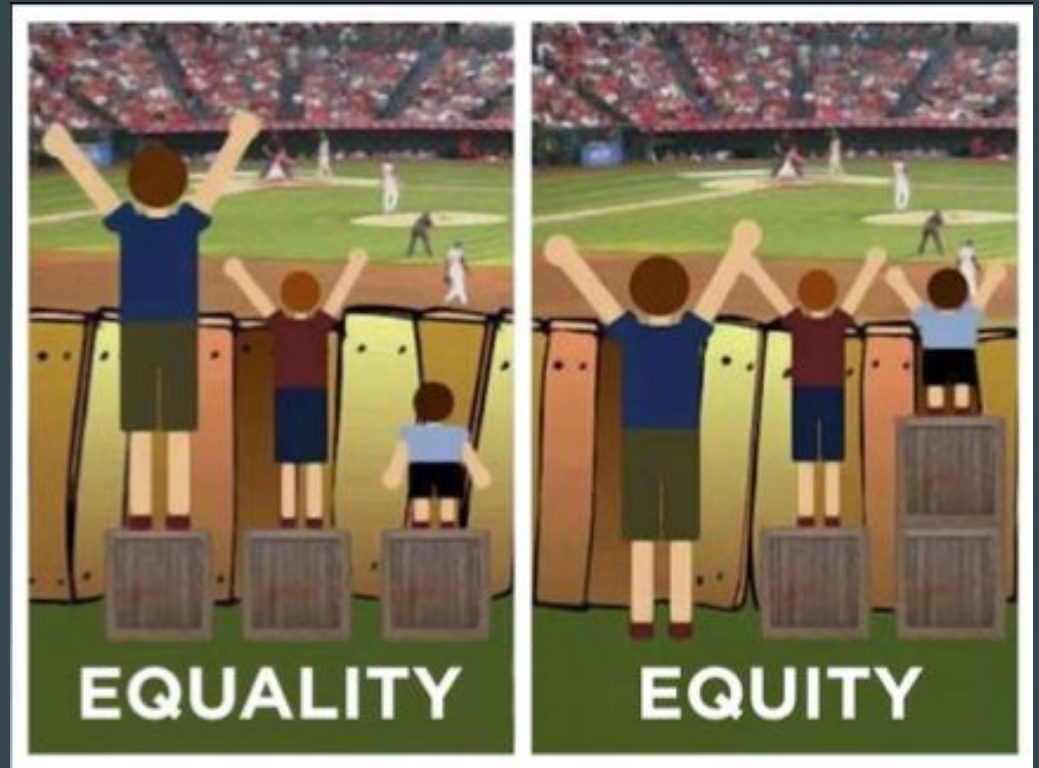
First Principles

About the First Principle

What is Equity?

- Can't be reduced to one metric
 - Everyone gets baseline, similar, or the same service?
 - Individual vs. group fairness
- Reasonable vs. unreasonable discrimination
- Opportunity vs. result

- *How to choose?*
Goes to the next question...



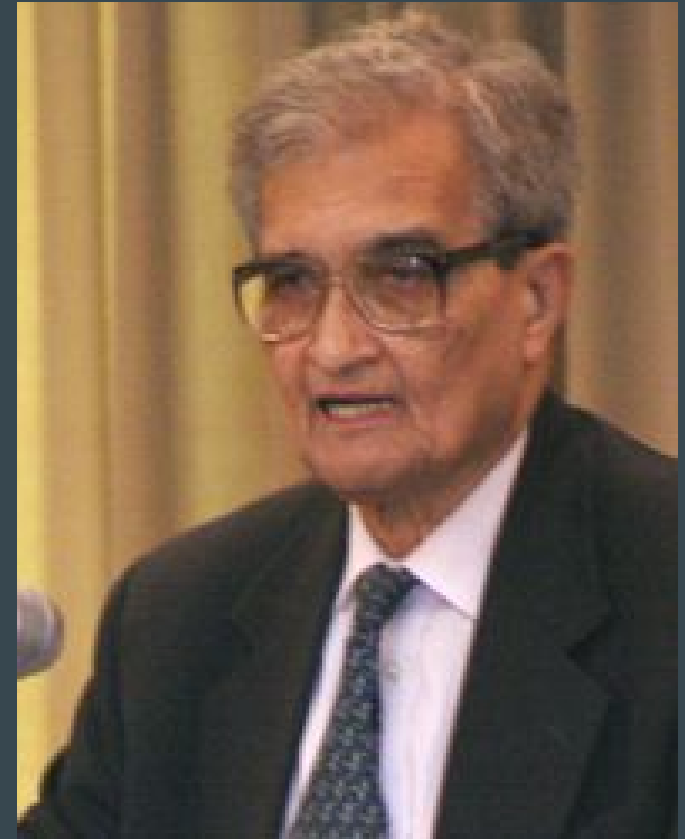
Why Equity?

- **The “Mercedes Divide” (Michael Powell)**
 - Difficulty of choosing when to impose non-discrimination
 - Expressly may privilege less efficient results in the short term
 - Price discrimination actually a desirable thing in economics
- **Answers**
 - It’s in the preamble of the Communications Act
 - Deontological ethical arguments (e.g. Rawls)
 - Market failure (natural monopoly, network effects, high initial costs, etc.)
 - Communications networks essential for democratic citizenship
 - Economic development/innovation benefits (Crawford, Whitt, Wu, Van Schewick, etc.)
 - Access = control points for network platforms
- **Justifications should Match Policy Choices**



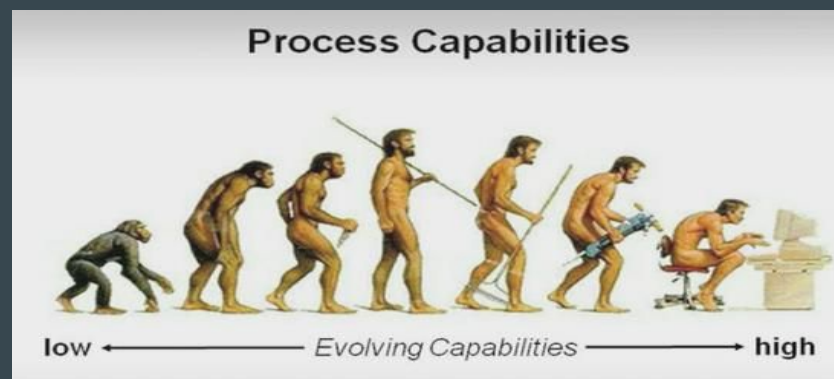
A Capabilities Approach

- Sen/Nussbaum alternative to welfare economics
 - Focus on functionings rather than subjective preferences or income alone
 - Normatively based on freedom or dignity
 - Widely adopted in international development
- What does it mean to have sufficient communicative capabilities?
 - §254(b)(1): “Quality services should be available at just, reasonable, and affordable rates.”
 - What could people do, and what do they need to do it?



Applying the Capabilities Approach

- Baseline levels of capacity/functionality for users
 - Including significant adoption focus, and local pole/conduit/tower infrastructure
 - Greater attention to the demand side, and non-pecuniary impediments.
- Equitable access vs. equality
 - Flexibility on paid prioritization, specialized services, zero rating. But within limits.
- Baseline ability for providers to reach customers
 - Small providers' lack of resources and leverage taken into account.
- User control of their connected experience
 - transparency, opt-out, opportunity to decide which services they want.



Our Shared Goal:



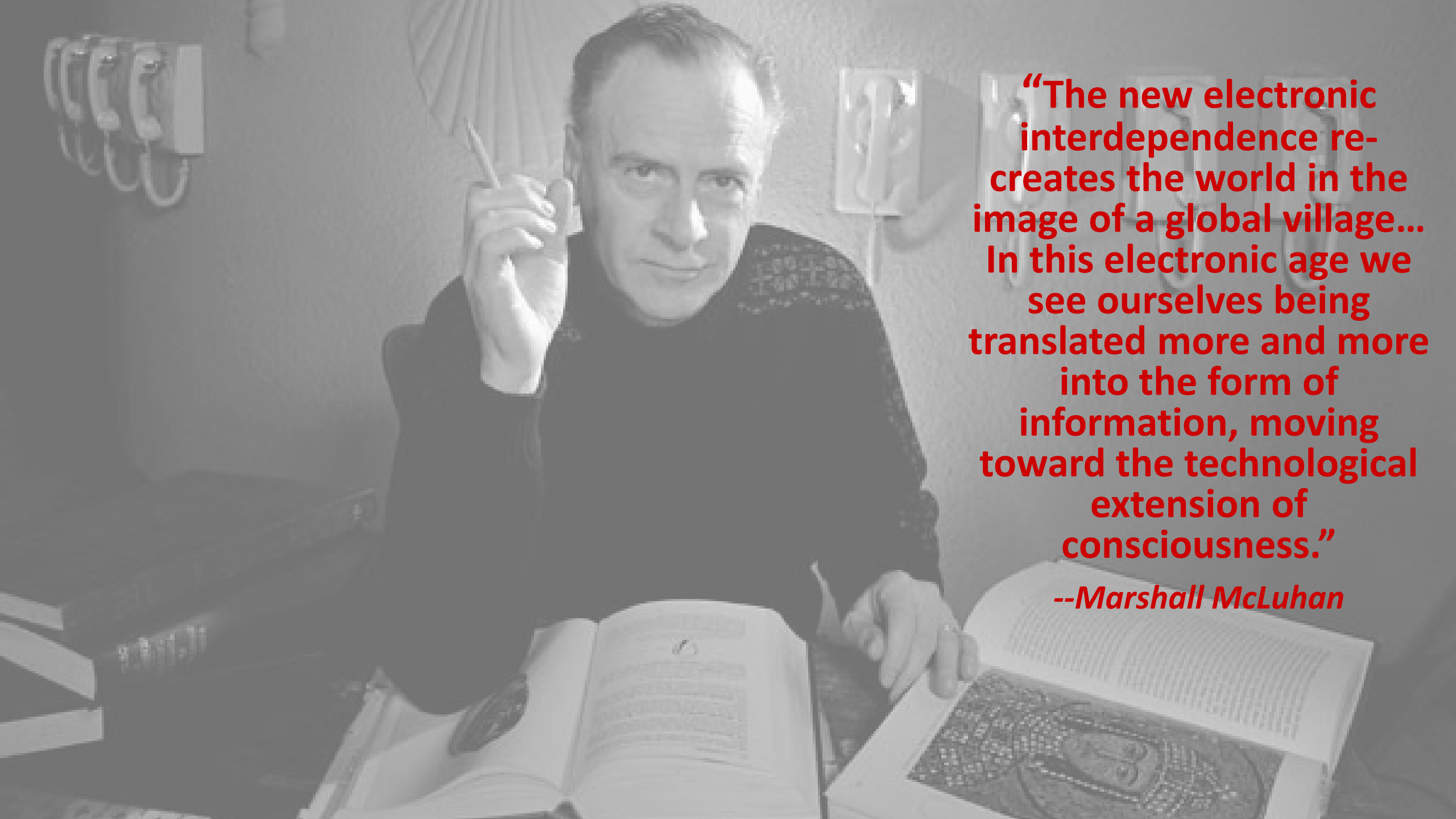
Thanks



werbach@wharton.upenn.edu



xfinity 3:56



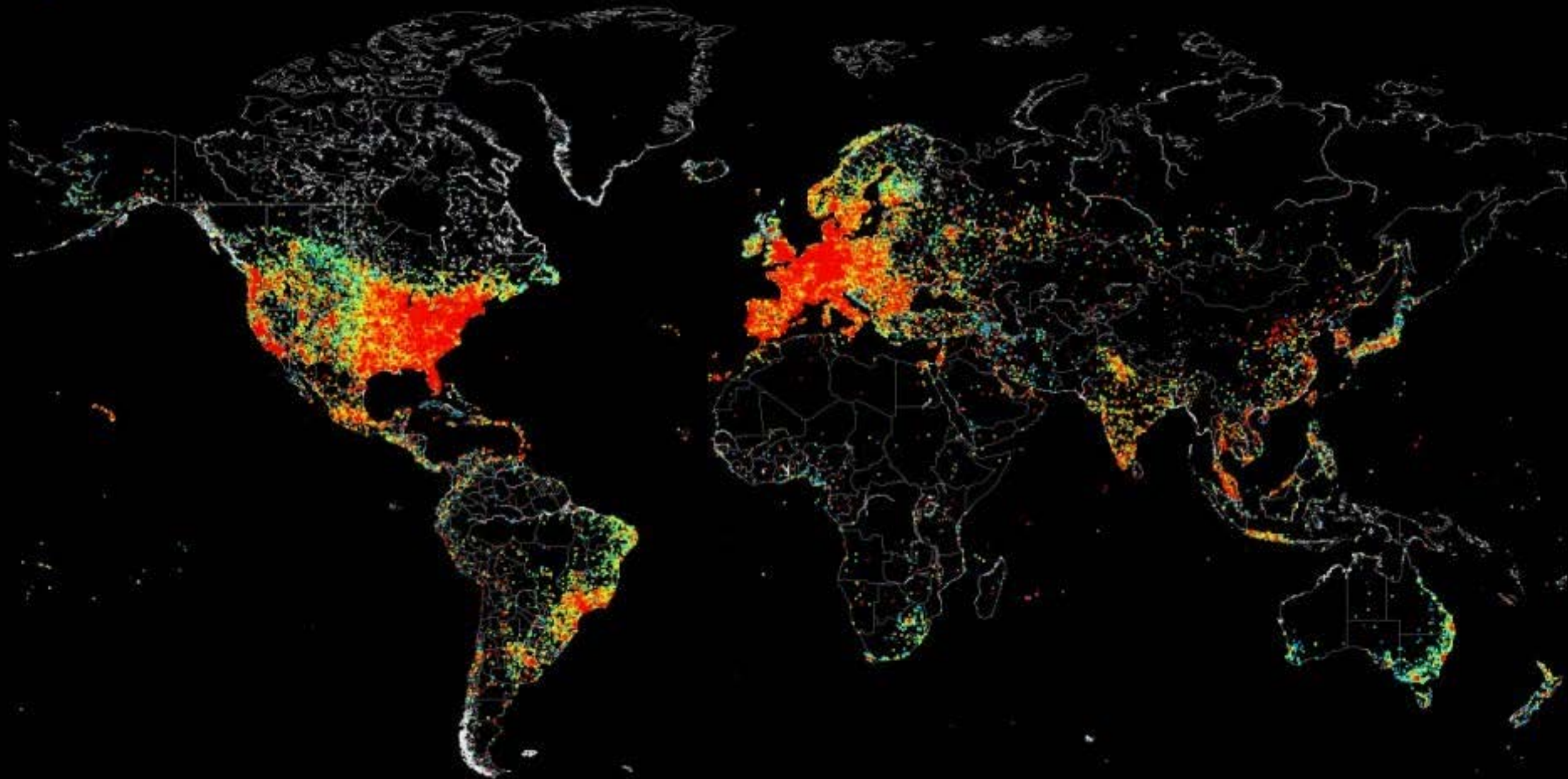
“The new electronic interdependence re-creates the world in the image of a global village... In this electronic age we see ourselves being translated more and more into the form of information, moving toward the technological extension of consciousness.”

--Marshall McLuhan

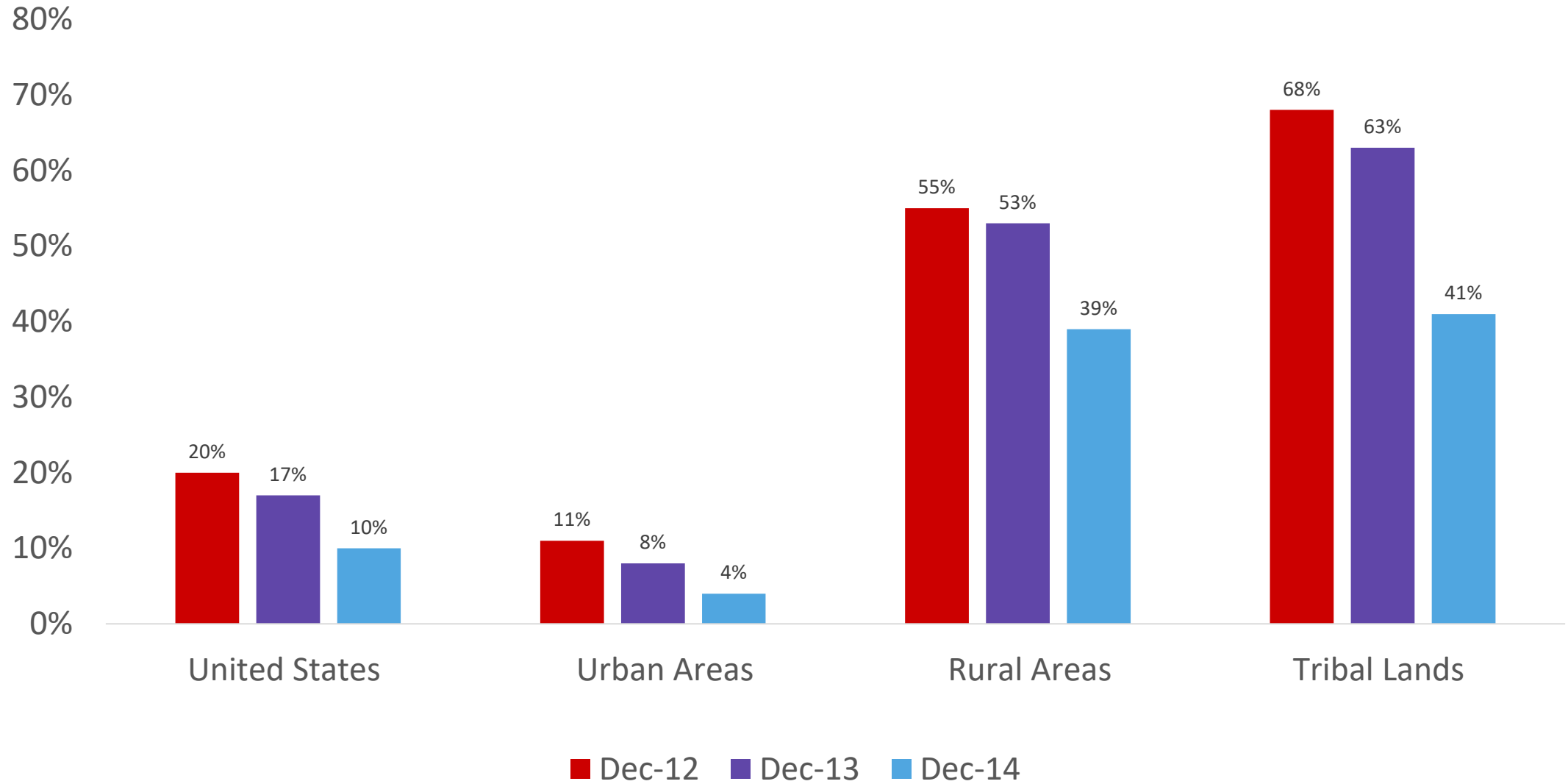


“[G]etting everyone online is not only important for individuals who may be left out of the digital economy, but also for society as a whole that benefits from having everyone connected and contributing online.”

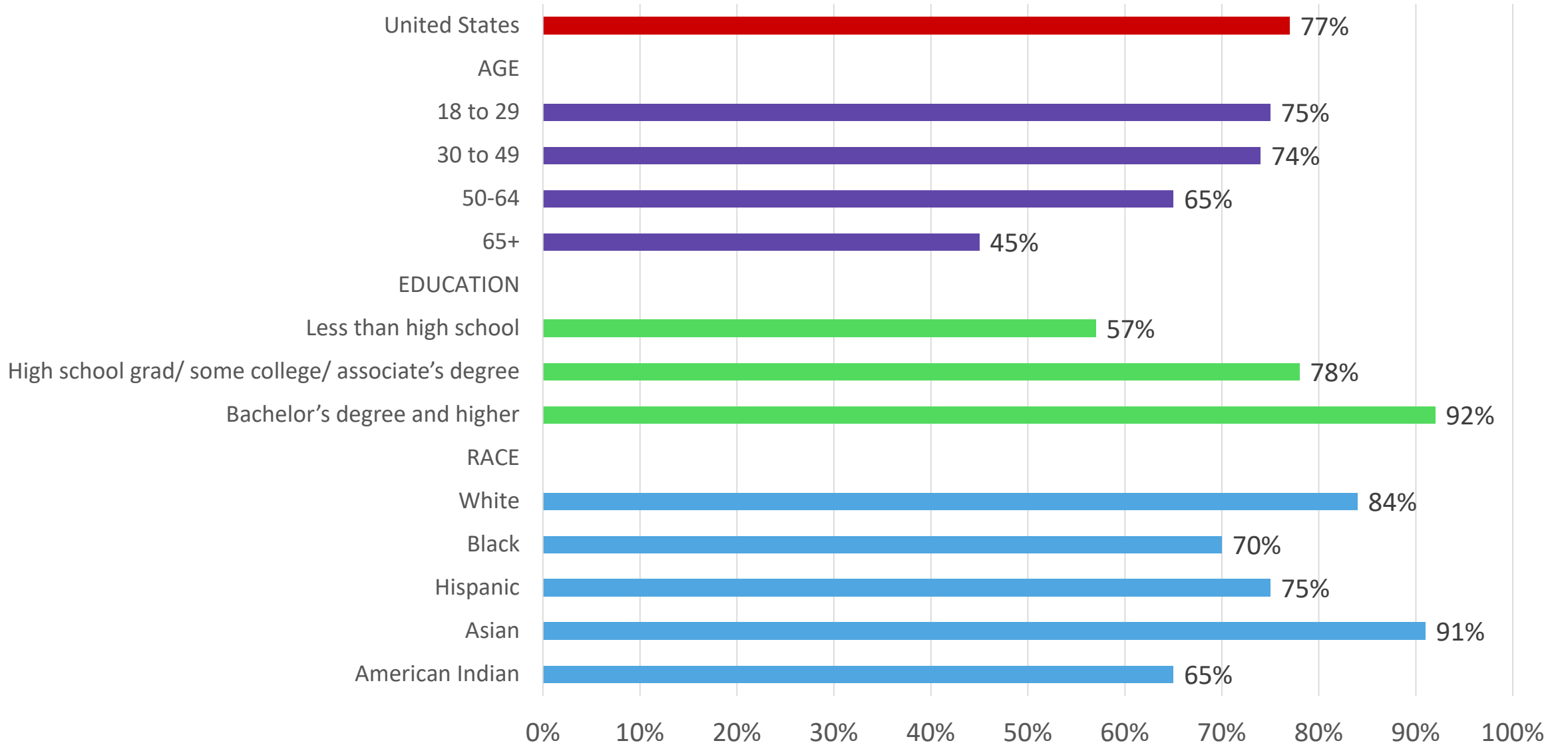
-- 2016 Aspen Institute Report, “Setting the Communications Policy Agenda for the Next Administration”



Population Share Without Access to 25/3 Mbps



Broadband Adoption Rates



The Washington Post

Innovations | Opinion

A new digital divide has emerged – and conventional solutions won't bridge the gap

By [Blair Levin](#) and [Larry Downes](#) October 14, 2016

“Older, rural, and less-educated Americans share one important characteristic — they are all heavy users of government services [...] Migrating entitlements to easy-to-use applications, and providing training through community-based groups, will make the Internet essential, if not irresistible, to those still disconnected.”

“The future is already here,
it’s just not very evenly
distributed.”

-- *William Gibson*



**THE ABSENCE OF EQUITY AND OTHER FLAWS IN MARKET FUNDAMENTALISM
AND THE KEY ROLE OF EQUITY IN PROGRESSIVE CAPITALISM**

MARK COOPER

**Silicon Flatirons, University of Boulder
The Digital Broadband Migration Conference:
The First Principles of Information Policy
Session on Equity**

February 13, 2017

PERVASIVE FLAWS (ALTERNATIVE FACT) OF NEOCLASSICAL MARKET FUNDAMENTALISM COMPARED TO THE REAL FACTS UNDERLYING PROGRESSIVE CAPITALISM

Model Assumptions	Market Fundamentalism	Progressive Capitalism
Units of Analysis	Closed system Individual Utility as an end Risk	Open system due to unpredictability & Choice Institution as means and ends Capabilities as means and ends Uncertainty (Keynesian/Knightian)
Individual Actors	Individual utility maximizers Infinite rationality Full/unlimited information	Socially grounded satisficers Bounded rationality Necessarily limited-information
Market Process	Markets are always efficient Government is part of the problem Diffusion ahistorical & Efficient Continuous & Quantitative Equilibrium mechanism Predictable Mechanistic laws Static	Market failure is substantial and pervasive Government provides solutions Social policy as means and end for development Path-dependent (historicity) Possible significant inefficiency Discontinuous & qualitative (non-Darwinian) Disequilibrium mechanism Unpredictable Interconnected systems Dynamic
Welfare Economics & Policy	Wealth = utility Uniform marginal value of wealth Total social surplus is all that matters Inequality does not matter, in fact more is better to squeeze surplus out of labor	Wellbeing = capabilities Declining marginal value of wealth Distribution of surplus matters between producers and consumers among consumers Excessive inequality is harmful: raise the floor support a refined division of labor sufficiency at the bottom, security & mobility in the middle, constraint at the top
Universal Service	Willingness to pay Static view of benefits Complexity is a challenge that cannot be dealt with Access anywhere is sufficient 80% penetration is okay Barebones functionality is what you get	Ability to pay Dynamic view of benefits Complexity as an indicator of the immense value of access indicates we must solve the problem Access at home is vital to full participation 95% penetration has been the standard of 20 th century infrastructure Full functionality is what we need

Nobel Laurates & New School of Thought Critiquing Market Fundamentalism and Enriching the Understanding of Market Imperfections

S-C-P FACTOR

NEWSCHOOL OF THOUGHT

**Basic
Conditions**

New Institutional/Transaction Cost Economics: Ronald Coase, 1992; Douglas North, 1993; Robert Fogel 1993, Oliver Williamson 2009; Elizabeth Ostrom, 2009
Endemic Flaws: Joseph Stiglitz, 2001; Michael Spence, 2001

**Market
Structure**

Deeper Critique of Structural Imperfections: Paul Krugman, 2008; Jean Tirole 2014; James Heckman, 2008; Angus Deaton, 2015

Conduct:

Behavioral Economics: George Akerloff, 2001; Daniel Kahneman, 2002; Vernon Smith 2002; Robert Shiller, 2013.

Performance:

End of Value Free Economics, Return of Political Economy: Amartya Sen, 1998 and 1 of the above

EQUITY IN PROGRESSIVE CAPITALISM: THE POLITICAL ECONOMY OF JUSTICE

Broad entitlement to include the full range of human capabilities, material, psychosocial, cultural and political

Socially and culturally specific because interpersonal relationships are the foundation of equality

Sufficient not just minimal levels, but levels sufficient to ensure democratic equality “all the way down” the income distribution. Availability should be stated with respect to the median level of consumption of the broader society.

Affordability should be some multiple of the median, perhaps defined by the concept of the living wage. Quality should recognize the hierarchy of needs “all the way up” the income distribution and the need for complementary goods and skills.

Hierarchical to reflect that the level of well-being starts with material well-being as the necessary but not sufficient condition of justice, and to recognize the increasing needs as one moves up the division of labor/income distribution

Evolving to capture the fact that the aspiration of well-being is continually expanding

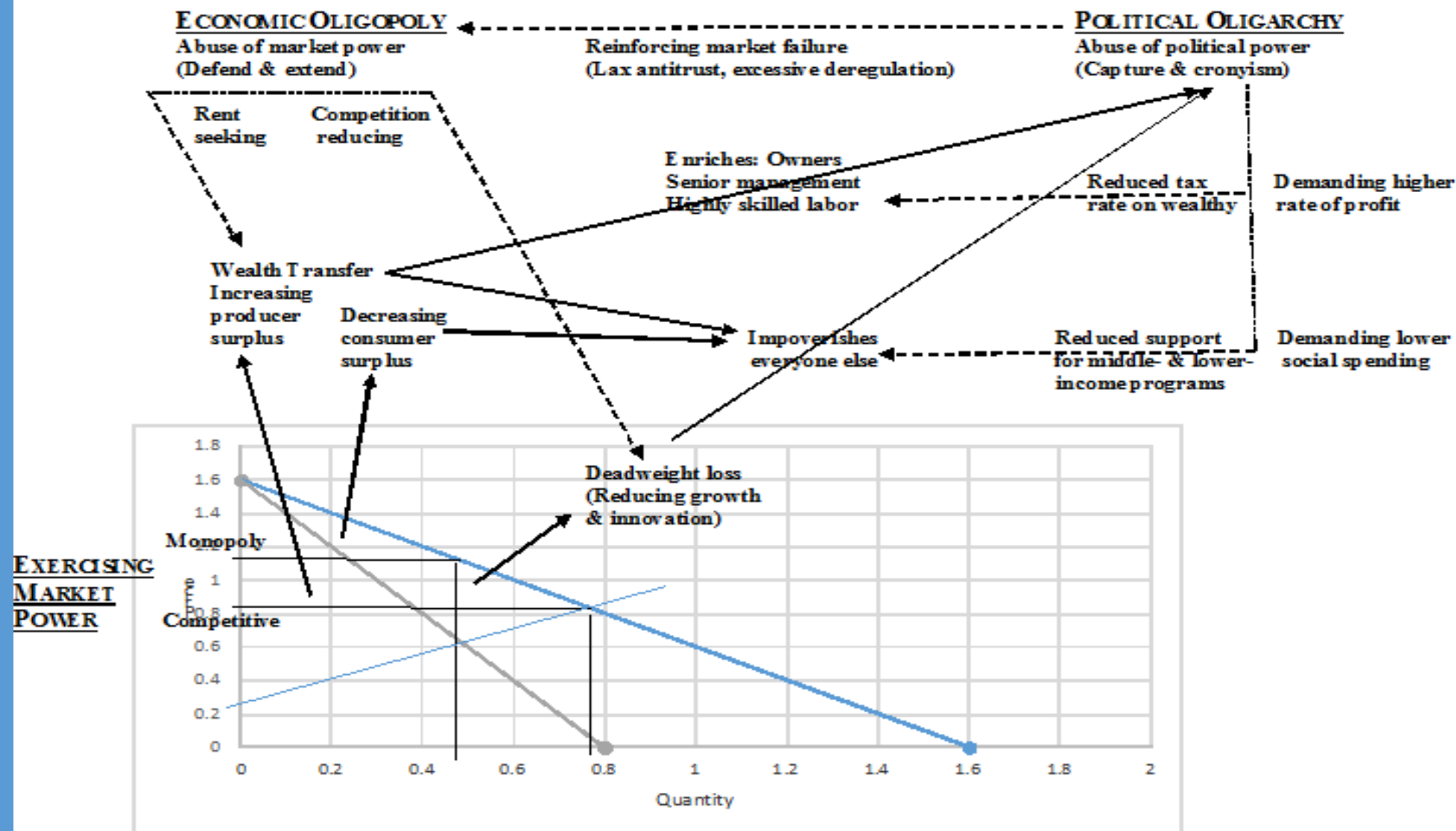
Global to ensure that justice applies to all people

Intergenerational including the lifespan of those currently alive and at least the lifespan of the next generation, which equals roughly the 200-year view

Progressive to recognize that expanding surplus through the division of labor is paramount and redistribution is necessary to provide justice to the least well-off and powerless, supported by the most well-off who shoulder a greater burden, i.e. progressive taxation. Innovation should be rewarded, while indolence and abuse should be deterred and a crypto-plutocracy of the wealthy avoided

Pragmatic to reflect the fact that simplistic, extreme concepts tend to be based on erroneous assumptions that do not fit the complex reality of contemporary society; that a wide range of outcomes is possible and sustainable, and that directionality (improving performance) is important because justice is aspirational and evolving.

**THE POLITICAL ECONOMY (WELFARE ECONOMICS) OF MARKET POWER AND INEQUALITY:
POLITICAL OLIGARCHY REINFORCES ECONOMIC OLIGOPOLY**



PRINCIPLES AND PRACTICE FOR REGULATION IN PROGRESSIVE CAPITALISM

Scherer & Ross on “Good Market Performance”

Be efficient: Not waste scarce resources,

Be responsiveness to consumer demand

Not allow excess profits

Progressive: Taking advantage of opportunities opened by science

and technology to increase output contributing to long run growth of real per capita income & provide consumers with superior new products.

Equitable distribution of income

Facilitate stable full employment resources, especially human resources.

Hepburn on Market Failure & Environmental Policy

Address imperfection of price, externalities non-marginal effects, recognize complex uncertainty, engage in market creation

Recognize unwillingness to pay

Control rent seeking by market and Gov't.

Subsidize R&D, promote coordination

Provide infrastructure

Address principal agent problems

Be impartial, stable and risk aware

Promote quality administration of rules

Stiglitz, Principles for Productive Taxation

Tax to improve efficiency.

Tax things that don't disappear when taxed

Tax bads, recognize unwillingness to pay

Tax worse, not better things

Tax to reduce monopoly profits and rents,

Close tax loopholes

Tax to improve incentives to stimulate investment

Tax to raise money for social purposes

Tax progressively to improve the distribution of income

Tax to improve incentives to stimulate creation of jobs

Being Careful About Name Calling

Fascism is a form of radical authoritarian nationalism usually placed on the far-right within the traditional left–right spectrum... Fascists believe that liberal democracy is obsolete. Such a state is led by a strong leader—such as a dictator and a martial government composed of the members of the governing fascist party—to forge national unity and maintain a stable and orderly society. Fascism views political violence, war, and imperialism as means that can achieve national rejuvenation. Fascists advocate a mixed economy, with the principal goal of achieving autarky through protectionist and interventionist economic policies.

Crony capitalism is a term describing an economy in which success in business depends on close relationships between business people and government officials. It may be exhibited by favoritism in the distribution of legal permits, government grants, special tax breaks, or other forms of state interventionism. Crony capitalism arises when business cronyism and related self-serving behavior by businesses or businesspeople spills over into politics and government, or when self-serving friendships and family ties between businessmen and the government influence the economy and society to the extent that it corrupts public-serving economic and political ideals.

Mercantilism was an economic theory and practice that was dominant in Western Europe during the 16th to mid-19th centuries.^[1] Mercantilism is a form of economic nationalism. Its goal is to enrich and empower the nation and state to the maximum degree, by acquiring and retaining as much economic activity as possible within the nation's borders. Manufacturing and industry, particularly of goods with military applications, was prioritized. Mercantilism sought to ensure the nation produced as much volume and variety of output as possible, so as to limit its dependence upon foreign suppliers. Economic autarky was a critical element of mercantilism.

URL for Kennedy's Berlin Speech: <https://www.youtube.com/watch?v=56V6r2dpYH8>

Text of Kennedy German Peace Corps (Dante) <https://www.jfklibrary.org/Asset-Viewer/Archives/JFKPOF-045-016.aspx>

URL for Bonn (not Dante) <https://www.jfklibrary.org/Asset-Viewer/Archives/JFKWHA-196-001.aspx>

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“Energy Justice in Theory And Practice: Building Pragmatic, Progressive Roadmap,” in Thijs Van de Graff, Benjamin K. Sovacool, Arunabha Ghosh, Florian Kern and Michael T. Klare (Eds.) *The Palgrave Handbook of the International Political Economy of Energy*, (MacMillan, 2016)

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“The ICT Revolution in Historical Perspective: Progressive Capitalism as a Response to Free Market Fanaticism and Marxist Complaints in the Deployment Phase of the Digital Mode of Production.” *Telecommunication Policy Research Conference Session on Innovation*, 2015.

“Progressive Capitalism in the Information Age: Regulatory Institutions for a Dynamic, Digital Economy Securing the Golden Age of the Digital Revolution with Traditional, Progressive Values in a New Regulatory Framework, *Columbia Institute for Tele-Information*, 2015