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THEME OVERVIEW: BRINGING BROADBAND TO RURAL AMERICA

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Rural America can be better connected to broadband, or high-speed Internet. With the passage of the American Recovery and Reinvestment Act (ARRA) of 2009, rural America should receive billions of dollars devoted to improving broadband access. ARRA provided:

- the U.S. Department of Agriculture's Rural Utilities Service (RUS) with $7.2 billion for broadband infrastructure projects through its Broadband Initiatives Program (BIP), and
- the National Telecommunications Information Administration (NTIA) with $4.7 billion to establish the Broadband Technology Opportunities Program (BTOP) to increase access and adoption and stimulate demand for broadband.

RUS received $2.5 billion specifically dedicated to expand access to broadband services in rural America (U.S. Department of Commerce, 2010a). But will it be enough? Will rural America finally, fully participate in the global knowledge economy of the 21st Century as does its urban neighbors? Or, will rural America remain synonymous with "the land of dial-up?" So far, the best answer is: maybe, maybe not.

The Maybe

Barnes notes in the first of the theme papers that the United States is spending more on broadband infrastructure than any other country. He also notes for the first time the United States has a National Broadband Plan which was developed for the Federal Communications Commission (FCC), the regulatory agency of the telecommunications industry. The plan outlines several recommendations that should be implemented to improve rural America's position in the global broadband adoption race. He notes some studies have concluded that ARRA funding may move the United States from 22nd to the top ten in terms of broadband speed available to rural and urban adopters; this may be enough for the Obama Administration to conclude the overall investments in broadband deployment were successful. Whitacre also shows how rural broadband adoption has increased in Oklahoma during the 2000s. Lane describes how educational curricula have been developed to support land-grant university extension faculty as they work with rural communities to better connect to the global e-business marketplace. Rural America should benefit from all of this. Maybe broadband is on the way.

The Maybe Not

On the other side, debate continues about rural broadband adoption and how or if such investments will bring broadband to rural America. Dickes, Lamie, and Whitacre show that since 2001 rural America continues to lag urban in broadband adoption by 20%. More importantly, nothing yet has changed this digital divide reality. Stenberg also notes the uneven development of local, state, and national policies could add significant cost to the deployment and use of broadband in rural America. Changes in political environments could influence broadband availability and subsequently rural adoption.

The institutional design of ARRA broadband funding may have missed the mark as well. Building a digital bridge to rural America requires knowing the location of existing broadband infrastructure in the United States. Yet, BTOP and BIP program grant funds were allocated before any nationwide map was developed, which meant broadband infrastructure projects would be funded before any map could be created. Nevertheless, based on Section 6001(1) of the ARRA, NTIA must develop and maintain an interactive nationwide map of where broadband is deployed and available in each state by February 17, 2011. Thus far, the cost for this has totaled $293 million dollars. More monies will be spent to create a nationwide map that utilizes state-by-state data. NTIA has hired ASR Analytics, LLC to develop and maintain the nationwide broadband map. The timing of the funding may prevent the development of an accurate map, but that is not the largest obstacle to development of a nationwide map. Under NTIA grant terms, a state has no formal recourse if broadband providers do not submit data to the organization hired by the state to produce its map. The NTIA state mapping program only asks broadband providers to voluntarily submit data to the organization chosen to create each state map or multi-state maps. If broadband providers do not submit data, then ASR Analytics, LLC will be unable to create an accurate nationwide map. The possible lack of an accurate nationwide interactive map does not bode well for bringing broadband to rural America.

Land-Grant University Faculty Can Contribute

Agricultural economists who conduct research on innovation, adoption, regional economic impacts, institutional change, and transaction cost economics should find ample settings to learn how the injection of $11.9 billion in broadband infrastructure resources affects technology adoption, rural regions, and the type and magnitude of institutional change at local, state, and national levels, as well as the transaction costs of rural adoption. Also, extension faculty who typically work with rural communities will find new ways to work with rural entrepreneurs and regional development organizations. Some examples include:

- Dickes, Lamie, and Whitacre demonstrate how an examination of the factors affecting rural broadband adoption is a useful place to begin. They note that partnerships with rural utilities and building infrastructure in rural areas where no access currently exists would be best served by encouraging competition among broadband providers. Whitacre also shows how a similarly applied analysis sheds light on how rural broadband adoption increased in Oklahoma in the 2000s. He notes that demand-side programs may have much potential for encouraging rural adoption more broadly;
- Stenberg and Lane describe different, yet complementary aspects of institutional change in political and educational institutions. Stenberg highlights the institutional change that has shaped American Internet policy and Lane discusses the characteristics of institutional change that led to the development of the National e-Commerce Extension Initiative (NEEI), an initiative that provides technology based education to rural entrepreneurs and communities through extension faculty engagement;
- Barnes argues using the Internet is similar to adopting an experience good in that high uncertainty of adoption benefits, due to transaction costs, may inhibit rural broadband adoption. He presents evidence of institutional change in rural Louisiana as broadband demonstration projects were implemented through the Louisiana Delta Initiative;
- Lane explains the educational curricula available through the NEEI. Both Barnes and Whitacre explain that part of Oklahoma and Louisiana's rural development models include teaching e-business/entrepreneurship courses that include Facebook, Wordpress, and the like. Barnes explains how extension faculty can work with traditional economic development organizations to bring rural regions together to focus on broadband deployment and use; and
- Dickes, Lamie, and Whitacre; Barnes; Whitacre; and Lane agree extension faculty could help bring broadband to rural America by providing more demand-side education to rural entrepreneurs and others in rural communities.

The ARRA broadband funding will provide new opportunities for research and extension faculty to work together more closely with rural communities. Implementing broadband educational programs and public awareness campaigns in rural communities where broadband infrastructure investments have been made will provide an opportunity to study and work with rural communities that receive infrastructure improvement and education and those that do not; the prime conditions that allow natural economic experiments. Maybe in the near future, faculty will find that broadband not only came to rural America, but it also made an economic difference.

For More Information

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