



JOINT ECONOMIC COMMITTEE

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The Transition to Digital Television: The Benefits of Setting a Hard Date

In the near future Congress will consider legislation that sets a definite date for the transition from analog to digital television. This paper examines: 1) the benefits of making the transition, 2) the issue of providing subsidies to viewers impacted by the transition, and 3) whether legislation should also adjust the transmission requirements imposed on cable and satellite broadcasters.

The Benefits of Converting to Digital Broadcasting

The benefits of digital conversion far exceed the inconvenience and cost of new investment. These benefits are spread widely throughout society so that few, if any groups, lose on a net basis. Most of the benefits from the additional spectrum made available will go directly to consumers in the form of better and more varied services at lower prices. The total benefits fall into four categories.

- **Digital Television Services** – Conversion allows more information to be included in a given amount of radio spectrum. This will give viewers more choices and improved quality through services like dramatically sharper reception, high-definition TV, additional channels, and new data services.
- **Proceeds from the Sale of Spectrum** – Once the conversion is complete a significant amount of spectrum will be auctioned off for other uses. The proceeds from this auction are estimated at \$17 billion to \$21 billion.¹
- **Public Safety Spectrum** - The conversion will also allow 24 megahertz of the returned

spectrum to be devoted to public safety uses. This will enable public safety officials to build common communication systems so that officials at the scene can exchange information and tap into existing databases in order to increase the efficiency of their response.

- **The Use of Auctioned Spectrum** - By far the largest economic gains will be associated with the use of the spectrum freed up by using digital signals. In addition to the 60 megahertz that will be auctioned, an additional 24 megahertz that is already in private hands will increase in value because it will no longer be encumbered by interference from the surrounding broadcast spectrum that will be returned. Based on the rapid growth of telecommunications capability, it is likely that this spectrum will be used to dramatically expand the choices available to consumers and to reduce the price of services they already receive. One of the most important possibilities involves the delivery of wireless broadband internet service that could compete with DSL and cable, especially in rural areas where the cost of extending physical lines remains high. Another possibility is a dramatic increase in mobile IP-enabled technology like telephone and internet service. The total value of consumer benefit to be created from this spectrum is extremely speculative, but one estimate is between \$200 billion and \$432 billion.²

Related Issues

During its consideration of the bill, Congress may be faced with two related issues: 1) whether to provide a subsidy to television viewers and 2)

¹ Coleman Bazelon, *Analysis of an Accelerated Digital Television Transition*, Analysis Group, Washington D.C. May 31, 2005, pp. 8-10.

² *Ibid.*, p. 10.

whether to change the current obligations of cable and satellite companies to transmit the signals of local broadcasters.

Should Congress Provide a Subsidy?

Although digital televisions are increasingly available, most viewers will still have analog televisions when the conversion is complete. In order for these sets to work, the digital signal will have to be converted into an analog signal. Cable and satellite companies are likely to solve this problem for their viewers by either converting the signal at their central facilities or giving viewers a set-top box. However, the 10-15 percent of viewers who still rely on over-the-air reception will need an external converter costing about \$50. Many people have called for a subsidy to help defray this cost. Three possible proposals are to: 1) provide a subsidy for all analog television sets, 2) purchase one converter for all households that do not subscribe to cable or satellite service, and 3) provide a subsidy only to those with low incomes.

Any subsidy will likely have a high cost-benefit ratio. It will have to overcome difficult questions concerning eligibility and organization and will discriminate against those consumers who make the transition early. There is an inevitable tradeoff between the narrowness of the subsidy and the costs of administration. A subsidy that is broadly targeted will end up buying lots of converters, many of which may never be used, for people that can easily afford them. However, a narrow subsidy aimed at low-income viewers will require efforts to verify eligibility and may create opportunities for fraud. A copayment would ensure that converters are likely to be used, but would be more difficult to administer. Whatever the scope of the subsidy, Congress will have to design an administrative mechanism. No agency of government is naturally suited to run such a program. If the program relies on equipment manufacturers or stores, Congress will have to find a way to ensure program integrity without imposing large administrative burdens on private companies.

The Transmission Issue

Broadcasters are lobbying Congress to force cable and satellite viewers to carry all of the digital channels that they broadcast. Because digital signals use less spectrum, broadcasters can fit up to six channels within the 6 megahertz formerly required for one. As a result, the number of channels is likely to increase by several times. Under current must-carry requirements, cable companies will have to carry only the main digital signal offered by local broadcasters. This signal might be in either standard or high-definition format. This requirement maintains cable viewers' current access to the main programming of each broadcaster in its original format.

Most observers agree that viewers should ultimately decide what programming survives market competition. There is an active market for television content, in which broadcasters already enjoy preferred access. To the extent that new technology justifies changes in the legal obligation of cable and satellite companies, the Federal Communications Commission is fully equipped to respond. Broadcasters, having seen the vast majority of their audience turn to cable and satellite companies, want Congress to guarantee them an audience regardless of the quality of the programs that they produce.

Conclusion

Converting to digital signals will produce enormous benefits for the country by freeing up radio frequency for more valuable uses. Some of the benefits of this transition will take the form of improved broadcast services for television viewers, increased federal revenues, and better public safety. Most benefits, however, will go to consumers in the form of new services such as high-definition television, interactive TV, and wireless broadband internet service and as lower prices on existing services such as wireless phone service. In order to complete the transition to digital, Congress needs to set a hard date for the end of analog broadcasting.