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George S. Ford, Chief Economist

6 January 2023

Senator John Thune
United States Senate SD-511
Washington, DC 20510

RE: Response to Letter of December 6, 2022

Dear Senator Thune:

Thank you for your letter of December 6, 2022, inviting me to respond to a series of questions about the implementation of the Infrastructure Investment and Jobs Act (IIJA) as you conduct your important oversight role. While some of your questions are straight forward, several of the questions raise complex legal and economic issues ill-suited to quick answers. To provide the necessary context, please find attached several of the Phoenix Center's academic papers you may find informative (our other relevant papers are cited in the footnotes with links).

The first paper is entitled *The Law and Economics of Municipal Broadband*, 73 FEDERAL COMMUNICATIONS LAW JOURNAL 1 (2020).¹ While the focus of the paper is on the law and economics of municipal broadband, the paper also provides an excellent primer on the fundamental economics of broadband deployment, including an important discussion about the need to respect the concept of equilibrium industry structure.

The second paper is entitled *Bridging the Digital Divide: What Has Not Worked But What Just Might*, PHOENIX CENTER POLICY PAPER NO. 56 (June 2020).² This paper asks and answers a fundamental question: what is the most efficient way to spend federal

¹ Available at: <http://www.fclj.org/wp-content/uploads/2020/09/MunicipalBroadbandArticleFINAL.9.2.20.pdf>.

² Available at: <https://www.phoenix-center.org/pcpp/PCPP56Final.pdf>, and published as *Bridging the Digital Divide: An Empirical Analysis of Public Programs to Increase Broadband Adoption*, 67 TELEMATICS AND INFORMATICS (February 2022) (available at: <https://doi.org/10.1016/j.tele.2021.101754>).

broadband subsidy dollars? Importantly, the paper includes an empirical analysis demonstrating the failure of an earlier multi-billion-dollar broadband subsidy program managed by the NTIA intended to increase broadband availability.

The third paper is entitled *Middle-Class Affordability of Broadband: An Empirical Look at the Threshold Question*, PHOENIX CENTER POLICY BULLETIN NO. 61 (October 2022).³ This paper looks squarely at the NTIA's effort to impose "a middle-class affordability plan to ensure that all consumers have access to affordable high-speed internet" in order to be eligible for "Broadband Equity, Access, and Deployment" ("BEAD") program funding.

The fourth paper is entitled *Regulation and Investment in the U.S. Telecommunications Industry*, APPLIED ECONOMICS (23 July 2018), a peer-reviewed study which demonstrates how the FCC's decision 2015 to reclassify broadband as a Title II common carrier telecommunications service reduced investment.

The final paper is entitled *Digital Discrimination: Fiber Availability and Speeds by Race and Income*, PHOENIX CENTER POLICY PAPER NO. 58 (September 2022). In this paper, we provide a definition of digital discrimination and describe the sort of empirical conditions and methods needed to quantify it. Having defined the problem and analytical framework, we then conduct an empirical analysis of digital discrimination in fiber deployment and broadband speeds. Our results are encouraging—we could not find any systematic evidence of digital discrimination by race or income level.⁴

My answers to your specific questions are detailed below:

Infrastructure Investment and Jobs Act-specific Issues:

- 1. As part of the IIJA, Congress established a technology-neutral approach for the BEAD program. Do you believe NTIA followed Congress' intent in establishing a technology neutral approach? If not, should Congress consider amending the IIJA statute to make it more explicit that all technologies are allowed to participate? If so, how?**

According to Section 60307 of the IIJA, NTIA "shall, to the extent practicable, carry out this title in a technologically neutral manner." Still, NTIA's Notice of Funding Opportunity ("NOFO") states that NTIA will "prioritize projects designed to provide fiber connectivity directly to the end user." (NOFO at p. 7). While fiber certainly has its positive attributes, NTIA does not ask whether fiber deployment is the most cost-effective solution. Indeed, press reports indicate that some broadband subsidy programs have issued grants spending over \$200,000 to pass a single home with fiber (without any guarantee that the intended end-user will even subscribe).⁵ There is no

³ Available at: <https://phoenix-center.org/PolicyBulletin/PCPB61Final.pdf>.

⁴ Available at: <https://phoenix-center.org/pcpp/PCPP58Final.pdf>.

⁵ See, e.g., D. Goovaerts, *The Cost of Running Fiber in Rural America: \$200,000 Per Passing*, FIERCETELECOM (September 27, 2022) (available at: <https://www.fiercetelecom.com/broadband/cost-running-fiber-rural-america-200000-passing>); *Rural Broadband Deployment: Improved Consistency with Leading Practices Could Enhance Management of Loan and Grant Programs*, Government Accountability Office, GAO-17-

economic justification for such large subsidy amounts to provide broadband service, especially when modern satellite services are already available at reasonable prices. For 7% of the that funding, the government could have paid for Starlink's satellite broadband service for ten years, including the purchase of the necessary equipment. (Over ten years, the cost of a Starlink connection is about \$13,700 at current prices). In my estimation, the twenty-year net present value of a home broadband connection is about \$18,000-\$28,000, so subsidy levels should rarely, if ever, exceed this amount, especially when suitable alternatives to wired connections exist.⁶ (As a contrast, Georgia awarded \$234 million in broadband grants at an average subsidy of \$3,050 per passing.⁷) If comparable yet lower-cost technologies are available to serve unserved and under-served communities, it would appear that NTIA's preference for fiber (or fixed-line services generally) should be revisited with careful consideration of the tradeoffs between the returns on a broadband connection and available and adequate broadband services that do not require subsidies.

2. In the BEAD Notice of Funding Opportunity (NOFO), there are detailed reporting requirements on subgrantees who do not use a unionized workforce or a project labor agreement. As a practical matter, do you think this favors certain providers over others? Does Congress or NTIA need to take further action to remove this requirement?

The NOFO obviously favors providers that use union workforces, which is a plainly partisan position. However, as union labor is often more expensive than non-union labor, then, by definition, a union labor requirement will raise the cost of network deployment and reduce returns on investment. Moreover, not all broadband providers use union labor, so the requirement clearly favors some firms over others. The goal of the IJA is to *get broadband delivered to unserved households*; implementation by the Biden Administration should not be allowed to use these subsidy dollars to favor political constituencies. Congress and the NTIA should consider removing this preference.

301 (April 2017) (available at: <https://www.gao.gov/assets/gao-17-301.pdf>); *USDA Should Evaluate the Performance of the Rural Broadband Loan Program*, Government Accountability Office, GAO-14-471 (May 2014) (available at: <https://www.gao.gov/assets/gao-14-471.pdf>). It should also be noted that while many contend that root cause for the lack of adoption is "affordability," the data do not bear this argument out. According to the U.S. Census Bureau, the primary reason for the lack of adoption is *relevance*. G.S. Ford, *Confusing Relevance And Price: Interpreting And Improving Surveys On Internet Non-Adoption*, 45 TELECOMMUNICATIONS POLICY (March 2021) (available at: <https://doi.org/10.1016/j.telpol.2020.102084>).

⁶ I assume a linear demand curve, an own-price demand elasticity of -0.50, a mean price of \$60, and a discount rate of 4%. The higher value assumes a 50% social premium markup over the private valuation.

⁷ D. Goovaerts, *Comcast, Charter Win Big as Georgia Awards \$234M for Broadband Expansion*, FIERCETELECOM (January 6, 2023) (available at: <https://www.fiercetelecom.com/broadband/comcast-charter-win-big-georgia-awards-234m-broadband-expansion>).

3. The BEAD NOFO promotes government-owned networks. Do you believe government-owned networks are an effective entity to deploy broadband networks? If yes, please explain.

If the market is not served (*i.e.*, it is unprofitable for the private sector to enter), then municipalities can effectively deploy a broadband network. Many have (often in questionable scenarios) and consumers buy their services. However, as we explained in our paper (and discussed below in my answer to your question about overbuilding in the next section), if the market is already at equilibrium (*i.e.*, several firms are already present in the market), then artificially introducing a GON as a new “competitor” may cause one or more incumbent firm to exit the market.

More importantly, as we also detail in this paper, government-owned networks (GONs) require significant subsidies (either from the captive ratepayers of the local municipal electric utility or from the federal government) to remain viable. And, even with such subsidies, these GONs often still go broke, leaving taxpayers holding the bag. Accordingly, GONs can often be accurately described as “predatory entry.” Such entry deters private investment.

4. One of the provisions of the IJA requires products and materials used for broadband projects to be produced in the United States. Given the current supply chain issues, should Congress consider modifying this obligation or otherwise clarify this provision?

I would seriously consider removing this requirement if we want the network deployment funded by the IJA completed anytime soon. While certainly a worthy goal, requiring U.S. products delays deployment, especially given the ongoing supply constraints and historical evolution of the equipment market to produce equipment outside the United States. Such a requirement also is likely to raise the cost of deployment, thereby reducing the effectiveness of the subsidies to reach more households. If you have a fixed amount to spend and raise prices, then you get less deployment when the costs of deployment are unnecessarily increased. Broadband network will be deployed faster and more widely if providers are permitted to purchase inputs according to their own price/quality preference without interference from Congress, apart from national security concerns.

5. The Broadband Buildout Accountability Act, S. 3671, would remove the Freedom of Information Act exemption in the BEAD program. Should Congress enact this legislative proposal? If not, why?

In my view, there needs to be an ability to independently evaluate where the money was spent and whether it was spent wisely. Assessment of effectiveness by NTIA must be verified as the agency is incentivized to overstate effectiveness. By way of personal anecdote, I made several requires to NTIA to obtain data used by an outside consultant to support BTOP efforts, but the agency dragged its feet, and, to my knowledge, the data remain unavailable.

6. Are there other technical issues in the BEAD program that Congress should address before NTIA announces funding allocations by June 30, 2023?

At this late stage of the process, it is unclear what Congress could hope to accomplish in this regard.

General Broadband Issues:

1. As noted above, there are over 130 programs supporting broadband access across 15 agencies.

a. To date, which of these programs do you believe has had the most success in delivering broadband services to truly unserved areas?

I am unaware of any serious analysis that demonstrates any of the programs are systematically effective at expanding broadband availability. The FCC rightfully restricts its broadband subsidy dollars to unserved areas, so presumably it has met with some success, though some advocates and analysts view the process as too deliberate and driven by inadequate maps. Nonetheless, given its wealth of experience in these matters and apparently sensible approach to limit spending to unserved areas, the FCC would have probably been a better place to put the BEAD money, but Congress deliberately rejected that option.

We looked at this question somewhat in my attached paper entitled *Bridging the Digital Divide: What Has Not Worked But What Just Might*. As might be expected, my economic analysis prescribes that money should be spent where it is most effective (per dollar) at increasing adoption. To illustrate how not following this policy prescription could result in a waste of taxpayer money, we offered an empirical analysis of past broadband adoption programs by quantifying the effect of several programs established by the *American Reinvestment and Recovery Act of 2009*. Applying a Difference-in-Differences model to Census data on adoption, we found no positive effect on home broadband adoption from programs funded by the Broadband Technology Opportunity Program ("BTOP"). Finally, we discussed the potential benefits of direct subscriber subsidies considering the successful private sector programs offering low-cost broadband plans to low-income and other qualifying households. As we explained, direct subsidies to end-users will increase adoption, but surveys and empirical evidence prescribe sober expectations on their effectiveness at achieving universal adoption. Subsidizing broadband infrastructure deployment in unserved areas is a direct approach to increase broadband adoption, but even so the costs in some regions may outweigh the benefits, especially when satellite services are available at substantially lower costs.

b. Should Congress consider eliminating any of these programs? If so, which ones?

The USDA (RUS) has consistently paid for overbuilding and flimsy and high-cost projects. Its role should be eliminated, and such funding transferred to the FCC.

c. Should Congress merge and combine any of these programs? If so, which programs would be best suited to be merged?

Programs should be merged when they serve a similar purpose. For example, deployment and adoption subsidies should be put in one place and that place is probably the FCC that already administers such programs. If it is educational programs, that might be better placed elsewhere, but perhaps not. Poor and duplicitous subsidy allocation occurs only when the one hand doesn't know the actions of the other, so duplicate subsidy programs for the same activities should be eliminated to the extent possible. Also, success and failure are easier to quantify when the subsidies are consolidated, good data are collected, and those data are made available to the public, tasks for which the FCC does a reasonably good job.

2. What specific reforms and constraints should Congress consider to ensure federal funds are not being awarded where providers are receiving other federal or state broadband funding support?

Congress should condense subsidy programs to fewer agencies, preferably to agencies with expertise in the area. Consolidation will alleviate duplication to a large extent.

3. Should Congress take additional action in response to concerns that broadband funding may be used to overbuild existing service? If so, what reforms and constraints should be implemented?

As we detailed in our attached paper on municipal broadband, every market has an equilibrium number of firms it can profitably sustain. In most broadband markets, given the high sunk costs required for entry and the intensity of price competition, this number will be very small. But in those high-cost areas where it is unprofitable to serve, then the number of firms the market can profitably sustain may actually be zero, hence the policy justification for spending billions in subsidy programs like USF and the IJA. This is why, as I noted in my answer to Question 3 in the previous section, when a market is adequately served, it makes little sense to subsidize a GON in the name of "promoting competition." A market's equilibrium is an economic outcome, not a policy choice. Subsidizing competition has no economic support. The effects of competition are passed through to subsidy requests and collecting the subsidy dollars are costly. The economic welfare effects are negative.

At bottom, while the IJA provides billions in subsidies, the budget is limited and possibly inadequate to serve all households (especially if the NTIA permits \$200,000 subsidies per location passed).⁸ Accordingly, NTIA's sole directive should be to get broadband where it is not, as required by statute. If there is any residual, then perhaps we can think about areas that are relatively poorly served. Given past evidence on the inefficient allocation of subsidies, that budget is likely to be exhausted before every home in the U.S. has service available. For unserved locations, projects with a high

⁸ The NOFO does include a very high-cost provision, presumably to reduce such occurrences.

line/per-dollar ratio should get money first. Unserved areas should be first in line. Underserved areas are of secondary importance and should also be subject to a line/per-dollar sorting of priority.

4. Should Congress take additional action in response to concerns that broadband funding may be conditioned upon recipients imposing some form of rate regulation of broadband services, whether or not such requirements are explicitly denominated “rate regulation?” If so, what reforms and constraints should be implemented?

“Rate regulation” is a term of art and should be avoided because complaints about “rate regulation” are easily dismissed in the absence of any formal regulatory scheme. But it is obvious that NTIA is attempting *informal* rate controls—a form of blackmail essentially: *If you don’t provide service at a price we like, then you won’t get any BEAD money.* Any form of coercion by the NTIA related to price levels should be prohibited.

An excellent example is NTIA’s requirement that Eligible Entities craft “a middle-class affordability plan to ensure that all consumers have access to affordable high-speed internet” to be eligible for BEAD funding. The NTIA permits states to “adopt diverse strategies to achieve this objective” so long as the end result ultimately ensures that “high-quality broadband services are available to all middle-class families in the BEAD-funded network’s service area at reasonable prices.” Nothing in the Infrastructure Act encourages the agency to impose such demands on providers or states. Notably, the NOFO does not conclude that broadband service is unaffordable for the middle-class, only that states must plan for such a scenario. Naturally, the threshold question is whether broadband is affordable for middleclass Americans by some objective standard.

In my attached paper *Middle-Class Affordability of Broadband: An Empirical Look at the Threshold Question*, I try to provide guidance on how to comply with the NTIA’s affordability mandate, and to do so in a way that respects Congressional intent expressed in the Infrastructure Act. Based on objective criteria, I find that broadband is at present affordable for middle-class households both nationally and for all individual states. In any case, the NTIA has no statutory authority to use coercive means to control broadband prices, implicitly or explicitly.

Another example is NTIA’s efforts to establish a *de facto* open-access unbundling regime that loosely echoes Section 251 of the Telecommunications Act. According to the NOFO, NTIA “encourages Eligible Entities to adopt selection criteria promoting subgrantees’ provision of open access wholesale last-mile broadband service for the life of the subsidized networks, on fair, equal, and neutral terms to all potential retail providers.” (NOFO at p. 44). The NOFO defines “Open Access” as “an arrangement in which the subgrantee offers nondiscriminatory access to and use of its network on a wholesale basis to other providers seeking to provide broadband service to end-user locations, *at just and reasonable wholesale rates* for the useful life of the subsidized network assets.” (NOFO at p. 14, emphasis supplied.) And, according to the NOFO, “just and reasonable wholesale rates” means “rates that include a discount from the provider’s retail rates reflecting the costs that the subgrantee avoids by virtue of not providing retail service to the end user location (including, for example, marketing, billing, and

collection-related costs).” *Id.* However, unlike the old Section 251 regime which involved extensive litigation over fundamental Fifth Amendment due process requirements such as rate methodology, determinations of cost of capital, rates of return etc., the NOFO does no such thing.⁹ Instead, NTIA simply attempts to engage in *de facto* ratemaking without checking the due process box.¹⁰ As the D.C. Circuit famously remarked over nearly forty years ago, the phrase “just and reasonable” is not “*a mere vessel into which meaning must be poured.*”¹¹ Rate coercion and sharing requirements reduce the incentive to and raise the cost of participating in the program, both of which work against widespread deployment of broadband service. The NTIA should be encouraged by Congress to stay on task.

- 5. Should Congress take additional action in response to concerns that broadband funding may be conditioned upon recipients imposing some form of “net neutrality” mandates upon broadband services, whether or not such mandates are explicitly denominated “net neutrality?” If so, what reforms and constraints should be implemented?**

I see nothing in the NOFO requiring “net neutrality” obligations (as commonly understood).

- 6. How effective have the Memoranda of Understanding between (1) the FCC, USDA, and NTIA, and (2) the FCC, USDA, NTIA, and Treasury been with respect to broadband coordination efforts? Are there additional reforms federal agencies should implement to better coordinate on broadband deployment efforts?**

As I have not spent any time focusing on this issue, I do not have sufficient knowledge about this topic to offer an informed answer to your question.

- 7. Should Congress take steps to increase the transparency of agencies when allocating and disbursing broadband funds? If so, what steps should Congress take?**

All funding choices should be published with details regarding entity, lines to be served, location, and so forth. When those lines are served, or whatever share is served, should also be reported so that the effectiveness of the program can be evaluated by independent parties.

⁹ For a detailed explanation of rise and fall of the U.S. unbundling regime of the 1996 Telecommunications Act, see G.S. Ford and L.J. Spiwak, *Lessons Learned from the U.S. Unbundling Experience*, 68 FEDERAL COMMUNICATIONS LAW JOURNAL 95 (2016) (available at: <http://www.fclj.org/wp-content/uploads/2016/01/68.1.3-Spiwak-and-Ford.pdf>).

¹⁰ Unfortunately, *de facto* price controls without any due process protections appears to be a growing trend in telecommunications policy. See, e.g., L.S. Spiwak, *USTelecom and its Aftermath*, 71 FEDERAL COMMUNICATIONS LAW JOURNAL 39 (2019) (available at: <http://www.fclj.org/wp-content/uploads/2018/12/71.1-%E2%80%93Lawrence-J.-Spiwak.pdf>).

¹¹ See, e.g., *Farmers Union Cent. Exch. v. FERC*, 734 F.2d 1486, 1504 (D.C. Cir. 1984), *cert denied sub nom.*, 469 U.S. 1034 (1984).

8. What, if any, permitting regulations at the federal level are impeding broadband deployment?

I am unaware of any permitting regulations at the federal level which are impeding broadband deployment; it is my understanding that permitting disputes primarily occur at the local level. To the extent federal regulations are impeding deployment, those regulations should be reformed if feasible.

9. Does the FCC presently possess sufficient authority to preempt state and local requirements that may unreasonably impede the deployment of broadband networks? If not, what steps should Congress consider to address the unreasonable impediments?

In enacting Section 253 of the Telecommunications Act of 1996, Congress provided the FCC with much needed authority to preempt efforts by states and other localities to erect barriers to entry. While Section 253 has made a significant contribution towards promoting new deployment, over the nearly thirty years since the passage of the 1996 Act Section 253 is beginning to show its legislative warts.

For example, Section 253 is limited those state or local rules which “may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate *telecommunications* service.” As we have moved into the IP/broadband world, this textual limitation is increasingly problematic. Similarly, nothing in Section 253 “affects the authority of a State or local government to manage the public rights-of-way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of public rights-of-way on a nondiscriminatory basis, if the compensation required is publicly disclosed by such government.” This exemption for local rights of way has been, and will continue to be, a nasty point of contention between providers and local governments. Accordingly, perhaps it is time to reinvigorate the discussion about how to update Section 253 for the 21st Century.

Notwithstanding the above, there is one important caveat to any discussions about updating Section 253. As explained in detail in our attached paper on municipal broadband, under established Supreme Court precedent, it is unconstitutional for the federal government to tell a state what it can do with its municipal subdivisions. Thus, it is crucial to understand that any efforts to modify Section 253 to provide the FCC with the express authority to preempt state broadband laws that oversee municipal broadband providers will likely not survive judicial scrutiny.

10. What specific steps can Congress take to reduce costs to broadband providers when deploying new networks?

One constructive step would be to pass comprehensive federal “net neutrality” regulation. As detailed in my attached peer-reviewed paper entitled *Regulation and Investment in the U.S. Telecommunications Industry*, the FCC’s 2015 decision to reclassify broadband internet access service as a Title II common carrier telecommunications service resulted in billions of lost investment. While that decision was ultimately

reversed, the Biden Administration has stated that the reinstatement of those rules is a top priority, and everyone in Washington expects that process to begin the moment a third Commission for the FCC is confirmed. Adding to this morass, given the Ninth Circuit's ruling in *ACA Connects v. Bonta*, 24 F.4th 1233 (9th Cir. 2022), states are now free to impose their own version of net neutrality rules, thus subjecting the internet to a "Death by 50 Cuts." It is time for Congress to end this regulatory see-saw that creates uncertainty (of the bad sort) in the telecommunications industry.

11. Would updating pole attachment regulations spur more rural broadband deployment? If so, what actions should be taken?

Pole attachments can be costly, especially those charged by unregulated municipalities. In turn, these high costs reduce deployment. Rather than raise the cost to providers of deploying broadband with several extra-statutory demands, the NTIA would have done better to limit funding to areas with high pole attachment rates to encourage lower rates by the municipalities that stand to benefit from the funding by improving service availability to their constituents. Also, any municipality with its own broadband network should fall under the rate regulation provisions for pole attachments contained in the Telecommunications Act.

12. How are federal broadband programs addressing cybersecurity challenges? Should Congress consider reforms to improve cybersecurity?

As I have not spent much time looking at this issue to date, I do not have sufficient knowledge about this topic to offer an informed answer to your question.

13. Are there other broadband policy issues that Congress should consider reforming during the 118th Congress?

Under Section 60506 of the IIJA, the FCC is charged with adopting final rules to facilitate equal access to broadband internet access service (taking into account the issues of technical and economic feasibility) which prevent "digital discrimination of access based on income level, race, ethnicity, color, religion, or national origin." We strongly suggest removing "income" from the list of protected classes.

First, income is a proxy for demand. So, if there is insufficient demand for a service, then all this provision has accomplished is institute a mandatory buildout requirement which, will, in effect, deter broadband deployment overall. Sadly, this issue was dealt with squarely by the FCC in its 2007 Cable Franchise Reform Order,¹² yet the IIJA patently ignored FCC precedent.

Second, the statute is poorly drafted and will inevitably lead to unintended regulatory consequences, as made clear in the FCC's recent *Notice of Proposed Rulemaking*

¹² See *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, FCC 06-180, REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING, 22 FCC Rcd 5101 (rel. March 5, 2007), *aff'd*, *Alliance for Cmty. Media v. FCC*, 529 F.3d 763 (6th Cir. 2008).

on Digital Discrimination where the agency shifted the presumptive burden to broadband providers without a shred of evidence to suggest there is a problem. In order to provide some clarity for policy makers, I would commend my attached paper entitled *Digital Discrimination: Fiber Availability and Speeds by Race and Income*. In this paper, we first provide a definition of digital discrimination and describe the sort of empirical conditions and methods needed to quantify it. Having defined the problem and analytical framework, we then conduct an empirical analysis of digital discrimination in fiber deployment and broadband speeds is performed. Our results are encouraging—we could not find any systematic evidence of digital discrimination by race or income level.

Again, thank you for inviting me to offer my thoughts as you conduct your important oversight role. To the extent we at the Phoenix Center can be of further assistance, please do not hesitate to reach out.

Sincerely,



Dr. George S. Ford
Chief Economist - The Phoenix Center

CC: Alex J. Sachtjen