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Following the election of Donald Trump, spending on American infrastructure appears to be one area where Democrats and Republicans can agree—at least in principle. Trump has pledged to push for $1 trillion of new spending on roads, bridges, and more; but some Democrats (and some conservatives too) have criticized how Trump plans to find the money.  [John Macomber](http://www.hbs.edu/jmacomber), a senior lecturer in the finance unit at Harvard Business School, has studied infrastructure financing around the world. In a written email exchange, he shared his thoughts on the future of U.S. infrastructure spending, investment, and delivery. The interview below has been edited and condensed.

**HBR: Both Donald Trump and Hillary Clinton campaigned on the need for more spending on infrastructure — but they differed on how to do it. What’s been your reaction to the discussion around infrastructure thus far?**

**Macomber:**The discussion to date has been about how to find incremental money to spend at the federal level. The main concepts on the table range from imposing additional taxes to issuing large tax credits to accelerating the use of public private partnerships. This conversation misses the mark. There [is not an infrastructure spending crisis](https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49910-Infrastructure.pdf). Further, we should be talking about purposeful investing in infrastructure, not just opening a spending tap.  To do this we need to establish objectives: what are we trying to accomplish? And finally, there are many ways to attract new private investment into public infrastructure. There is plenty of capital in the global financial system.

**There is no spending crisis?**

Infrastructure spending as a percentage of GDP in the U.S. is roughly in line with post-WWII historical averages, with little variation in the trend line. Federal, state, and local governments continue to tax and spend for public works.  Just last year, Congress passed a five-year $305 billion highway bill, and in the recent elections voters authorized another $170 billion or so in local spending on transit, water, and more. Further, thousands of municipalities and agencies still issue municipal bonds to finance water, power, road, and other projects that are largely self-funding or “bankable” projects. But as we can see with our own eyes, and [as we read](http://www.nytimes.com/interactive/2016/11/15/business/dealbook/dealbook-infrastructure.html?_r), “America’s crumbling infrastructure” evidently has more needs than can be fulfilled by normal spending.

**What kinds of projects should be emphasized?**

The answer depends on the objectives. Are we as a nation trying to create temporary construction jobs, distribute largesse to congressional districts, encourage repatriation of overseas corporate profits, boost dump truck manufacturing, anticipate infrastructure needs of the future, or – just maybe – trying to seriously improve the productivity of American businesses and improve quality of life for American citizens? These objectives are not necessarily aligned — and they are not automatically addressed just by a spending program.

If another trillion dollars is to be invested and the core purpose is to increase the competitiveness of employers and the quality of life of residents, then projects with a large benefit/cost ratio around transportation, energy, and water will likely be the focus. These might be roads or mass transit or seaports, or power lines to transmit wind energy from the plains to the cities, or the repair of leaky or dangerous water pipes.

With regard to location, the investments that benefit the most people using the fewest resources can probably be most [easily justified](https://hbr.org/2016/01/the-future-of-cities-depends-on-innovative-financing) in [urban areas](https://hbr.org/2016/01/the-4-types-of-cities-and-how-to-prepare-them-for-the-future)where economies are growing — for example, reducing traffic congestion in Phoenix and improving water quality in Philadelphia — and less so in rural areas where economies are shrinking. That’s obviously a difficult political calculus.

A second difficult political balance involves using infrastructure spending to create temporary blue-collar jobs, boost construction-company profits, or stimulate the manufacturing of construction equipment. If we are seeking to optimize the bang for the taxpayer buck, we don’t necessarily want to require the use of domestic tractors or windows (or boots or shovels) if  they are not cost-competitive with global products.

Third, we should look ahead. If self-driving cars and drones take off, does that change the value of a thirty-year toll road deal?   If current trends in sea level rise continue, do we want to allocate investment toward protecting potentially exposed assets like airports and housing in low-lying areas?  These kinds of considerations should be addressed in the package.

**Trump has talked about another financing mechanism—offering tax credits to fuel infrastructure spending. Can you discuss this approach?**

Tax credits in infrastructure and real estate are usually used to enhance investor interest in desirable projects that otherwise do not pencil out financially. An authority creates tax credits that either reduce expenses for the project promoter or can be sold to raise capital for the project. Basically one arm of government gives up tax revenue so that another arm can support a project…without either of them writing a check. The effect is neutral to the whole system; it’s the same net impact as just raising taxes and funding the project directly. While taxpayers in the credit scenario might be happy that their taxes didn’t go up, they might also note that their collective tax receipts went down (and thus could not be spent on other desirable public goods and services).

The Trump campaign’s infrastructure tax concept paper of October 2016, authored by the investor Wilbur Ross (proposed as Secretary of Commerce) and by [Peter Navarro of UC-Irvine](http://peternavarro.com/sitebuildercontent/sitebuilderfiles/infrastructurereport.pdf), has a different policy objective. The plan rests on the funding of already-bankable projects (those which on their own will generate enough operating fees to repay both debt and equity investors). Using substantial debt but focusing on equity investors, the proposal suggests tax credits of about 80% of invested capital. This appeals to investors who can use the credit to offset a tax obligation; they get 100% of the financial asset for 20% of the price. Ross and Navarro suggest that the funds be raised from corporations who are repatriating funds from overseas.

[Criticism](http://krugman.blogs.nytimes.com/2016/11/19/infrastructure-build-or-privatization-scam/?_r=0) [of](https://www.washingtonpost.com/opinions/trumps-big-infrastructure-plan-its-a-trap/2016/11/18/5b1d109c-adae-11e6-8b45-f8e493f06fcd_story.html?utm_term=.31491af3a223)[the](https://www.bloomberg.com/view/articles/2016-11-23/how-a-trump-infrastructure-bank-could-soak-taxpayers) [plan](http://www.nationalreview.com/article/442843/infrastructure-trump-administration-conservatives)focuses mainly on three aspects: one, since these projects are already bankable and will likely get funded anyway, no incremental projects are undertaken; two, the beneficiaries of the tax credits are corporations which are not necessarily building the projects, so there is not an obvious link to the stimulation of new projects; and three, the treasury is deprived of tax revenues that might have otherwise been collected. Proponents argue that the program will result in a reduction of tax obligations of some corporations and that some of these taxes would not have been realized any other way because they have been parked abroad.

**The Clinton campaign proposed a new infrastructure bank, to be capitalized by additional corporate taxes. Would that have been a better proposal?**

I’m not persuaded. The benefit would naturally be to have capital available to fund projects. It’s not clear to me why adding another administrative entity is any more efficient than just increasing traditional taxpayer-funded federal support for locally built highways, bridges, waterways, and more. A drawback to the Clinton plan was that it would raise taxes differentially on one class of participants in the economy (corporations) to fund incremental infrastructure spending. A second common criticism is that such a bank might be pressured into distributing cash both inefficiently and for largely political considerations.

**You’ve told me before that you support Congress setting up a variation of an infrastructure bank, something called a “policy bank.”  Can you explain what this means?**

As distinct from an infrastructure bank funded solely by Congress and thus subject to political pressure in its investments, an effective policy bank would have independent capital and a clear mandate to accomplish a specific and measurable policy objective. China, for instance, has three “policy banks” with explicit instructions to support national goals. These entities include the China Development Bank and the Agricultural Bank of China, and their combined assets exceed $3 trillion. The starting capital for an American version could come from a combination of Ross/Navarro tax credits for corporations combined with a smaller Clinton-concept bipartisan congressional allocation.

As discussed at the start of our interview, the core objective of such an institution might be: Invest in projects that would not be built otherwise, whose completion adds to the competitiveness of employers and the quality of life of residents. (Other policy objectives like “blue collar jobs” or “buy American” could also be argued).

**How would this work?**

To be most effective, and to avoid making all the decisions in Washington or New York, the institution should focus on funding projects that meet four criteria. First, they would not pencil out on their own without added support. Second, they have substantial local government participation in the financing (the local city, for example, can fund part but not all of the new light rail or water treatment project). Third, they rank high in objective benefit/cost analysis of the whole potential portfolio. Fourth, they attract material portions of the funding from private investors (including institutions). This means the policy bank could contribute one layer of project capital and local government and [private] players would contribute additional layers. The World Bank/ International Financial Corporation and the Asia Development Bank, among others, effectuate projects this way.

We should be thinking about infrastructure as a long-term investment in competitiveness and quality of life, not as a spending program. We should be selecting projects based on objective characteristics that benefit the most people at the optimum benefit/cost ratio, not as a way to spread money to all congressional districts. We should be considering well-structured public-private partnerships to attract private capital to public infrastructure, even when the projects are not necessarily bankable on their own. And we should think about capitalizing an independent, evidence driven Infrastructure Policy Bank to focus on the stimulation of worthy infrastructure projects that would not get funded otherwise.