

Mobilizing Capital Investment to Modernize Government



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FOREWORD

On behalf of the IBM Center for The Business of Government and the Shared Services Leadership Coalition, we are pleased to present this special report, *Mobilizing Capital Investment to Modernize Government*, by Kenneth Buck, Adjunct Professor, University of Virginia; G. Edward DeSeve, Executive in Residence, Brookings Executive Education; and Steve Redburn, Professorial Lecturer, Trachtenberg School of Public Policy and Public Administration, George Washington University.

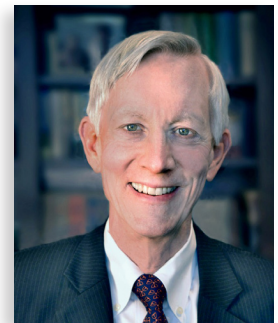
Many governments around the world seek ways to serve their constituents and carry out their missions more effectively and with greater efficiency. This imperative takes on even greater import as emerging technology and business paradigms raise expectations from the public and enable new channels of collaboration between government and industry. In an environment of public sector resource constraints, opportunities to leverage private sector investment, technology, and expertise become more critical—as do strategies to ensure that such leverage is done consistent with protections against improper use of Federal funds on behalf of taxpayers.

The U.S. federal government has moved forward in addressing this imperative over the past several decades. The Office of Management and Budget (OMB) has worked with agencies to develop several shared services initiatives that seek to apply commercial best practices across government; numerous innovations in acquisition have been authorized and implemented; and industry has joined in multiple forms of public-private partnerships modeled on similar collaborative efforts in state and local governments. Also recent budget innovations have brought flexible investment approaches for technology, and proposals to do the same for Federal buildings.

This progress has evolved episodically, lacking common frameworks, norms, or incentives that could promote consistency in how government can attract investment to modernize technology and processes. As public sector funding constraints continue to be impacted by rising deficits and debt, agencies can benefit from more systematic paths for the private sector to invest capital in modernizing government operations, and from processes for making the most effective use of public and private investment dollars over time.



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This report, written by three former leaders in government, identifies strategies for Federal agencies on how to mobilize capital investment for government modernization. The authors also discuss options and recommendations for revising budget and acquisition processes that have tended to limit systematic engagement with industry around investment, such as with shared services, and to discourage longer-term capital planning by government. At the same time, the report makes clear how such recommendations can be done consistent with important safeguards in appropriations, budget scoring, and procurement processes—safeguards rooted in longstanding law and policy.

We hope that this report provides helpful context for government leaders to consider in advancing new approaches that enable greater capital investment to benefit the public sector.



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INTRODUCTION AND SUMMARY

The federal government has enormous unfunded needs to modernize administrative processes, workforce skills, and technologies. At the same time, capital markets that enable companies to finance critical needs generally do not address public sector work, while state and municipal bond markets do not have an analog at the national level. Private investment and public-private partnerships can help to supplement government funding sources, and can be a source for innovation and expertise.



Addressing these and other modernization challenges requires a long-term vision for increasing investment in public goals, optimizing current budget and procurement processes to deploy greater engagement with the private sector consistent with sound use of public funds, and a strategy to achieve this change in practical increments over time. Models for effective deployment of private sector capital investment, expertise, and technology to address public goals exist at the state, local, and international levels, as well as in past federal initiatives that provide examples of funding flexibilities for specific purposes.

These and related issues were the focus of a September 2019 Capital Investment Roundtable discussion that addressed how investment, budgeting, and procurement strategies might help government meet its capital challenges. The session was co-hosted by the IBM Center for The Business of Government and the Shared Services Leadership Coalition (SSLC), and attended by current and former senior officials from the Office of Management and Budget (OMB), agencies, congressional staff, academic experts, and industry partners. Participants addressed how to meet these challenges more effectively, exploring ways to improve processes for private investment in public sector capital projects, as well as how to capitalize on current budget and procurement flexibilities—all intended to help expand the federal government’s capacity to deliver effective services and improve performance.

OMB Deputy Director for Management Margaret Weichert challenged Roundtable participants to think anew about the financing of public capital, including federal administrative systems (such as those supporting payment accuracy). She observed that while our country has led the greatest technological advances of the last 200 years, the federal government still operates with outdated systems and manual processes. She noted the potential for profound rewards from making changes that enhance efficiency and improve service delivery to citizens, and stressed the need to think deeply about how to support and accelerate these changes. Responding to her challenge, the Roundtable explored options for adopting “outside-in” solutions—solutions that draw on private sector resources, expertise, and technology to bolster public spending—to help accelerate federal capital investment within the current statutory framework, and do so by following a roadmap with practical increments over time.

Perspectives from the Roundtable inform this report, authored by three experts with significant government and public finance experience; the report's findings and recommendations informed by this discussion reflect views of the authors supported by the IBM Center and SSLC, and do not necessarily indicate consensus among Roundtable participants. The report contains analyses, findings, and recommendations for near-term actions and long-term change that can incentivize capital investment into modernizing government. More specifically, the report focuses on how current federal budgeting, appropriations, and procurement rules and practices might be reformed or repurposed to effectively utilize private sector capital investment in expertise and technology to meet the government's needs for systems modernization, and to spend these funds wisely consistent with law and principles of sound public financial management practice.

Key Findings

Making the federal budget and procurement environment friendlier to the mobilization of capital is important not just for reasons of budget stringency. The private sector will benefit through expanded business opportunities and a chance to contribute to important social objectives. The public sector will benefit by applying private technology and expertise—which in some cases it helped build at an earlier stage through direct investment or with grant or tax credit support—to achieve greater efficiency and deliver improved services.

The Roundtable discussion, and subsequent exploration of these issues in this report, leads to several findings regarding current budgetary and procurement practices that affect the ability of the federal government to attract and deploy capital in support of national policy objectives:

1. Many perceived obstacles to increased use of private capital, technology, and expertise to support federal systems modernization and an array of other public capital needs can be overcome by creative interpretation and application within established rules, in a manner consistent with the intent of those rules.
2. Ample precedents exist as models for future initiatives to bring private capital to bear for public purposes, and these precedents should be systematically evaluated by the federal government to determine how they can be applied and generalized.
3. Significant risks for both public and private partners arise from the vagaries of the budget process and the complexities of federal procurement, which can be addressed by developing a body of evaluated experience and using that evidence to establish consistent budget conventions and replicable contract standards.
4. Near- and longer-term opportunities exist to make the federal government's budget and procurement processes friendlier to investments to help modernize government, and to public-private partnerships for an array of public purposes, by reducing uncertainties and risks for both sectors.
5. Accelerating progress in addressing the government's capital needs by mobilizing private sector resources will require leadership in both the executive and legislative branches.

This report details examples that inform the above findings. The report also outlines a set of actions that could be taken both now and in the future, including ways to incentivize private sector investment and public sector agility as well as reforms in federal budgeting and procurement.

Proposed Actions

Near-Term Opportunities

1. OMB can lead the development of a centralized evidence base for future initiatives to develop, acquire, and deploy private technology, expertise, and capital for government purposes.
2. Using the evidence gathered from this body of practice, OMB and the General Services Administration (GSA) can work with Congress to develop standard budget and procurement models that support private capital investment for federal systems, including shared solutions.
3. For procurement specifically, OMB's Office of Federal Procurement Policy (OFPP) can charter a group, similar to the Section 809 Panel, to review existing procurement laws, regulations, and policies, in both civilian and defense agencies, to identify laws and regulations that could be changed to better accommodate the appropriate use of private investment in the public sector.
4. The administration can expand the range of capital projects eligible for the federal capital revolving fund first proposed in FY 2018.
5. The administration and Congress can evaluate experience gained with the Technology Modernization Fund, to determine the best scale and design for a self-sustaining capital revolving fund to support a specified array of federal agency and cross-agency investments in improved services and efficiency savings.

Longer-Term Possibilities

1. Congress and the administration can review current budget scorekeeping rules for capital projects, to determine the best way to account for expected budget savings from systems investments as a result of operating efficiencies, improved customer service, and offsetting collections or revenues.
2. OMB and the Congressional Budget Office (CBO) can develop models for estimating the present value of future benefits from public capital investments, and for how best to apply this information to budget and procurement decisions.
3. An independent commission whose members are selected by both Congress and the president can review current budget concepts and their application to capital projects and other public investments, perhaps as part of a broader review and updating of budget conventions, and use this review to develop recommendations to improve budget decision making.
4. OFPP can lead a review of current procurement models to determine what changes would facilitate increased private investor participation in public projects, while ensuring the interests of both public and private partners are considered. Among the first initiatives to be considered could be a legislative proposal to permanently authorize Share-in-Savings (SiS) and Other Transaction Authority (OTA) as key components of the innovation toolkit.
5. To encourage private investors across a range of capital needs, GSA, with support from OMB and in cooperation with relevant committees of Congress, can support a multiyear capital planning, budgeting, and investment process for use by executive agencies—and a process for Congress to engage regularly with those multiyear plans.

The Need for Greater Investment in Government Modernization



The Case for Change

The federal government faces an array of requirements to modernize ineffective administrative processes, enhance workforce skills, advance governmentwide technology platforms, and rebuild deteriorating infrastructure. At the same time, agencies would benefit from greater access to capital to fund these kinds of investments. The unfunded backlog of federal capital needs alone is significant. The National Park Service estimates a \$11 billion backlog of unmet needs for maintenance and improvement, the Department of Defense (DoD) has an underfunded maintenance backlog exceeding \$116 billion, and the Department of Veterans Affairs (VA) has \$22 billion in unfunded needs for facilities maintenance.

Insufficient funding for capital improvements has forced agencies to repeat a cycle in which robust plans submitted with their budget requests have to be scaled back to align with the reduced funding amounts they eventually receive. Insufficient funding leads to implementation of sub-optimal solutions with limited impact on improving efficiency. Ironically, governments bear an extra cost burden for such strategies because they must allocate expensive resources to maintain obsolete and inefficient solutions, which by any reasonable business standard should have been rationalized and replaced.

A report issued by the Technology CEO Council in 2017¹ found that the cost of administrative and overhead activities in the best managed American corporations run at about 15 percent of total revenues. The comparable ratio of “overhead to mission” costs in the federal government is about 30 percent. By securing sufficient investment funds to modernize its administrative and technology platforms, and reforming rules that drive complexity and make it difficult to use private sector technology solutions, government could close the productivity gap relative to industry levels of efficiency and effectiveness and realize enormous performance improvements. The same Technology CEO Council report found that if fully and effectively implemented under reformed rules and business processes in areas like technology and procurement, more than \$1 trillion in costs over 10 years could be used more efficiently across critical mission and mission support functions. Yet capital markets that enable companies to finance critical needs generally do not support public sector goals, and state and local bond markets do not have an analog at the national level.

A key driver of this problem is the current budget outlook. The share of federal spending that is discretionary (i.e., subject to annual appropriations from Congress) has decreased from 67 percent in the 1970s to 33 percent today, and is projected by the Congressional Budget Office (CBO) to decline to less than 25 percent by 2030. With such a large proportion of spending committed to mandatory programs (i.e., permanently authorized spending such as Social Security and Medicare) and to debt service, capital spending and other investments to enhance the government’s productivity and produce long-term societal benefits must be funded within the shrinking discretionary portion. Most important in light of these projected trends, both Congress and the administration must continue to explore innovative budget and procurement practices to facilitate and finance large investments intended to modernize the infrastructure of government administrative and management systems, which are critical to improved services and increased efficiency of government operations.

1. Technology CEO Council, “The Government We Need”, 2017 (http://www.techceocouncil.org/tcc_reports/the_government_we_need)—Estimates on overhead costs for the U.S. Department of Defense range from 23% in a 2015 report prepared for the Defense Business Board (DBB) to approximately 40% in a 2013 DBB report. <http://apps.washingtonpost.com/g/documents/investigations/defense-business-board-study-from-jan-2015-identifying-125-billion-in-waste/2236/?ref> and <http://dbb.defense.gov/Portals/35/Documents/Reports/2013/FY13-03%20Applying%20Best%20Business%20Practices%20from%20Corporate%20Performance%20Management%20to%20DoD.pdf>.

The U.S. is not alone in trying to find innovative ways to attract private capital to meet a range of investment needs. In the wake of the financial crisis, for example, several countries, including Australia, Spain, and the United Kingdom, developed a series of private-public partnership (PPP) agreements generally described as “private finance initiatives” to construct and operate major infrastructure projects. These initiatives attracted private investment that exponentially increased available financing for such projects in fiscally austere times.

But critical assessments of these efforts highlighted their potential downsides. A committee of the U.K. Parliament in 2011 found that too often the incentives of private and public partners were not aligned, and that private financing—an option still not widely available for the U.S. government—was more costly than direct Treasury financing. They recommended that the approach be continued only with substantial changes—including scoring the initiatives on budget in the same way as direct capital expenditures, and assessing projects to minimize potential shifting of risks to the public sector.² This body of experience illustrates the inevitable tension between rules and conventions for budgeting and procurement that have developed to ensure proper stewardship of public funds, and the government’s need to form productive partnerships with private entities that have technology and management skills useful for public purposes. While the former goal can conflict with the latter, this report explores creative ways to balance and serve both objectives.

It is also important to recognize that the purpose and limits of public sector decisions often differ from those made in the private sector. At the federal level, budgets reflect the priorities of both Congress and the president, sometimes changing drastically depending on which party holds the majority. Both budget and acquisition policies at the federal level require government officials to serve as stewards of taxpayer dollars, ensuring that funds are allocated and spent wisely and comply with authorizing language.

In contrast, private sector budget processes are designed to ensure that investments maximize profitability and growth, and for public companies contribute to high rates of return for shareholders. While the holders of these two perspectives often do not fully comprehend or appreciate each other’s calculus, this report finds that the two can be aligned to incentivize private sector support for achieving public objectives and improving public services.

To attract private sector investment capital, this nexus between public and private sector needs to be more clearly articulated. Different initiatives (e.g., technology, infrastructure enhancement, or social initiatives) will be attractive to some investors and not others. In general, if the government makes a case that a private equity investment would allow it to maximize cost savings, it could deploy a higher quality solution at greater upfront cost instead of settling for a mediocre solution that meets a low-cost standard.

Experience drawn from private equity/venture capital strategies points to available money for such investment, given an attractive return ratio relative to risk. If the government could clearly develop a sound business case for accruing real savings over time, and the current costs are clear and verifiable, precedents exist for the government to use accrued savings to pay the investor a fair return.

2. The committee recommended that the Treasury should consider scoring most PFIs in departmental budgets in the same way as direct capital expenditure, adjusting departmental budgets accordingly, and discussing with the Office of Budget Responsibility (an independent fiscal council within the Treasury) the treatment of PFIs to ensure that they cannot be used to ‘game’ the fiscal rules (<https://www.parliament.uk/business/committees/committees-a-z/commons-select/treasury-committee/news/pfi-report/>).

For administrative processes alone, substantial budget savings could be identified through better use of technology to improve federal operations and the quality of federal services. Indeed, IT modernization is among the government's greatest needs, and one where limited funding and support limits capacity to implement program missions. Building on current efforts to incentivize greater support for modernization from the technology industry is essential.

Many organizational models for delivering IT and similar support services exist in the private sector. In some cases, accounting, human resources, technology, and other services are located as close to the work or the customer as possible to facilitate flexibility and stimulate rapid problem solving. In other cases, some or all of these services are centralized in the interest of standardization and efficiency and shared across the enterprise. Solutions shared by multiple agencies offer the greatest return on investment and eliminate redundancy, but are complex and hard to deliver in the government's budget and acquisitions environment—a primary reason that the government has moved toward shared services slowly over the past several decades.³ Still, this strategy is seen as the best way to deliver an innovative, flexible, and competitive set of solutions and services to multiple agencies, providing market aggregation for the private sector and thereby encouraging modernization of federal management systems. Share-in-savings contracts, appropriate use of leasing, centralization of common functions and outsourcing—all discussed further below—are areas where investment can yield improved results.

Looking ahead, a strategy that catalyzes private investment in government modernization could involve larger-scale leveraging of venture capital and finance markets to support public sector modernization or public-private partnerships—like those used for combined public and commercial investment in space travel. Changes in the application of budget concepts might include acceptance of budgeting models that adapt private (Generally Accepted Accounting Principles, or GAAP) accounting principles such as accrual costing to government appropriations, and the scoring of multiyear investment spending—recognizing offsetting returns to initial costs in the form of efficiency savings or increased future revenues.

From the perspective of potential private partners, however, the federal marketplace raises special challenges. Partnership with the federal government poses risks for private firms that may offset the large potential rewards of entering that market. Ironically, many of the technology oriented firms that are natural partners with the federal government have benefited from government support during the early stages of innovation and product development, through programs of agencies such as the Defense Advanced Research Projects Agency (DARPA), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), the National Science Foundation (NSF), and the Department of Energy.⁴

The government has supported such capital investments through tax credits to support research and development, guaranteed financing, and direct grants for basic and applied research. Similarly, an entire industry of weather apps and private forecasting has been built with freely available real-time global data on atmosphere and ocean conditions collected and distributed by the National Oceanographic and Atmospheric Administration (NOAA). The array of private firms whose present market positions were established with government support could profit from building and operating capital projects for public or shared use, many employing advanced technology that the government needs.

3. Most recently, OMB issued a memorandum on “Centralized Mission Support Capabilities for the Federal Government” (M19-16), <https://www.whitehouse.gov/wp-content/uploads/2019/04/M-19-16.pdf>. The memorandum is “a strategy based on industry experiences, and lessons learned from other central governments that will reduce duplication, improve accountability, and improve federal shared services”.

4. Many of these examples of early-stage federal support for private sector innovation are described by Mariana Mazzucato in her book *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*, Anthem, 2013.

Government projects are often large and long-term, and can lead to follow-on contracts to operate, maintain, and modernize—making them an attractive market opportunity. Yet the conventions and rules of federal budget and procurement processes can often make it difficult for the government to partner with the same firms that benefit from federal support for innovation, through public capital investments in their products and technical expertise such as those identified above. In too many instances, the uncertainties and longer time lags of today’s budget process and the perceived hoops and snares of the Federal Acquisition Regulation (FAR) deter private firms from entering the federal marketplace, or raise the perceived risks (and thus cost to the government) of bidding for individual projects or contracts. This, in turn, may deny government the potential benefits of the best available private sector expertise and technology.



Lessons Learned from Past Efforts.

Innovative steps to facilitate additional private capital investment for public purposes are not unprecedented. Models that the federal government might adapt can be found at the state, local, and international levels, as well as in past federal appropriations that provided funding flexibilities for specific purposes. Examples include share-in-savings contracts authorized under the E-Government Act of 2002 to support student financial aid modernization; later use of Energy Savings Performance Contracts (ESPCs) that enable agencies to acquire a capital asset upfront but score payments over time; and pay for success and social impact bonds, where payments are made at the end of the contract period based on results. Further, the FY 2020 Budget proposed a federal capital revolving fund, modeled after capital budget revolving funds of state and local governments. The fund’s scope addresses large civilian real property capital projects and could be expanded to other functions. These precedents and ways of building on them are discussed below.

Challenges Raised by Past Efforts.

The limited progress made in these and other past instances highlights the extent to which systemic barriers limit leveraging the private sector to solve public sector problems. Among these are:

- **Scoring.** Government budgeting rules established in statute and guidance generally require that capital investment costs be appropriated up front and “scored” in the fiscal year when the asset is acquired. Current rules do not generally allow for long-term budgetary accounting that credits against these costs any resulting offsetting savings, which may accrue several years downstream or may be realized in program accounts other than the initial investment account. Because offsetting returns in the form of downstream benefits and/or offsetting receipts are typically discounted or ignored for scoring purposes, the full budgetary costs of modernization investments can be overstated. The recently enacted Technology Modernization Fund under the Modernizing Government Technology Act provides a new model for addressing multiyear investments, as discussed in this report.
- **Capital vs. operating budget.** Federal government laws and regulations for the budget do not differentiate between an “operating” and a “capital” budget. Assets with a long useful life are generally budgeted as though they were an operating expense—i.e., the cost of acquiring or building them is paid as though the full cash value were committed in or prior to the year they are put into service. These rules do not recognize the principles of investing up front and paying for use over time, as practiced in the private sector, state and local governments, and many national governments around the world. The private sector records the cost of asset acquisitions on a full accrual basis, spreading those costs over a time period that roughly matches the period during which benefits are accrued.

In the past, the federal government has explored the creation of a capital budget but has not supported the legal and regulatory changes necessary to implement this methodology. Opponents of using a capital budget for the government fear that it would be used to

“game” the budgetary system and provide for a less than healthy fiscal environment. Consideration of adopting a capital budget in the government should be done in the context of an overall revision of budget concepts and scoring rules.⁵

- **Government vs. industry balance sheets.** The primary purpose of a private sector balance sheet is to identify the entity’s shareholder value, and private sector financial reporting is subject to GAAP. On the other hand, the federal balance sheet is designed to identify the government’s net financial position, with rules set by the Federal Accounting Standards Advisory Board (FASAB).⁶ In both cases assets and liabilities are assessed according to accounting standards, but federal standards lack a concept identical to commercial depreciation for valuation of assets. Rather, depending on the type of asset, the government uses several methods to establish value.
- **Accurate cost baselines.** Regardless of which innovative funding strategy is chosen, the government’s ability to attract investors will depend on assurances that its baseline costs are accurate and verifiable. This is especially true if future payments are to be generated from savings realized by improved efficiencies. As indicated in chapter three, entitled “Acquisition Innovations,” full implementation of the Share-in-Savings initiative was limited in part because the government could not certify the accuracy of its cost data.
- **Procurement.** Despite some experimentation with share-in-savings approaches to incentivize both public and private partners, many federal officials see current laws and regulations as precluding the government from allowing private firms to fund federal modernization and be repaid with downstream federal savings, consistent with commercial or even local or state government capital investment models. Still, previous efforts to implement share-in-savings contracts have yielded draft regulations and evaluation tools which can be refreshed and leveraged to shorten the timeline to implement these concepts.
- **Culture.** Traditional norms in both the executive and legislative branches favor caution rather than risk-taking. In the most recent federal workforce survey, less than half of federal employees felt that creativity and innovation are rewarded in their workplace.⁷ Private companies know that some investments fail, but there is little acceptance for that type of risk in the public sector. Congress has been reluctant to give agencies more flexibility and autonomy even with a strong business case that shows likely savings. Strong legislative and executive branch leadership are needed to overcome traditional resistance to adopting innovative, nontraditional approaches.

These barriers to mobilizing capital for federal capital investments to modernize systems are far more formidable than those posed by standards for capital investment decisions used in the private sector, or even in state and local governments. In the private sector, quantifiable savings and cost avoidance are considered as part of business cases and return-on-investment calculations. Many cities and states, and even some international governments, have partnered with companies to implement long-term investments, including through access to capital markets and public finance channels like municipal bond issuances.

5. There are important differences between federal capital spending and that of other governments or the private sector that should be considered. For a review of the arguments for and against a federal capital budget, see CBO (2008) *Capital Budgeting*, May.

6. FASAB identifies its role as follows: “The accounting standards established by FASAB are considered Generally Accepted Accounting Principles for federal financial reporting entities. FASAB was created by the GAO, Department of the Treasury, and the Office of Management and Budget; they are also its current sponsors.”

7. <https://www.opm.gov/fevs/reports/governmentwide-reports/governmentwide-management-report/governmentwide-report/2019/2019-governmentwide-management-report.pdf>, p. 3

Strategies for Increasing Private Sector Incentives

As noted above, primary goals for private companies are to minimize risk while maximizing return to shareholders. The private sector will be reluctant to enter a market if it cannot calculate its risk exposure and profit potential. In contrast, governments tend to be highly risk averse and have developed extensive rules and regulations to guarantee fairness and protect taxpayers. In many cases, these laws and rules prevent the many industry players from understanding how to access the government market.

One way to increase private sector participation is to simplify and streamline rules and processes. In software development, agile techniques⁸ have been used to increase customer satisfaction, shorten delivery times and provide better products. This kind of agile thinking could be brought to the management of government overall; recently, the National Academy of Public Administration established the Agile Government Center, designed to identify practices that can provide better results that customers care about faster (see https://www.napawash.org/uploads/Press_Release_Pdfs/NAPAIBM AgileCenterpr.110819.pdf). Lessons from this initiative will inform future capital planning and financing options designed to accelerate government's ability to move quickly in addressing constituent needs.

The Nature of Incentives.

As noted above, the primary motivation of the private sector is a profitable return on investment. Firms evaluate each market in terms of risks and rewards. Incentives designed to attract more investment in public projects need to clearly identify the risks and fairly reward these investments. This requires government to specify the time frame for making decisions and the amount and timing of projected payback. For example, contracts based on shared savings in energy use must establish a clear baseline for current costs and allow the private sector to bid on a future stream of savings, in a way that can be jointly calculated. Similar contracts in technology modernization can be constructed based on the current cost of operation, versus the future savings from closing data centers or using alternative forms of data storage. This requires government to carefully calculate current baseline cost levels and develop procurement documents that reflect future expected benefits.

In the federal government, the lack of multiyear planning for capital spending (discussed in this report) hinders the calculation of risk and reward. In state and local governments, long-term capital plans for projects like airports and highways lend themselves to exploring how the private sector can participate in planning and operation of facilities. Greater certainty about future costs and revenue flows is a primary incentive for the private sector in public-private partnerships, such as toll roads and facilities construction and leasing.

Approaches to Incentives.

State and local governments typically have an approach to capital investment—including areas such as funding administrative systems—that is based on a “pay as you use” concept. In this way, taxpayers who benefit from public improvements are asked to pay the cost of these improvements over the useful life of the asset. This has led to the use of debt financing to provide capital for long term projects, where long term is typically defined as having a useful life of more than five years. Amortization schedules for the debt issued to finance these projects reflect the useful life of the asset being financed. For example, if the equipment or facility is expected to last 20 years, debt or other obligations with a 20-year amortization period is undertaken. This debt may come in the form of municipal bonds sold in the public markets, or in some form of lease or other agreement.

8. <https://agilemanifesto.org/principles.html>

State and local debt typically takes two general types—“general obligation” debt, which pledges the full faith and credit of the government to repay the bonds, and “revenue” debt, which uses the revenue stream of a project, like a water and sewer facility, to pay back bond holders. Revenue debt requires carefully crafted feasibility studies and very stringent covenants to charge rates sufficient to guarantee repayment.

In certain projects, the private sector brings expertise in construction and operations. Transportation projects, investment in stimulating economic development, multifamily housing, and other kinds of projects lend themselves to this approach. These public-private partnerships may involve private sector firms in designing, building, and operating new facilities, or taking over the operation and maintenance of existing facilities. An effective PPP requires a clear definition of roles, responsibilities, risks, and rewards. For example, if an existing toll road is going to be “privatized,” the term of the agreement, the level of maintenance, the status of existing employees, any agreement not to build competing facilities, and a myriad of similar details need to be negotiated between the parties and recorded for the long term.

Governments engage in PPPs for various reasons. In some cases, the government seeks capital for particular purposes outside of a standard budgeting process, and the private party provides upfront cash that the government then uses. The company sets a cash level by calculating the net present value of the revenue stream that it will receive using a discount rate appropriate to its own financial planning. In other cases, PPPs help to lower the overall construction and maintenance cost of facilities by bringing anticipated efficiencies to the project. These efficiencies are evaluated by the government, which balances the higher cost of private sector financing against perceived improvements in lower construction or operating costs.

As state and local governments evaluate their capital needs, they may also look to their existing balance sheets for sources of financing. The International Monetary Fund estimates⁹ public assets of global governments at \$101 trillion. While not all of these assets are available to support capital spending, author Dag Detter has outlined approaches for using these assets in his book, *Unlocking the Public Wealth of Nations*. A simple example of this approach for development is the sale of air rights over public facilities, such as train tracks, with the proceeds then used for other capital purposes. While there are no general rules for how to use such proceeds from physical asset sales,¹⁰ prudent fiscal management dictates that sale of a long-term asset should be used to finance expenditures with long-term useful lives. However, governments have a great temptation to use asset sales to finance current operations.

The federal government could benefit from state and local approaches in several ways. As discussed below, however, current budgeting practices and scoring rules make emulating state and local governments difficult. Tying or earmarking of direct debt issues to support particular categories of capital projects is generally inconsistent with federal law and practice, which often links to the Treasury market. Agencies could explore creating working capital funds to support repaying expenditures made to modernize systems or create needed facilities, selling assets to fund needed capital expenditures, or pledging the revenue realized on various activities to fund improvements in systems or facilities. This exploration should be done with the full agreement of Congress in a highly transparent way.

The following section presents complementary strategies to address the challenges that were highlighted by the Roundtable discussion: budget reforms and acquisition innovations. Although these ideas and options are discussed separately, they are complementary and must be interwoven in practice.

9. <https://www.imf.org/en/News/Podcasts/All-Podcasts/2018/11/09/dag-detter-public-wealth>.

10. Federal scorekeepers do have a rule for how financial asset (like direct loans) sales are scored: they score the difference in the sale proceeds against the present value of holding onto the assets.

Budget Reforms



Budget concepts, and their applications to particular cases—as codified in statutes, congressional rules, OMB circulars, and scorekeeping conventions—are designed to support smart choices by policymakers when allocating scarce resources. They ensure that cost measures are accurate and timely, and made consistently across a range of program types. The current set of budget concepts and their use largely derive from the last comprehensive review and standardization by the President’s Commission on Budget Concepts in 1967. As that effort intended, these and subsequent changes in concept applications and scoring rules have helped “make the budget . . . a more understandable and useful instrument of public policy and financial planning.”¹¹ Options to make the budget process friendlier to private capital investments in public projects should be consistent with this tested body of practice.

The premise for exploring innovative budget options to support increased private participation in public capital investment is that budgeting conventions and practices need not be a barrier to investments in capital improvements and systems modernization. This assumes that the investments demonstrably improve government services and help deliver services more efficiently, yielding out-year taxpayer savings compared with a status quo baseline. The options outlined in this report are consistent with the spirit of established budgeting conventions. In most cases they build on recent precedents, described next.

Current Precedents

Spending authority for most government programs and supporting administrative costs is provided through annual appropriations, limited either through the annual budget process or separate legislation.¹² Appropriations provide “budget authority” (BA) that allows executive agencies to obligate funds pursuant to the terms of that appropriation and other relevant laws and rules, often in the form of either grants by the agency to other governments or nongovernmental organizations for authorized purposes; or contracts with private companies, other organizations, or individuals for purchase of specified goods and services to support the agency’s authorized missions and programs. The terms and conditions of these appropriations provide the legal basis for subsequent financial controls, procurement procedures, and audits to ensure that funds are used effectively and as intended.

The annually appropriated part of the budget that funds most capital spending and other investments has been shrinking in relation to permanently authorized spending for debt service and for entitlements like social security. This squeeze increases the pressure to find innovative ways to finance capital spending on public assets that yield long-term benefits, and to increase the efficiency of such spending by favoring uses that produce budgetary savings in administrative costs and in investments that improve economic performance, productivity, and future revenue growth.

A large perceived budget process barrier to appropriations for federal capital projects, such as construction or purchase of facilities, is the requirement that budget authority for the full cost of such projects be appropriated before the project can begin. The barrier is that the budget process does not provide a direct way of recognizing an investment’s potential benefits, including future gains in federal revenue, as offsets to the initial cost.¹³ The FY 2020 Budget notes that the budget measures only costs, and that “the benefits with which these costs are com-

11. *Report of the President’s Commission on Budget Concepts*, p. 1 (October 1967). One major change in concepts was introduced in 1992, shifting the treatment of credit programs—direct loans and loan guarantees—from a cash to an accrual basis.

12. In the 1974 Congressional Budget Reform and Impoundment Control Act, the top line for appropriations is to be set through annual budget resolutions. In recent years, multiyear caps on appropriations have been enacted in separate legislation, including the Budget Enforcement Act of 1990 and the Budget Control Act of 2011; the caps set in the latter have been modified in a series of subsequent two-year agreements to increase the amounts for appropriated (discretionary) programs and will expire after 2021.

13. Details on the scoring of purchases, lease-purchases, and capital leases can be found in OMB Circular A-11, Appendix A “Scorekeeping Guidelines”, paragraph 11 “Scoring Purchases” and in Appendix B, “Budgetary Treatment of Lease-Purchases and Leases of Capital Assets.”

pared, based on policymakers' judgment, must be presented in supplementary materials." Only indirectly, therefore, does the budget allow "the total cost of capital investment to be compared up front in a rough way with the total expected future net benefits."¹⁴

Moreover, the requirement that the full cost of a project be scored in the first year makes it difficult, in an environment of tight caps on appropriations, to find room under the caps for large projects where full costs require a significant amount of budget authority. The requirement that executive agencies obtain budget authority for the full cost of a project at the front end may push them in the direction of long-term operating leases for facilities, even when these are in the long run more costly to the government. As the FY 2020 President's Budget states, "These alternatives are more expensive than ownership over the long term because: (1) Treasury can always borrow at lower interest rates; and (2) to avoid triggering scorekeeping and recording requirements for capital leases, agencies sign shorter-term consecutive leases of the same space. For example, the cost of two consecutive 15-year leases for a building can exceed its fair market value by close to 180 percent."¹⁵ Accordingly, agencies can more easily find funds to operate and patch up an obsolete system or facility than they can to budget larger amounts upfront for modern systems and infrastructure, which would support better services and yield subsequent budget savings.

Another challenge presented by the budget process arises from its organization around individual agencies and programs. This stovepiping of budget decisions makes it harder to fund shared systems and services, including those to support common back office functions such as financial accounting and management, payroll, grants management, procurement, and cybersecurity. The result is a duplicative and inefficient array of uniquely developed or separately purchased solutions serving single agencies. Successive administrations have struggled to find a straightforward budgetary and administrative procedure to enable and finance these joint investments, with the latest efforts showing some progress under OMB Memorandum M-19-16 addressing shared services (as noted above).

Although not full solutions, some recent innovative efforts to address these budgetary challenges provide useful precedents:

- A governmentwide Technology Modernization Fund (TMF) was authorized in FY 2018 "to enable agencies to reimagine and transform the way they use technology to deliver their mission and services to the American public in an effective, efficient, and secure manner." Agencies must apply to and compete for TMF funds centrally administered by OMB and GSA. Evaluation, selection, and monitoring of approved projects by a TMF Board (whose members include OMB, GSA, and agency CIOs) is designed to give agencies strong incentives to develop comprehensive, high quality modernization plans. Funds are distributed incrementally, tied to milestones and objectives.¹⁶ The TMF has competitively awarded nine agency projects for a total investment of roughly \$90 million.¹⁷

To build a self-sustaining corpus, TMF funds are to be repaid by appropriations over a period not to exceed five years, with repayment funding coming from agency cost savings and cost avoidance. The projects are subject to written agreements and limited based on assumptions about the availability of out-year agency appropriations. Additional funds have been requested to expand the TMF, and demand so far shows that the initial funding falls far short of the identified need; in the first year, agencies submitted proposed projects for five times the amount authorized.

14. *President's Budget for FY 2020, Analytical Perspectives*, p. 109

15. *President's Budget for FY 2020, Analytical Perspectives*, pp. 109 and 139.

16. *President's Budget for FY 2020, Analytical Perspectives*, page 258.

17. <https://tmf.cio.gov/projects/>.

- Agency working capital funds and franchise funds have been used to finance ongoing investments in IT and other internal capital needs on an ongoing basis. Many agencies established franchise funds in the 1990s, sustained by reimbursements through internal or interagency purchase of services. Some agencies have working capital funds for IT modernization and other specified uses. Sources to sustain revolving funds may include purchase of services and future administrative savings. Some agencies, including Agriculture and Health and Human Services, have standing authority from appropriators to direct about-to-lapse administrative funds (in part or after a specified period) to no-year working capital revolving funds. The TMF statute also authorized increased working capital funds within agencies for IT modernization, though progress on implementing this authority has been slow.

An obvious disadvantage of these funding mechanisms is that, with the exception of franchise funds offering services to multiple agencies, they are generally limited to supporting investments by individual agencies and therefore not supportive of joint investments. Also, sustaining agency working capital funds is a challenge even for the few agencies with limited authority to redirect lapsing administrative funds to these capital funds.

Other ways to reduce the obstacle to upfront funding of capital projects require a review of how the costs of various forms of capital investment are scored by OMB and CBO. Scoring precedents for offsetting investment costs with credible estimates of expected savings from changes in statutorily linked programs include the use of Energy Savings Performance Contracts (ESPCs), described in the following subsection of this report. Another precedent is the use of accrual estimation for credit programs, especially loan guarantees of private capital investment. The budget provides ample precedent for scoring of loan guarantees for specified purposes, including small business capital investments as well as energy improvements and other public investments. During the financial crisis, Congress directed that equity stakes in private companies, in form of preferred stock and warrants in banks, insurance companies, and auto manufacturers, be scored in a similar manner through the Troubled Assets Recovery Program (TARP).

In these cases, the budget estimates for BA and outlays are the discounted present values of expected cost over the life of the financial instrument, a small fraction of the face value of the credit guarantee or government equity stake. Such precedents for including out-year budget effects in the upfront scoring of federal investments could be extended to support authorized private capital investments directed to the whole range of government capital needs, with the government setting terms that could include public use of the resulting assets or joint public-private partnerships to build and manage capital projects.

It is important to emphasize that using guarantees to support private credit requires an appropriation of the cost to the government, based on estimates of all cash flows to and from the government generated by credit extension. Depending on the particulars of the program, as noted above this amount is often a fraction of the up front cash outlay for construction or purchase of an asset. However, this is not always the case. For instance, if a loan guarantee to a private company were used to construct a building that is then used by the government, the subsidy would necessarily include the present value of future rent payments for government use of the facility, which may exceed the up front cash cost of the building's construction.

In a budget environment of caps on discretionary spending, another way to recognize the future returns from specific investments—in the form either of efficiency savings or revenue gains—is to adjust those spending caps or provide spending authority outside the caps. This is done for some investments in program integrity to reduce improper payments, such as for Social Security and Unemployment Insurance. The FY 2020 Budget, as well as prior budgets, similarly proposed a cap adjustment for Internal Revenue Service (IRS) “Program Integrity” spending on tax enforcement activities that yield higher tax revenue collections or lower improper tax expenditures.

As with past efforts to adjust spending, there will likely be challenges that either limit the scope of current efforts or raise questions about their sustainability. In addition to uncertainty about their benefits, some of these options raise issues of control and incentives. For example, appropriators have been reluctant to give agencies flexibility in redirecting funds originally appropriated for administrative costs. Also, the uncertainty about streams of repayment discussed in the previous section limits the sustainability of capital revolving funds. This arises in part from the difficulty of estimating and capturing budget savings in the form of future operating efficiencies or revenue gains attributable to the investment, in part from the lack of experience-based standards for initially estimating such offsets to initial costs, and in part from the absence of an accepted approach for capturing savings to repay initial fund capital outlays. While current program integrity initiatives demonstrate that these challenges are not insurmountable, it can take significant and sustained efforts over multiple years for legislative and executive branch scoring officials to agree on budget reforms that recognize a program's investment benefits.

Reform Options

Based on these precedents, the future offers some promising options that could make budget conventions and procedures friendlier to mobilization of private capital on behalf of public capital needs, while at the same time providing decision makers with full information about the costs and risks of their choices at the time of funding. These range from near-term opportunities already proposed and/or in limited use, to more challenging possibilities that might have larger and longer-term consequences.

Near-Term Opportunities

Capital Revolving Funds. As noted, whether governmentwide or agency specific, revolving capital funds can provide a sustainable source of funding for specified uses once initially capitalized.

As first proposed in the FY 2018 Budget, a federal capital revolving fund could be established with a one-time mandatory capitalization through authorizing rather than appropriations legislation. The upfront obligation of funds for individual projects would be scored against the fund's corpus, while agency appropriations would be scored for future annual repayments to revolving fund. As the Budget notes, this approach is modeled after the capital budget revolving funds of state and local governments, in a manner consistent with the federal government's cash budgeting conventions. Although the approach would not provide the market test that states face when they issue debt to finance capital projects, it nevertheless offers "a new and innovative way to budget for the largest civilian real property construction projects," valued at more than \$250 million. The President's FY 2020 Budget included \$10 billion in mandatory resources to seed the fund, and proposed using \$288 million from the new fund for the renovation and expansion of a key National Institute of Standards and Technology (NIST) facility in Boulder, Colorado as a first project.

Once established, the fund would provide the necessary upfront amounts to execute projects and then require agencies to repay those funds over 15 years. The Budget notes that "without enactment of the fund, agencies will continue to turn to more costly solutions to meet some of these large requirements, including operating leases, to avoid the upfront cost requirement associated with federal construction. Further, since projects executed via the new fund would be paid through annual operations over a 15-year period, federal decision-makers are incentivized to fund only those projects with the highest return on investment and mission priority to protect taxpayers. Providing budget resources through the fund will enable agencies to prioritize real property actions that result in lower long-term costs for taxpayers."¹⁸ As proposed, its scope

18. *President's Budget for FY 2020, Analytical Perspectives*, pp. 96-97.

would be limited to large civilian real property capital projects, but the concept might be applied and expanded to include other functions, including investments in IT and other federal systems. For example, a central cross-agency fund could be administered by OMB and GSA in much the same way as the Technology Modernization Fund.

This approach raises several challenges. Upfront capital costs would be scored as a mandatory amount, while agency repayments to the fund would be scored as part of annual agency appropriations in future years. Administrative savings from the investments that would facilitate the appropriations used for repayments may be difficult to identify. Uncertain appropriations for repayment streams would reduce the fund's corpus and therefore future resources for new capital projects. Scoring rules included in the Administration's proposed legislation would largely if not totally avoid the uncertainty of future repayments, by requiring OMB and CBO to score a discretionary cost against the discretionary spending limits for any failure to appropriate funds for repayments. However, this approach may also reduce agency incentives to identify and lock in offsets for repayment from administrative efficiencies or designated collections.

Appropriators would likely still have concerns about control and incentives. However, steps to gain congressional support could include full transparency of criteria for awards from a governmentwide fund and documented evidence of administrative savings. This option could take a form similar to an expanded Technology Modernization Fund administered centrally to support multiagency investments in shared systems and services.

Agency Administrative Capital Funds. Agencies can fund their own IT investments within base appropriations, provided they have authority and mechanisms to recapture administrative savings, and/or to charge grantees or contractors for use of agency systems. Both agencies and their grantees and contractors may make better choices about the use of administrative funds if they have the additional option to invest them in assets that yield recurring gains in efficiency and better services.

One challenge to the recognition and capture of administrative funds for capital projects is the need to demonstrate the value of reusing administrative funds for purposes not originally intended. A second problem arises because the annual flows from this source may be erratic and unpredictable. Third, the incentives for agencies arising from the option of recycling of unused appropriations need examination. Still, the option to retain and reuse lapsing funds should reduce the incentive for wasteful year-end spending and increase the incentive to spend such funds prudently.

One channel to build support in the face of these challenges may come from nonfederal grantees, who are sometimes authorized to spend a percentage of their award for administrative reporting. If the government has developed a shared solution for grants administration, including financial and performance reporting and auditing, then these grant amounts might be directed to the required use of this shared administrative system—resulting in administrative savings through process efficiencies for both the federal agencies and their grantees. Shared services for grants management have been pursued in various ways over the last three administrations, and the current administration's efforts addressing grants under the "Sharing Quality Services" CAP (cross-agency priority) Goal initiative may provide an opportunity to assess the benefits of this approach.

Under this option, steps could be taken to establish a generalized, governmentwide funding mechanism and scoring approach—for example, authorizing agencies to sweep a percentage of unused lapsing administrative funds at year's end. This could take the form of a general provision in appropriations that gives agencies the authority to recycle lapsing administrative funds for no-year investments in internal or shared systems, unless explicitly restricted by the action of their individual appropriations subcommittees.

Longer-Term Possibilities

Longer-term and potentially more ambitious options should reflect established budgetary concepts and practices, while at the same time adapting these processes to support sound capital investments and mobilize private capital and expertise on behalf of public objectives. The views of the private sector should be considered as part of any change process.

Crediting Investments with Expected Positive Returns. Where savings have been demonstrated in the form of future efficiencies or enhanced revenues, these future savings can be recorded as offsets to the upfront expenditure and reflected in a smaller appropriations requirement. To the extent that scorekeepers can be convinced by experience and evidence that administrative savings or revenue gains are directly attributable to a class of projects, these offsets can arguably be included in the present value calculation of the government's cost without violating the spirit of current scoring practices. This would thereby reduce the size of the upfront budget authority requirement and help make room for large-scale capital investments within budget constraints. Or, going beyond current scoring conventions, appropriations for specified purposes that could be reliably estimated to produce offsetting budget savings (through administrative efficiencies or fraud reduction, for example) or to generate future revenues (such as via program fees or general revenues) could be excluded from the Budget Act's 302(a) limits or other appropriations cap calculations.

The biggest challenge to giving credit to such offsets is the unreliability of estimates. The government could develop a body of knowledge based on success stories to help guide future endeavors, with a goal of strengthening program and administrative linkages. This knowledge could eventually inform the creation of policies to ensure that efficiency savings or gains in receipts are captured and applied as a direct return on these investments. This may help to convince budget scorekeepers to apply a discounted present value of those estimated future savings streams as an offset to the initial cash outlay, reducing the overall score. But because such scoring depends on credibility of estimated savings or revenue gains, it is important to build a base of experience that scorekeepers can rely on for their estimates.¹⁹

Loan Guarantees of Private Financing to Replace Full Cost Outlays. Beginning in 1992 under reformed scoring of government credit programs, guarantees of private financing for construction or purchase of public capital are scored for the expected cost in case of default, typically a fraction of full construction/purchase cost.²⁰ Expanded use of credit guarantees to reduce risks for private partners must account for contractor incentives that may affect the nature of projects they bid for, and can affect the probability of repayment. Also, if defaults are underestimated initially, mandatory appropriations of subsidy re-estimates will be required to record these unanticipated costs in the government's financial statements; and conversely, if net costs are overestimated initially, the subsidy re-estimate would result in additional mandatory budget receipts in the out-years.

The note on the next page describes the experience and lessons learned from another form of industry support for modernization, through privatization of a federal asset—specifically, military housing.

19. This is not an argument for including indirect benefits of such investments in the cost calculation, such as savings from improved health after construction of health facilities or gains in future revenues from improving the rate of future economic growth. Such cost savings or revenue gains can be asserted credibly for a broad range of government investments, but budget conventions properly exclude such indirect effects from the cost estimate for a particular appropriation even where they may have a future budget impact. As a practical matter, these are often speculative and difficult to estimate reliably.

20. The Federal Credit Reform Act of 1992 (2 U.S.C. section 661) changed the way costs of loan and loan guarantee programs are recorded in the budget process to better reflect their expected cost to the Treasury, based on projected cash flows resulting from the issuance of a direct government loan or guarantee of a private loan, thereby improving the information available to budget decision makers as they set funding priorities in a given year. Typically, the budget authority and outlays recorded for government credit on the reformed basis are a small fraction of the initial face value of the loans made, given that for most credit programs the cost of loan defaults are mostly offset by the discounted value of repayments and fees.

MILITARY HOUSING PRIVATIZATION: AN INSTRUCTIVE EXPERIENCE

In 1996, Congress provided authority to the Department of Defense (DoD) to enter long-term agreements with private firms to renovate, construct, and operate most domestic on-base military for military families. About one-third of these lived on-base rent-free; DoD estimated at the time that its cost for on-base housing was about 35 greater than its cost of providing basic housing allowances (BAH) for service members to rent equivalent units off-base.²¹ At the time, much of the on-base housing for military members and their families was old and increasingly obsolete and deteriorating. Funding for renovation was a low priority and crowded out by needs more directly related to military readiness. DoD estimated at the time that it would take 30 years and \$16 billion to address this housing shortfall.²²

With the new authorities, the Army and Navy entered partnerships with limited-liability companies and invested funds in these partnerships; the Air Force provided direct loans to its private developers. In most cases, the government leased the land and conveyed structures for a 50-year term. Companies were to receive guaranteed payments from service members' basic housing allowances to cover operating and maintenance expenses, taxes, insurance, and debt service, based on estimated occupancy rates.²³

After an initial slow start, results were encouraging. The expertise and financial resources of the private sector were leveraged to great effect. Service members received better housing with modern appliances. In some places, developers constructed new units to address a shortage of affordable supply for the military. This was accomplished quickly without requiring massive government outlays for the capital improvements. However, a 2001 CRS report on the initiative cautioned that:

“Despite MHPI’s accelerated rate of development, housing, once it has been created, it must be managed and maintained, and the DoD and military services will have to learn additional skills. The leasing of land to private enterprise the loans made and guaranteed, and the commitments to joint ventures, may extend for up to a half-century. The know-how needed to effectively manage the complex mixture of public, public-private, and private housing may prove to be equally as challenging. Assessing both public and private management, with respect to the quality of life afforded to the military service member, cost to the taxpayer, long-term governmental liability, and sanctions imposed for nonperformance, may require years or decades (CRS, 2001).”

The outlook today is less promising than it was a decade ago. Reduced force levels in the early 2000s led to lower occupancy rates for some properties. Legislated cuts in BAHs further reduced cash flows to the projects. This put pressure on the operating firms, leading in some cases to poor maintenance and deteriorating living conditions. In 2018, GAO noted these trends and called on DoD to strengthen oversight to better monitor and report on projects' physical and financial conditions.²⁴

The privatization of military housing is an instructive example of both the potential benefits and risks of deploying private capital for public purposes. On the one hand, it succeeded in recapitalizing and improving the quality of on-base military housing in a fairly short period without the need for massive appropriations to cover the full capital cost. On the other hand, private investors encountered unanticipated changes in policy that reduced or eliminated profits, which led in some places to deteriorating living conditions and higher financial risk for the government.

21. CBO (2000) *Budget Options for National Defense*, p. 79, March.

22. CRS (2001) *Military Housing Privatization Initiative: Background and Issues*. CRS Report for Congress, July 2.

23. OMB scored the budgetary cost of each project at inception to estimate the amounts to be provided through the budget based on terms of the contract or lease arrangement. Costs varied with project financial structure. As reported by CRS (2001) the scoring used for the MHPI was drafted to comply with the Credit Reform Act of 1990 and the Budget Enforcement Act of 1990 (both included within the Omnibus Budget Reconciliation Act of 1990 [P.L. 101-508]), as interpreted by Office of Management and Budget (OMB) Circular A-11 and specific MHPI Guidelines issued by the OMB on June 25, 1997.

24. GAO (2018) *Military Housing Privatization, DOD Should Take Steps to Improve Monitoring, Reporting, and Risk Assessment*. GAO-18-218, March.

Shared Investment in Technology Joint Ventures. The federal government could be an equity partner with advanced technology firms to develop and apply commercial technology solutions, sharing in returns in the form of public use and/or cash dividends. The SpaceX/NASA commercial partnership has reportedly yielded major budget savings by allowing the private partner to make a major capital investment and undertake the risks of initial development and testing of unproven technology, while allowing the government and the public to benefit by contracting for subsequent use of this technology for space ventures. Lessons from this and other experience should inform better ways of supporting these partnerships through both budget and procurement processes.

As discussed in the previous section, any joint venture or public-private partnership poses risks to both partners. From the government's perspective, bearing part of the risk and responsibility by guaranteeing private financing (or even taking a direct equity position) runs the risk that costs will shift to the agency if the company fails to perform. In the budget process, these risks can be estimated as part of a cost calculation—but high risks will result in estimated costs that exceed alternative, more conventional funding approaches. And as discussed in the next section, the government's risks, as well as the need for upfront spending authority, can be reduced by contracts that time government payments to match savings or revenues that accrue during performance.

For private venture partners and investors, the vagaries of federal budgeting and procurement may pose too great a risk or cause them to demand higher returns on their capital contribution, particularly if the contractual arrangement makes the private sector assume most of the initial investment in development and construction. In the past, such arrangements have been controversial, raising complicated questions about incentives of private and federal partners and how partnerships can properly balance social and private values. Over time, only a body of experience will help to reduce the barriers to these kinds of projects by showing how complexities can be managed and yield benefits to both partners.

General Reforms and Capital Programming. It is possible that the solution to attracting more private investment in public capital projects lies not within the budget process itself, as we now define it, but prior to that process—in orderly capital planning and programming discussed previously, which specifies the government's requirements and spells out for potential private partners the mission, goals, and functional requirements that the government expects its contractors to meet. There are existing models for this in NASA's mission planning and the robust Planning-Programming-Budgeting-Execution (PPBE) process used by the Pentagon. NASA's 2018 Strategic Plan notes that “to ensure success in a dynamic environment, NASA's long-term strategic planning process is ongoing and iterative, allowing for flexibility in the event that external guidance or circumstances necessitate revised strategies.”²⁵ NASA's approach—including sharing launch facilities and technology it earlier pioneered—has fostered an emerging competitive industry of innovative space companies, including SpaceX and Blue Origins, which have built their own technology platforms and partner with NASA over time. A close examination of this body of experience would help inform efforts to transfer the model to other agencies whose missions include major long-term technology and process investments.

The “Capital Programming Guide” (Supplement to OMB Circular A-11) provides an excellent source of information to federal agencies on capital planning. The Guide's purpose statement offers the following cogent advice: “Agencies must have a disciplined capital programming process that addresses project prioritization between new assets and maintenance of existing

25. NASA, *NASA Strategic Plan 2018*. Appendix A, Developing and Implementing NASA's Strategy, page 55.

assets, risk management, and cost estimating to improve the accuracy of cost, schedule, and performance provided to management, and the other difficult challenges proposed by asset management and acquisition.”

Successful models for capital project planning and budgeting could be extended to other agencies by defining a set of capital planning routines, replicable by agencies either separately or jointly with guidance from OMB and perhaps with management of joint procurements by GSA. The value of such a process to private investors is highlighted by an analysis of the U.K.’s recent experience with a series of initiatives to deploy private capital for public purposes. This analysis found that the main problem with the UK’s approach was a “dearth of upcoming bankable projects: projects that are well defined and attractive enough for them to finance.” Noting that “only a clear pipeline would attract a larger number of competing private investors [that] would drive project costs down,” the authors recommended that a pipeline of proposed projects be published annually in the budget’s “fall statement” as part of the government’s list of planned private and public infrastructure projects, to reduce investor uncertainty and encourage competition.²⁶

Producing a predictable stream of future capital projects requires a multiyear capital planning process in executive agencies and, given Congress’s role in the budget, a process for Congress to engage with and periodically endorse those multiyear plans.²⁷ Establishing such a process as a recurring feature of planning and budgeting for capital investment could reassure and encourage private investors across a range of capital needs.²⁸ If the budget process can be made friendlier to private capital investment, this will reduce the pressures to bypass the process by creating special government-sponsored vehicles that operate outside the formal budget, are less accountable, and pose financial risks. The failure of Fannie Mae and Freddie Mac in 2008 illustrates the downside of this approach.

A disciplined and transparent approach to federal budget reforms may also necessitate a broad review of the set of budget concepts now used. Some argue that the current set of concepts and practices have contributed to large deficits and unsustainable growth of federal debt, and therefore that a fundamental revision of this framework is overdue. A fundamental review, if undertaken, should include assessment of the current treatment of investments in the budget process, and whether to establish a separate capital planning/budgeting framework. One goal of this review would be to ensure that budget concepts are applied in a way that gives policy-makers a comprehensive and timely picture of the costs and benefits of spending and revenue alternatives, including those that leverage the expertise and capacities of private capital partners.²⁹

26. Atkins, Graham, Nick Davies, and Tess Kidney Bishop (2018) *How to Get Better Private Finance Deals for Infrastructure*. Institute for Government, Project Management Institute, London.

27. Establishing a capital planning framework does not imply or require a separate capital budget. The arguments for and against establishing a separate capital budget for the federal government have been reviewed periodically; see GAO (1983) *Pros and Cons of a Separate Capital Budget for the Federal Government*. GAO/PAD-83-1, September 22, for a convenient summary.

28. Most OECD countries, whether they have a separate capital budget or not, have a clear and robust capital planning framework, including planning for public-private partnerships, that is integrated with their budgeting process. OECD’s latest survey of member country practices observes that “Strategic long-term planning is a key element for successful infrastructure development” and that “more than half of OECD countries reported to have an overall long-term strategic infrastructure vision that cuts across all sectors,” and that “in complement to the long-term vision, governments should also identify a short list of priority projects, taking into account the opposing policy goals, existing infrastructure needs and budget constraints”. OECD Working Party of Senior Budget Officials (2019) *Budgeting and Public Expenditures in OECD Countries 2019*, chapter 8.

29. Some matters that could be considered by a future budget concepts commission are outlined in two Brookings policy briefs produced for the National Budgeting Roundtable project: B. Anderson and R. Penner, “Time for a New Budget Concepts Commission” January 11, 2016, and S. Redburn, “Budgeting for Investment” October 17, 2017.

Acquisition Innovations



When used properly, the federal acquisition system can enable innovative, outside-the-box solutions that provide a channel for private companies to bring innovation to government modernization. However, if the procurement system is used improperly, history shows that Congress invariably reacts swiftly in adopting new legislation to prevent a recurrence of the improper action—often seen by acquisition professionals as punitive. This in turn promotes cautious behavior that is the antithesis of innovation and creativity.

In theory, procurement policies and practices should not be a barrier to mobilize private capital to improve government's services and achieve efficiencies. In fact, despite an often unfair reputation for being cumbersome and inflexible, the Federal Acquisition Regulation (FAR) affords contracting officers broad discretionary authority to be innovative and flexible in developing policies, procedures, or strategies (even if they are not specifically cited in the FAR), provided they are not “. . . prohibited by law (statute or case law), Executive order or other regulation.” [FAR 1.102-4(e)]. The emphasis on flexibility and innovation is imperative if new, nontraditional strategies are to be successfully implemented.

Current Precedents

In the past two decades, Congress has attempted to broaden the government's flexibility in procurement areas by authorizing federal agencies to enter into nontraditional arrangements with private sector partners through shared risk/reward contracting. Under such arrangements, payments are made over time based primarily on the savings (or revenues) that accrue during performance. The four prominent concepts to be examined include: shared savings, energy savings performance contracts, other transaction authority, and public-private partnerships.

Share-in-Savings (SiS)

In 1996, under the authority of the Clinger-Cohen Act, the Department of Education (ED) awarded one of the first information technology-related shared savings arrangements. In this case, a private-sector firm was tasked with re-engineering an inefficient student loan repayment system. ED appropriated very little upfront funding, and the contractor agreed to recover most of the investment over a 60-month period from two government sources: accrued savings from the replacement of an old, expensive legacy system; and the additional revenue collected by the government from unpaid student loans.

In 2002, the E-Government Act expanded pilot authority for the SiS concept for a five-year period based on the lessons-learned from Education pilot. Important legislative advances included appointing GSA to serve as the governmentwide lead for establishing multiple program components, a solid regulatory framework, terms and conditions for contracts, risk models to identify suitable programs, guidance to clarify the appropriate profit and payback schedules, and models to assist contracting officers with evaluating proposals from prospective contractors. In addition, the legislation authorized a unique incentive that allowed federal agencies to keep their portion of any savings to reinvest in other programs within that agency. However, as discussed below, the SiS contract did not lead to agency task orders due to a variety of obstacles that remain a challenge to this contract approach today.

The pilot efforts authorized by the E-Government Act made significant progress during the five-year reauthorization, but full implementation was not achieved. The Government Accountability Office (GAO) identified several factors that impeded progress, including³⁰:

30. <https://www.gao.gov/new.items/d05736.pdf>.

- Many procurement officials did not receive adequate training on the complexities of SiS and other incentive contracting methods. As such, they resisted adopting the approach since it represented a radical departure from traditional methods.
- A change to the procurement regulations to guide implementation of the law was not implemented soon enough.
- There was low confidence in the Government's ability to calculate valid baseline costs, which would make it difficult to determine cost savings.

Additionally, unlike energy savings performance contracts (ESPCs, see below), where the government's costs were deemed budget-neutral, the scoring methodology for SiS—based on language in the E-Gov Act—required the government to set aside the full amount of first-year funds in the unlikely event the contract was terminated for convenience. This scoring decision served as a disincentive for federal agencies to use SiS authority.



Lessons Learned from Shared Savings Cases. Based on analysis of the Education pilot by researchers and auditors, several key lessons were identified to inform future decision makers seeking to use share-in-savings as a performance-based contracting tool. Key challenges include: 1) profits deemed too high relative to traditional contract-types, 2) no “cap” on how much the contractor could earn after costs and profit were recovered, and 3) no formal guidance on how to manage SiS contracts.

If SiS contracting is reauthorized in the future, consideration could be given to adopting a budget neutral scoring methodology similar to that used by ESPCs, and could include analysis of alternatives and their scoring impacts.

Energy Savings Performance Contracts

ESPCs present a more mature, time-tested approach to the shared savings concept. Under ESPCs, the government partners with private investors to deliver energy-specific improvements and payments are made from accrued savings. Government facilities are generally good candidates for ESPC projects given the long-term ownership of the facilities, which allow for 10- to 20-year financing terms. In contrast, commercial facilities often have a three-year payback threshold and may reject a comprehensive ESPC.

The Department of Energy has expanded the ESPC concept to 18 states and six municipalities. Since 2014, ESPC partners have realized \$2.03 billion in ESPC investment. At the federal level, OMB has scored ESPCs as budget-neutral, as long as the approach is focused on building improvements that reduce energy and water use and increase operational efficiency.



Lessons learned from ESPCs. Independent evaluators have assessed DOE's energy savings portfolio and found that taxpayer investment of \$12 billion has yielded an estimated net economic benefit to the United States of more than \$230 billion, with an overall annual return on investment of more than 20 percent.³¹ What was once considered a “nontraditional” contracting method has evolved into an essential part of the country's energy management portfolio.

31. <https://www.energy.gov/eere/about-office-energy-efficiency-and-renewable-energy>. This report provides information about the recipient of that benefit and how was it used.

Other Transaction Authority (OTA)

The OTA process grants DoD and some civilian agencies more flexibility than FAR-based contracts to implement certain prototype, research, and production projects. This authority encourages innovation by allowing agencies to structure agreements in numerous ways, including joint ventures, partnerships, consortia, or multiple agencies partnering to fund an agreement encompassing multiple providers.

While originally limited to traditional research and development efforts, Section 815 of the National Defense Reauthorization Act of 2016³² expanded the definition of “prototype” to now include physical or virtual models used to evaluate the technical or manufacturing feasibility or military utility of a particular technology or process, concept, end item, or system. With re-engineering now expanded to include technology, processes, and systems, the OTA can be used for non-R&D initiatives. OTA agreements will likely be an attractive alternative to investors who have long considered the traditional procurement process an impediment to innovation.

One unique characteristic of OTAs is the focus on cost sharing. By law, at least one-third of the total cost of a project must come from nonfederal entities. Today, such funding sources include foundations or nonprofit entities, but private equity or venture capital firms are not precluded from participating. Thus far, only one consortium (Army Medical Technology Consortium, or M-TEC) has developed a process to accept funds directly from nongovernment sources.

The emphasis on cost sharing between the public and private sectors could also present an avenue for using a shared savings-type arrangement. This flexibility in determining a contract-type outside of those prescribed in the FAR makes OTAs ideally suitable for incentive-based contracting.

OTA contracts have expanded significantly over the past several years. In 2018 DoD spent nearly \$3 billion, mostly in research and development (R&D), while the Transportation Security Administration had far more transactions, spending approximately \$60 million for non-R&D professional services and construction. The Federal Aviation Administration has also used OTAs to improve transportation infrastructure. With the maturation of OTAs over the past five years, many issues have been addressed through guidance and templates that could help agencies avoid potential pitfalls. The IBM Center is supporting new research on the use of OTAs by government, to be published in a forthcoming report.



Lessons Learned from OTAs. While OTAs afford the Government important flexibilities, there have been challenges, many of which are documented as lessons-learned in DoD’s most recent procedures (see Other Transactions (OT) Guide [https://www.dau.edu/guidebooks/Shared%20Documents/Other%20Transactions%20\(OT\)%20Guide.pdf](https://www.dau.edu/guidebooks/Shared%20Documents/Other%20Transactions%20(OT)%20Guide.pdf)). Frank Kendall, the former Under Secretary for Acquisition, Technology & Logistics at DoD, noted that OTAs are “not a panacea for ills that afflict government contracting”, and added that whatever the contracting vehicle, there will always be challenges to acquire cutting edge technology for major weapons systems.³³

32. <https://documentcloud.adobe.com/link/track?uri=urn%3Aaaid%3Ausc%3Aef4365aa-fd17-4ae1-a75a-7f5aeade2bfc>.

33. <https://www.forbes.com/sites/frankkendall/2019/01/03/the-new-other-transactions-authority-guide-helpful-but-not-enough/#741ef8b541cf>.

Public-Private Partnerships (PPPs)

This earlier discussion of PPPs in this report focuses mostly on budget-related issues. The focus in the section is on mechanics of the actual agreement and how PPPs are being used effectively at the state level.

DoD received authorization to use PPPs from the Defense Base Closure and Realignment Act of 1990 and subsequently issued DoD Instruction 4151.21, which defined a PPP as a “cooperative arrangement between an organic product support provider and one or more private sector entities to perform defense-related work, use DoD facilities and equipment, or both. Other government organizations, such as program offices, inventory control points, and sustainment commands, may be parties to such agreements.”

PPPs often result from nonbinding memoranda of understanding (MOUs) or memoranda of agreement (MOAs), and in some cases from adoption through a formal contract. Additionally, some PPPs are not formalized at all, but rather arise through informal understandings between the partners. Despite being authorized by statute, federal agencies have made limited use of formal PPPs. The largest agency involved is DoD, which uses PPPs to manage defense facilities and bases. Other prominent examples include the State Department’s Diplomacy Lab, the Occupational Safety and Health Administration’s Strategic Partnership Agreements, and a multi-agency program between the Departments of Justice, Housing and Urban Development, and Health and Human Services that partnered with an organization called Humanity United to combat human trafficking.³⁴

State governments often use PPPs to support infrastructure projects. Figure 1 lists such projects across several states. In a 2010 report,³⁵ Deloitte identified a number of U.S. government entities, as well as governments abroad, using the PPP concept to transform their infrastructures. The report concluded that the traditional models of financing and delivering infrastructure would be improved by new and innovative funding models, similar to those which are discussed in this report. In addition, an effective means to promote more innovation and use economies of scale to lower costs is for public sector authorities to partner and combine requirements for certain infrastructure programs. This has been used successfully in the U.K. for landfills, road construction, and school renovations.

The states listed in Figure 1 have adopted PPPs to maximize efficiency and save money. Two notable projects within this list include Florida’s \$2.3 billion Infrastructure Development Program and Pennsylvania’s \$1.1 billion “Bridges Project.”

34. *Guide to Legal Issues Involved in Public-Private Partnerships at The Federal Level*, prepared by the Public-Partner Working Group, Administrative Conference of the United States, (Dec. 2018)

35. *Partnering for Value: Structuring Effective Public-Private Partnerships for Infrastructure*, Deloitte Development LLC (2010)

Figure 1- Examples of Public/Private Partnerships at the State Level

Transaction Name	State	Year	Capital Amount (\$M)	Delivery Model	Payment Mechanism	Type	Asset Type
LaGuardia Airport Terminal Building P3	New York	2016 (exp.)	3,930	DBFOM		Greenfield	Airports
SH 288 P3	Texas	2016	815	DBFOM	Revenue Risk	Greenfield	Roads
Indiana Toll Road (> 10% stake)	Indiana	2016				Brownfield	Roads
Long Beach Civic Center P3	California	2016	513	DBFOM		Greenfield	Accommodation
I-285/SR 400 Improvements P3	Georgia	2016	458	DBF	Availability	Greenfield	Roads
State Street Redevelopment P3	Indiana	2016	71	DBFOM	Availability	Greenfield	Roads
Kentucky Broadband P3	Kentucky	2015	275		Availability	Greenfield	Other
Michigan Freeway Lighting	Michigan	2015	49	DBFOM	Availability	Greenfield	Street Lighting
I-77 HOT Lanes	North Carolina	2015	655	DBFOM	Revenue Risk	Greenfield	Roads
Southern Ohio Veterans Highway (Portsmouth Bypass)	Ohio	2015	554	DBFOM	Availability	Greenfield	Roads
Pennsylvania Bridges Project	Pennsylvania	2015	1,009	DBFOM	Availability	Greenfield	Bridges and Tunnels
SH 183 -Dallas-Fort Worth (Gap Financing)	Texas	2014	848	DBOM	Mixed	Greenfield	Roads
I-4 Ultimate P3	Florida	2014	2,300	DBFOM	Availability	Greenfield	Roads
I-69 P3	Indiana	2014	370	DBFOM	Availability	Greenfield	Roads
US 36 P3	Colorado	2014	120	DBFOM	Revenue Risk	Greenfield	Roads
Georgia Northwest Corridor (NWC) P3	Georgia	2013	840	DBF	Revenue Risk	Greenfield	Roads
Goethals Bridge P3	New Jersey, New York	2013	1,500	DBFM	Availability	Greenfield	Bridges and Tunnels
North Tarrant Expressway Segments 3A and 3B	Texas	2013	1,350	DBFOM	Revenue Risk	Greenfield	Roads

Source: Infra-Americas.com, Infra-Deals.com, IJOnline.com, Deloitte Analysis

The Florida case is a good example of public sector agencies (state, county, municipal) combining resources to improve efficiencies. The state attempted to build and operate high-occupancy toll lanes near Fort Lauderdale. This resulted in the first performance-based PPP that used “availability payments” to compensate the private sector. The financing structure included \$200 million from equity partners, \$750 million in commercial bank debt, and a \$600 million loan from the U.S. Department of Transportation. In the partnership, the state set toll rates and retained all revenues to make “availability payments” to a private sector concessionaire based on a share of the collected revenue.

The Pennsylvania project is an example of how an initiative can fail without proper coordination with the legislature. In this case, the state transportation authority could not persuade a majority of legislators to authorize a PPP arrangement, despite a well-designed business case that would have generated \$12.8 billion in funds to pay for several updates to the turnpike and its bridges.

Conversely, the California Transportation Authority convinced legislators to develop a new statutory framework that removed an earlier restriction on the number and size of projects. In addition to removing the size restrictions, the new law distributed authority to regional transportation agencies so they could enter into an unlimited number of PPPs. The California experience demonstrates how innovation can be adopted if different branches of government work in a cohesive fashion.



Lessons learned from PPPs. First, leadership support is needed at all levels of government. As outlined in the Pennsylvania example, all branches of government must have a common understanding of the differences between PPPs and traditional contracts. Second, all parties, especially government entities, must understand that PPPs are long-term contractual arrangements. As such, private sector firms need assurance that the terms and conditions will be honored despite any changes to political leadership. Third, risk sharing is a prominent feature of any PPP, and each party must own its share. This is especially germane for government, which often holds the private sector at “arms-length.” In successful PPPs, the private sector’s interest is a key success factor since the firms are investors as well as service providers—and the program’s success translates into a positive return on their investment.

Finally, cost sharing formulas and payment streams are complex and tied to risk. Therefore, roles, responsibilities, and authorities must be clearly stated and understood.

Reform Options

Several opportunities exist in the near-term for the procurement function to support nontraditional funding and procurement approaches.

Near-Term Opportunities

Explore Using Hybrid Share-in-Savings Contracts. This option would rely on the existing regulatory framework for incentive-based contract types, as described in Part 16 of the FAR. Incentive-type contracts have existed in the FAR for decades, widely used in DoD and other agencies for complex major systems procurements. Cost-type incentive contracts are generally used to attract private sector participation in procurements when the government cannot adequately define requirements to enable a precise estimate of total costs. Incentive contracts can provide a middle ground where the risks are shared proportionately. Additional research is needed to determine if the government can legally award a contract with less than the full amount of upfront funding, and use any savings (or revenue) as an “incentive” to pay the contractor for performance. If this scenario is possible, then using the previously developed proposal evaluation framework could help commence progress.

Promote More Use of OTA in Those Agencies Who Have the Authority. Presently, 11 federal agencies and sub-agencies have OTAs with the expanded definition of prototype to now include “physical or virtual models used to evaluate the technical or manufacturing feasibility or military utility of a particular technology or process, concept, end item, or system.” With re-engineering now expanded to include technology, processes, and systems, OTAs are being used for non-R&D initiatives.

Expand the Use of Public Private Partnerships. As discussed previously, the federal government can leverage lessons-learned by state governments in their adoption of the PPP framework, especially for longer-term infrastructure projects. Successful PPP arrangements generally have three common characteristics, 1) they are typically longer-term agreements with a statutory guarantee of support regardless of changes in political leadership; 2) a “partnership” means both parties share risk so profits may be higher than in traditional contracting arrangements; and 3) federal agencies can mitigate some risk by including state governments, where practical, in PPP arrangements..

Longer-Term Possibilities

Permanently Authorize Share-in-Savings. The characteristics of SiS-type contracts dovetail nicely with the OTA concept, especially since they directly tie payment to performance. Congress would need to permanently authorize SiS as an incentive-based contract-type and broaden its use beyond information technology to other areas such as administrative systems, other infrastructure enhancements, or any other area where a sufficient savings or revenue pool could be generated to pay a contractor for its services (recognizing that the contractor also bears risk if savings do not materialize).

Based on the knowledge gained from the previous pilots, sufficient information exists to update previously established regulations in the FAR, revise models that help identify suitable programs to apply this incentive-based concept, and refine previously published tools that fairly evaluate competitive offers from the private sector.

This option will also likely require new legislation because of legitimate concerns over Anti-Deficiency Act restrictions. Additional training will be needed to enhance the knowledge and skills of the budget, acquisition, and program management officials who would implement this approach. Further guidance will be needed from OMB to clarify how to address unique characteristics of the SiS environment, such as profits higher than those in typical contracting methods, since the private sector would bear the vast majority of the risk during the initial phases of the contract. And since the winning contractor bears an extraordinary risk, it will be important that the government openly shares cost information, especially when savings that would provide for payment to the contractor are tied to the retirement of legacy systems.

Permanently Expand OTAs to All Civilian Agencies. Similar to the permanent authorization of SiS, OMB could develop a legislative proposal to permanently authorize OTA across the civilian sector. DoD has provided sufficient case studies and documentation to guide civilian agencies. Such an expansion would have to ensure that new applications are well defined beyond the current scope of OTAs for innovation, research, and similar activities; and that protections are added to ensure that agencies do not misuse the authority in cases where traditional procurement methods are appropriate.

Conclusions and Recommendations



This section summarizes specific findings and conclusions as a basis for actions that could be taken by the administration and Congress to further promising models discussed above, including legislation, reinterpretation of budget scoring rules, and reinterpretation or modification of standard procurement practices.

It is important to make the federal budget and procurement environment friendlier to mobilization of private capital, and not just for reasons of budget stringency. The private sector will benefit through expanded business opportunities and a chance to contribute to important social objectives. The public sector will benefit by applying private technology and expertise—which, in some cases, it helped build at an earlier stage through direct investment or with grant or tax credit support—to achieve greater efficiency and deliver improved services.

The Roundtable discussion and subsequent exploration of these issues in this report leads to several findings regarding current budgetary and procurement practices, affecting the ability of the federal government to deploy private capital investment in support of national policy objectives.

Key Findings

Based on the results of the Roundtable discussion as well as additional research:

1. Many perceived obstacles to increased use of private capital, technology, and expertise to support federal systems modernization and an array of other public capital needs can be overcome by creative interpretation and application within established rules, in a manner consistent with the intent of those rules.
2. Ample precedents exist as models for future initiatives to bring private capital to bear for public purposes, and these precedents should be systematically evaluated by the federal government to determine how they can be applied and generalized.
3. Significant risks for both public and private partners arise from the vagaries of the budget process and the complexities of federal procurement, which can be addressed by developing a body of evaluated experience and using that evidence to establish consistent budget conventions and replicable contract standards.
4. Near- and longer-term opportunities exist to make the federal government's budget and procurement processes friendlier to investments to help modernize government, and to public-private partnerships for an array of public purposes, by reducing uncertainties and risks for both sectors.
5. Accelerating progress in addressing the government's capital needs by mobilizing private sector resources will require leadership in both the executive and legislative branches.

Proposed Actions

Near-Term Opportunities

1. OMB can lead the development of a centralized evidence base for future initiatives to develop, acquire, and deploy private technology, expertise, and capital for government purposes.
2. Using the evidence gathered from this body of practice, OMB and the General Services Administration (GSA) can work with Congress to develop standard budget and procurement models that support private capital investment for federal systems, including shared solutions.

3. For procurement specifically, OMB's Office of Federal Procurement Policy (OFPP) can charter a group, similar to the Section 809 Panel, to review existing procurement laws, regulations, and policies, in both civilian and defense agencies, to identify laws and regulations that could be changed to better accommodate the appropriate use of private investment in the public sector.
4. The administration can expand the range of capital projects eligible for the federal capital revolving fund first proposed in FY 2018.
5. The administration and Congress can evaluate experience gained with the Technology Modernization Fund, to determine the best scale and design for a self-sustaining capital revolving fund to support a specified array of federal agency and cross-agency investments in improved services and efficiency savings.

Longer-Term Possibilities

1. Congress and the administration can review current budget scorekeeping rules for capital projects, to determine the best way to account for expected budget savings from systems investments as a result of operating efficiencies, improved customer service, and offsetting collections or revenues.
2. OMB and the Congressional Budget Office (CBO) can develop models for estimating the present value of future benefits from public capital investments, and for how best to apply this information to budget and procurement decisions.
3. An independent commission whose members are selected by both Congress and the president can review current budget concepts and their application to capital projects and other public investments, perhaps as part of a broader review and updating of budget conventions, and use this review to develop recommendations to improve budget decision making.
4. OFPP can lead a review of current procurement models to determine what changes would facilitate increased private investor participation in public projects, while ensuring the interests of both public and private partners are considered. Among the first initiatives to be considered could be a legislative proposal to permanently authorize Share-in-Savings (SiS) and Other Transaction Authority (OTA) as key components of the innovation toolkit.
5. To encourage private investors across a range of capital needs, GSA, with support from OMB and in cooperation with relevant committees of Congress, can support a multiyear capital planning, budgeting, and investment process for use by executive agencies—and a process for Congress to engage regularly with those multiyear plans.

In summary, barriers to increased private capital investment for federal systems modernization and an array of other public capital programs are not as high as commonly perceived. This report identifies a number of models and opportunities that can be readily built upon to expand private sector contributions to support federal capital needs. Several near-term actions can increase private sector participation in the federal marketplace to the advantage of both private and public partners. Larger opportunities exist in the longer term, a future that can be reached sooner if the government systematically builds a body of evidence and experience to guide and support appropriate changes in budgetary and procurement rules and practices.

APPENDIX

Participants in the Capital Investment Roundtable

Held September 4, 2019, the Roundtable's co-hosts were the IBM Center for The Business of Government and Shared Services Leadership Coalition. Participants included:

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Recommendations informed by this report reflect views of the authors supported by the IBM Center and SSLC, and do not necessarily indicate consensus among Roundtable participants.

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Dr. Kenneth J. Buck, Ph.D. is an Adjunct Professor of Contracts and Acquisition Management within the School of Continuing & Professional Studies at the University of Virginia. Formerly he was a senior executive in the federal sector, with over 30 years as an innovator and change-agent in the disciplines of Acquisition & Supply Chain Management, Procurement, Human Capital, and Organizational Change Management. He designs and fields business intelligence models and algorithms to predict and measure organizational efficiency. He was the federal government's point person for the development and implementation of the Share-in-Savings concept. Buck received his Ph.D. in Human & Developmental Systems from the Fielding University in 2006.



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G. Edward DeSeve is the Executive in Residence at Brookings Executive Education, Brookings Institution and the Agile Visiting Fellow at the IBM Center for The Business of Government.

DeSeve has served at all three levels of government and in the private sector. At the federal level, he was a Special Advisor to President Barack Obama charged with implementing the \$800 billion American Recovery and Reinvestment Act. He was also Deputy Director for Management and Controller at the Office of Management and Budget and Chief Financial Officer of the Department of Housing and Urban Development.



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At the state and local levels he was a Special Assistant to the Governor of the Commonwealth of Pennsylvania and Director of Finance for the City of Philadelphia. In the private sector, he was a managing director at Merrill Lynch Capital Markets and the founder and president of Public Financial Management—the nation's largest independent financial advisor to government.

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Preparing the Next Generation of Federal Leaders: Agency-Based Leadership Development Programs by Gordon Abner, Jenny Knowles Morrison, James Perry, and Bill Valdez

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Risk:

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The Shared Services Leadership Coalition (SSLC) is an IRS-approved non-profit, non-partisan organization of companies, nonprofits, and individuals dedicated to advancing the use of shared service business models in the Federal Government. SSLC provides educational programs, technical assistance, professional development and advocacy activities to serve the needs of a growing community of government and industry shared services policy-makers and practitioners.

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