Arnold Ventures

The Rise of U.S. Government Lending: Emergency Response or the New Normal?

By Doug Criscitello | December 2023

Introduction

The U.S. government responded to the two most consequential economic events of the 21st century – the 2008 financial crisis and the Covid-19 pandemic – by expanding and initiating programs designed to enhance credit availability and relax repayment terms across a broad spectrum of borrowers including homeowners, college students, and businesses. While federal lending had been nominally on the rise for several decades, the onset of the 2008 financial crisis signaled, in real terms, a significant upward shift in lending that has failed to recede to previous levels. Loan volumes increased further during the pandemic and appear poised to maintain a brisk pace given recent trends, new statutory mandates establishing and expanding credit programs, and uncertain near-term economic prospects potentially exerting upward pressure on federal lending.

At least some of the growth has been enabled by the use of accrual-based budgeting procedures understating certain risks and, at times, allowing for credit program expansion without the need for appropriations to cover the full costs of extending loans. While official estimates of the cost of loans made or guaranteed by the government have fallen significantly in the post-2008 financial crisis period, taxpayers remain liable for the risk of loans underperforming those expectations. This paper shows the progression of credit programs with particular focus on the 15 years since the 2008 crisis, explores credit program costs and related implications for the government's balance sheet, and offers suggestions for designing loan programs to address emerging challenges and policy priorities effectively.

Arnold Ventures is dedicated to improving the lives of all Americans through evidence-based policy solutions that maximize opportunity and minimize injustice. We focus on broken systems where outcomes are falling short, incentives are misaligned, and the time is right for change. Federal credit programs are ripe for our examination given a growing reliance on the part of the government in providing credit support in lieu of direct expenditures, particularly in addressing emerging national challenges. Shortcomings in cost estimation procedures and the need to improve loan program design, administration, and performance offer further validation. With far-reaching impacts on the economy, the federal budget, and borrowers and lenders alike, the government must understand and manage its growing role as a provider and guarantor of credit in a purposeful, data-driven, and cost-efficient way - not only to protect taxpayer interests but to realize intended policy outcomes and prevent potential harm to loan recipients.

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U.S. Credit Programs: A Brief Chronology

Over the past 90 years, the U.S. government has sought to stimulate lending that otherwise would not occur by intervening in the private credit marketplace with an array of loan programs designed to aid various types of borrowers. The perceived need for such credit support arises from the fact that a private financial institution is reluctant to lend if the expected rate of return on a loan falls short of financing and other costs, even if socially desirable benefits might be realized. The federal government, however, has recognized it can capture such benefits by enacting programs and adopting policies aimed at stimulating the extension of credit in such instances.

As explored below, the government's role in this regard took hold during the Great Depression of the 1930s and has hit several acceleration points since – such as in its response to the 2008 financial crisis. Today, federal direct loan and loan guaranty programs are a common feature across the nation's financial landscape and a pivotal support point in the financial lives of many Americans. Given the growing use of traditional programs and the introduction of new lending initiatives designed to address emerging national priorities, it appears likely U.S. lending will remain a key component of the nation's economy for decades to come. Accordingly, the need to ensure optimized design, operational efficiencies, constant performance scrutiny, and accurate budgeting are essential to protect taxpayer interests and maximize prospects for achieving intended outcomes.

Origins: From Crises to Credit Programs

The U.S. government has traditionally provided credit support by lending directly to intended beneficiaries and providing loan guaranties to private financial institutions to incentivize loan making. In addition, government-sponsored enterprises (GSEs), government corporations, and other publicly controlled entities have been established (with mixed results) to increase the availability of credit in targeted sectors.[1] The justification to support and complement private financial intermediation is often intended to resolve perceived market imperfections or to convey preferential treatment to certain groups. As shown in the President's Budget for 2024, more than 125 credit programs were administered by about a dozen federal agencies during fiscal year 2023 (Office of Management and Budget, Credit Supplement, 2023).[2] It is no coincidence the largest of those programs were established in response to compelling policy priorities of various eras including the Great Depression (housing and business loan programs), the Great Society programs of the 1960s (student loans), the 2008 financial crisis (expanded housing programs and support for government-sponsored enterprises or "GSEs"), and the Covid-19 pandemic (Paycheck Protection Program).[3]

As far back as the 1950s, policy analysts sought to address the rationale for government involvement in the marketplace. This excerpt from a study by the National Bureau of Economic Research (NBER) zeroes in on a fundamental concern about drawing broad conclusions regarding U.S. loan making:

> *Perhaps the paramount issue is whether it is appropriate at all for the federal government to engage in direct lending or in credit insuring or guaranteeing activities. Different people, with different conceptions of the proper role of government in the social and economic process, can take quite widely separated views on this essentially controversial question. But it should be clear to all that the question cannot be debated fairly unless the precise nature and objectives of the various credit programs are understood. The fact is that the programs represent attempts to solve a number of different types of problems, and one's views as to whether they are a proper function of government may well vary from one to another. (Saulnier, 1958, p. 23)*

The sometimes-overlapping reasons cited in that study (p. 23-25) for such government involvement – counteract depression, fill gaps, provide emergency assistance and give preferential treatment to some group – remain true to this day.[4]

Counteract depression. In the years leading up to the NBER study, the operations of the Reconstruction Finance Corporation – which sought to help ease the impact of the Great Depression by making loans available across key commercial sectors – served as an oft-cited counteract depression example. An equally compelling case can be found in the U.S. government's response to the economic peril facing the country in the wake of the 2008 financial crisis. With bank and other financial institution failures cascading around the world, the U.S. government enacted a range of new credit initiatives aimed at minimizing federal involvement (e.g., loan guaranties instead of outright ownership of distressed assets) while meeting perceived needs to support the financial system. Most recently, in the 2020s, credit programs enacted during the Covid-19 pandemic were designed to preserve the economy by keeping businesses in various sectors operational and business-employee relationships intact.

Fill gaps. A common feature of federal credit programs is that they are intended to fill gaps and, according to Office of Management and Budget (OMB) policy, to complement private lending activities (OMB Circular A-129, p. 3).[5] There is a presumption that private lenders have customarily met economic demands by efficiently allocating resources to their most productive uses. However, market imperfections and credit rationing can sometimes inhibit lending to creditworthy borrowers (Stiglitz & Weiss, 1981, p. 393-410). Stiglitz and Weiss point out asymmetric information between lenders and borrowers can lead to adverse selection (where only the riskiest borrowers demand high-interest rate loans) and moral hazard (where credit availability induces risk-taking behavior), thereby limiting a bank's willingness to lend at any price. Accordingly, a well-designed government credit program can help to improve economic efficiency by filling gaps. Given the government's ability to take greater risks in pursuit of societal benefits (e.g., it typically does not have liquidity or other operating risks a private lender would assume), it can be bolder in extending credit. As part of periodic reviews required by OMB, agencies are asked to explain how a credit program overcomes market imperfections and whether outcomes exceed taxpayer costs (OMB Circular A-129, p. 4).

Provide emergency assistance. Emergency situations also provide a basis for governmental lending. While credit programs have been created in response to national security needs (e.g., World War II military lending), concerns for municipal crises (e.g., New York City financial crisis) and large company bankruptcy avoidance (e.g., Chrysler, post-9/11 airlines), the scale of lending during the recent pandemic was extraordinary at one federal agency: the U.S. Small Business Administration (SBA).

The creation of the Paycheck Protection Program (PPP), designed which was designed to keep employees of small firms connected to their places of employment, and an expansion of a loan program already in place for emergency response known as the Economic Injury Disaster Loan program (EIDL), resulted in a tremendous surge in loan originations at SBA. In the years preceding the pandemic, the agency typically provided about $20 billion to 50,000 borrowers each year through its traditional business loan programs (SBA website, 7(a) and 504 Summary report).[6] Its entire portfolio of outstanding 7(a) loans – amassed over many years – stood at about $95 billion at the end of 2019 (Congressional Research Service, 2020, p. 17). In stark contrast, during 2020, the first year in which PPP loans were available, SBA guaranteed $525 billion in loans for 5.2 million borrowers – more than a 25-fold increase in loan amounts and a 100-fold increase in the number of borrowers relative to a typical year (SBA, PPP Report, 2020). By the time SBA exhausted its PPP funding in 2021, it had provided $800 billion in PPP loans to nearly 12 million small businesses (SBA, PPP Report, 2021).

Give preferential treatment. Another reason to establish credit programs is to benefit a particular set of borrowers. While this has traditionally entailed preferential financing treatment for veterans, students, homeowners, farmers, and small businesses, it has recently expanded to new programs deemed to be in the national interest (e.g., clean energy companies and public infrastructure authorities). Programs designed in this way can be difficult to distinguish from those aimed at filling gaps or meeting emergency needs, but credit is typically targeted to narrowly defined groups and for specified purposes under more favorable terms that those available, if at all, in the private credit marketplace.

The U.S. government has pointed to these intersecting reasons and others to justify an involvement in the credit marketplace amounting to hundreds of millions of direct loans and loan guarantees provided through the years.[7] As discussed below, the dollar size of its portfolio of outstanding loans and guaranties has more than doubled in real (inflation-adjusted) terms since

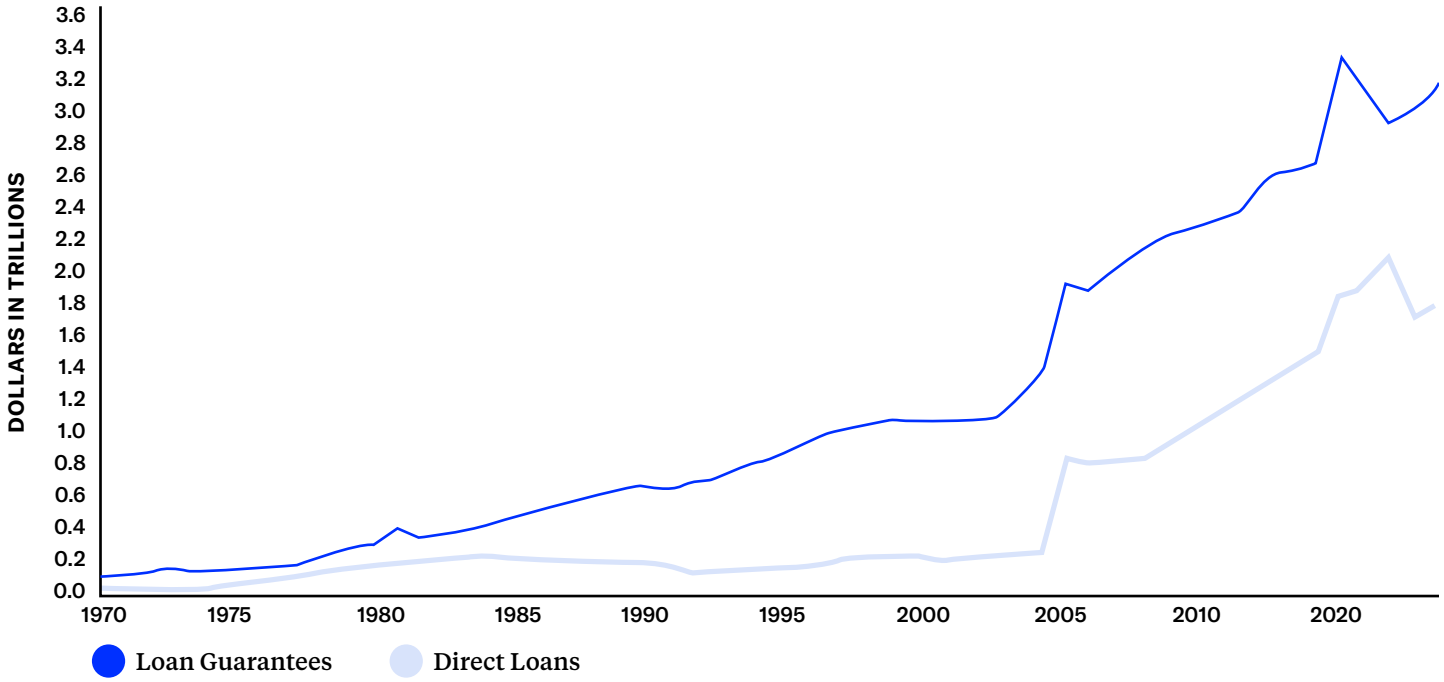
2007. An expansion of this magnitude will have long-lasting impacts on the government's balance sheet – where taxpayers assume the cost of loan defaults, forgiveness, interest subsidies, and loan program operations.

Trends: Recent, Real & Remarkable Growth

The U.S. government has embraced lending as an increasingly standard part of its activities over the past 100 years. From almost no volume before 1917, total outstanding direct loans and loan guaranties reached about $50 billion in 1953 (Saulnier, 1958, p. 80) or nearly $550 billion in today's dollars. The introduction and expansion of New Deal-era programs designed to support homeowners, farms, and businesses were responsible for that initial wave. In the 1960s, another round of new and expanded credit programs was provided as part of the Great Society initiatives to facilitate financing for higher education. By the early 1970s, mortgage assistance, student loans, small business loan guaranties, and other types of lending had become a well-established part of the U.S. credit marketplace. Conventional thinking within the government (at least at OMB) in the decades leading up to the 2008 financial crisis held that credit programs were growing at a concerning rate, with most of the increase occurring in loan guarantee programs.

The President's Budget has included a graphic each year since the 1980s (see Figure 1 for the most recent snapshot) painting a clear picture of the *nominal* growth realized in the government's outstanding portfolio of loans over the past 50 years or so. While an upward trend holds true for all federal spending, up 454% between 1992 and 2022, credit programs have accelerated at a substantially hotter pace, up 708% over that same period.

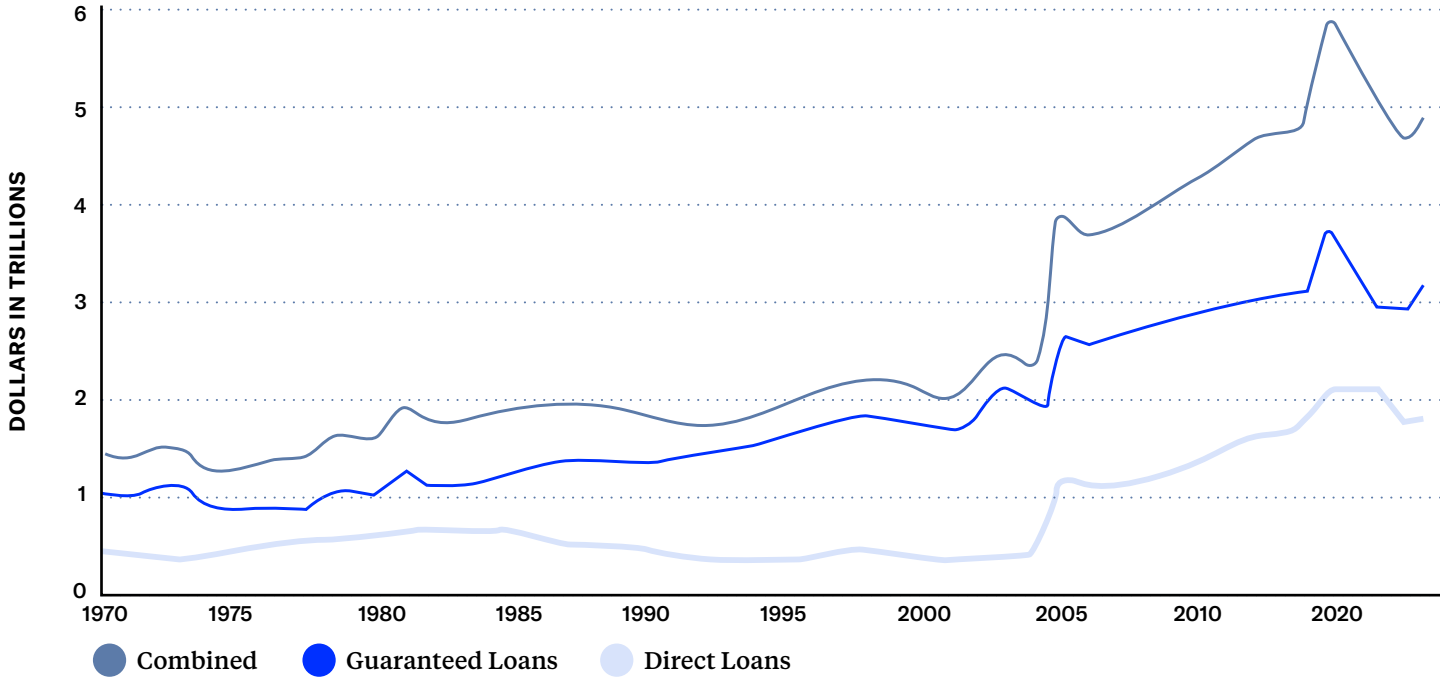
Figure 1. *Federal Credit Outstanding*



Source: *Office of Management and Budget, Budget of the U.S. Government, Fiscal Year 2024, Analytical Perspectives, p. 74.*

The most substantial portion of this growth in federal lending has occurred in the period following the 2008 financial crisis. This is particularly obvious when outstanding loan portfolio levels are adjusted to reflect the impact of inflation through the years. As shown in Figure 2, by the early 1970s the government's combined portfolio of direct loans and loan guaranties had reached more than $1 trillion in today's dollars and held steady in a relatively tight band from roughly $1.5 trillion to just north of $2 trillion for nearly 35 years.

Figure 2. *Federal Credit Outstanding, Adjusted for Inflation*



Source: *Data compiled from annual volumes of Budget of the United States Government, including special analyses on credit, supplemental materials, and Analytical Perspectives.*

Then the 2008 financial crisis occurred. Policy decisions made during the crisis provided unprecedented levels of assistance in support of the U.S. financial system resulting in a far-ranging federal presence in the credit marketplace. An extensive array of stop-gap programs supported the struggling financial system and committed the government to provide trillions of dollars as an investor, lender, and insurer. Acronyms like TARP (the Troubled Assets Relief Program) became part of the financial lexicon of the time. A key feature of most of those programs was that they were intended to be temporary and were, in fact, wound down as the financial system stabilized.

Beyond explicit stabilization initiatives, the government employed its now-standard practice of expanding a range of existing loan programs at various departments. Heightened lending activity at the Department of Housing and Urban Development (HUD), primarily through the Federal Housing Administration (FHA), resulted in more than a fourfold increase in lending from 2007 to 2010. As a result, HUD's portfolio of outstanding loan guaranties topped $1 trillion for the first time as the governmentwide credit portfolio swelled to nearly $4 trillion (OMB, Guaranteed Loan Transactions of the Federal Government, 2012). While a rise in lending of that magnitude impacts taxpayers as the government takes on the financial risks and administrative costs of lending, macroeconomic benefits were also realized (Lucas 2016, p. 2). However, unlike other stabilization measures enacted in response to the crisis, elevated lending levels did not recede once the economy recovered.

The onset of the Covid-19 pandemic resulted in another lending wave; this time to provide financial relief from the adverse economic conditions arising from the pandemic. New and expanded programs in 2020 and 2021 pushed the size of the government's credit portfolio to nearly $6 trillion, driven principally by SBA's Paycheck Protection Program.

As observed by Douglas Elliott in *Uncle Sam in Pinstripes* (2011) and a brief follow-up to that book in 2020, programs enacted to address crises are fundamentally different from steady-state programs. In the case of emergency response programs, both the Congress and the White House typically place a premium on making loans quickly and putting the funds to work to address economic needs. Steady-state programs, however, can be legislatively crafted and administratively delivered in such a way to ensure economic efficiency and mitigate risks. While value is gained by the legislative and executive branches

intelligently designing programs, program integrity can be compromised when rolling out programs urgently. In the case of PPP, such compromises – ramping up lending to unprecedented levels, sometimes originated by new and unproven SBA lending partners, accompanied with a mission to get funds to borrowers quickly – resulted in an enormous number of suspected instances of fraud (SBA Office of Inspector General, 2023).[8]

As shown in Table 1, portfolios have grown substantially in inflation-adjusted terms at nearly every credit agency compared with pre-2008 financial crisis levels. Except for international assistance loan programs (down modestly) and the U.S. Department of Agriculture (up *only* 50%), each primary credit agency more than doubled the size of its portfolio.

Table 1. *Portfolio Growth at Primary U.S. Credit Agencies (Billions of 2023 Dollars)*

Department /Agency	2007	2022	2024 Budget	Change 2007-2022	Change 2007-2024
Department of Housing & Urban Development	635	1,494	1,722	135%	171%
Department of Education	703	1,502	1,115	114%	59%
Department of Veterans Affairs	336	954	966	184%	187%
Small Business Administration	104	578	524	456%	405%
Department of Agriculture	185	276	316	50%	71%
International Assistance Programs*	49	42	81	-13%	66%
Department of Energy	--	18	40	(+$18B)	(+$40B)
Department of Transportation	5	17	27	237%	424%
Environmental Protection Agency	--	2	14	(+$2B)	(+$14B)
Other Agencies	93	113	108	21%	17%
TOTAL	2,110	4,996	4,913	137%	133%

Note. **International assistance programs span seven federal agencies. The largest lender of that group is the International Development Finance Corporation (DFC).*

Sources: *Office of Management and Budget, Budget of the United States Government, Fiscal Year 2024, and Budget of the United States Government, Fiscal Year 2009. Amounts compiled from data contained in accompanying Federal Credit Supplement spreadsheets.*

Most credit agencies will continue to see portfolio growth for the foreseeable future.[9,10] Accordingly, it appears loan origination levels will proceed at a robust pace driving ever-larger portfolios as new credit is extended at a faster rate than existing loans are being repaid or otherwise disposed. Moreover, federal lending programs are often used as a countercyclical tool during periods of economic distress. Accordingly, portfolio levels shown in Table 1 could rise substantially above those estimated for 2024 in the event of an economic downturn.

Today: A New Era of Government Lending?

In addition to the lending programs discussed above, agencies are busy responding to statutory mandates to administer freshly enacted loan programs. An extensive array of new and revised programs was created during 2021 and 2022 pursuant to statutes such as the Inflation Reduction Act of 2022 (IRA), the Infrastructure Investment and Jobs Act (commonly referred to as the Bipartisan Infrastructure Law or "BIL") and the CHIPS and Science Act. Examples include:

- Department of Energy (DOE) program to finance clean energy technology projects.
- DOE authorities to issue loans to support the development of carbon dioxide transportation infrastructure.
- Army Corps of Engineers program to extend credit for dam safety projects.
- Department of Transportation (DOT) initiative to provide financing for transit and transit-oriented development projects.
- DOT authorities to finance railroad improvements including landside infrastructure at national freight-rail network seaports.
- Department of Commerce program to provide funding in various forms, including loans and loan guarantees, as semiconductor manufacturing incentives.
- Environmental Protection Agency (EPA) lending activities for wastewater, drinking water, storm water, and water reuse projects.
- EPA has also begun the operation of a state infrastructure financing authority program, created in 2018, to assist State infrastructure financing authority borrowers.[11]

Notably, these are not small start-up programs and could result in hundreds of billions in additional direct or taxpayer-backed financings. The CHIPS and Science Act alone provides up to $75 billion in lending authority for the Department of Commerce.

Accordingly, as federal credit activities expand into new areas *The (Real) Bank of America* described by Michael Grunwald in the aftermath of the 2008 financial crisis continues to grow. Along with such growth comes a compelling need for proper budgeting, policy design, and administration of such programs.

Credit Program Budgeting and the Rise of Costless Programs

Why have policymakers increasingly embraced credit programs as a preferred form of providing financial support to individuals and businesses? The answer is simple: loan programs are scored in the federal budget process as having substantially less cost than other forms of assistance because most loans are repaid, in whole or part. So, the costs of extending credit are typically far less than providing grants, tax breaks or other types of direct cash support. Given the built-in advantage of and growing preference for credit programs, it is critically important the procedures used to forecast costs are sound and yield accurate cost estimates.

Budgeting for loan programs is done on an accrual rather than a cash basis to capture the expected long-term costs of making and backing loans. The expense of administering credit programs is done on a cash basis. Costs are typically driven by default probabilities and interest rate subsidies inherent in many public sector loan programs. Federal agencies responsible for loan program delivery are required by law to estimate, and periodically re-estimate, expected costs for loans to reflect realized and forecast loan performance along with changing macroeconomic conditions.

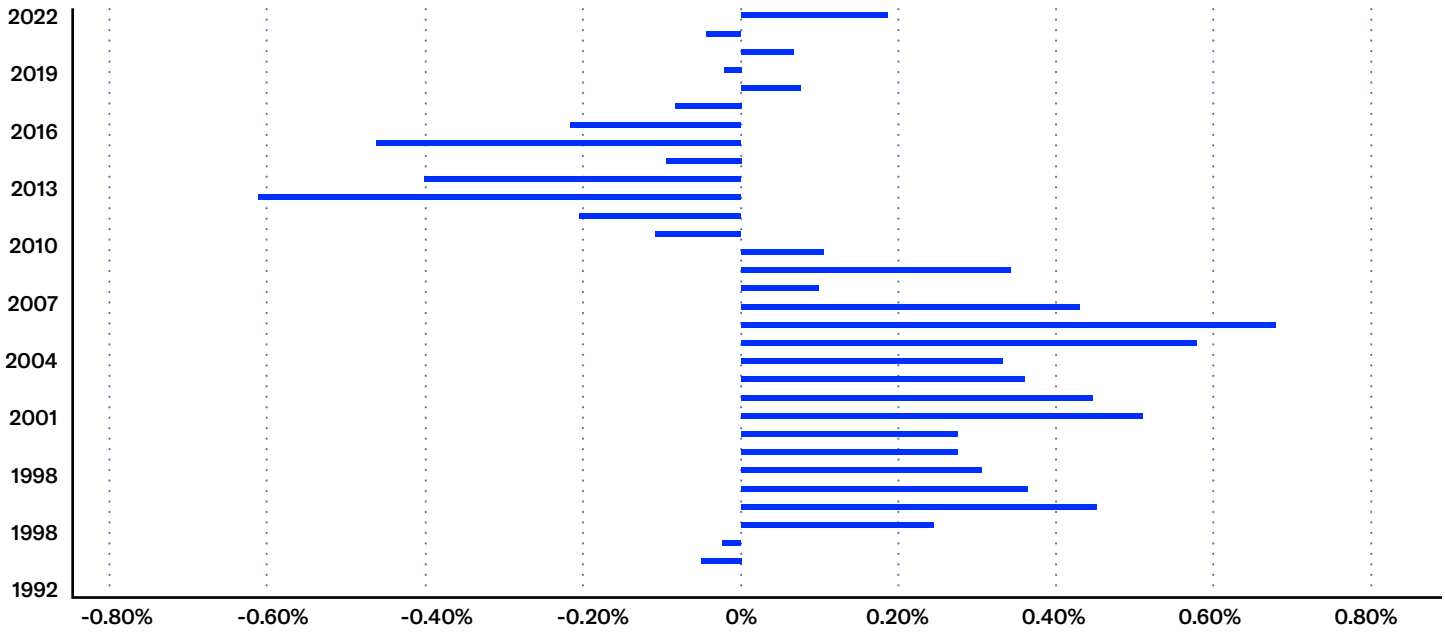
The accrual method of budgeting and accounting now used – mandated by the Federal Credit Reform Act of 1990 (FCRA) – is a significant improvement from the cash basis in place before 1992 that made direct loans appear as expensive as grants and loan guaranties look virtually free, or even money-makers if upfront fees were charged. Notwithstanding that upgrade in budgetary procedures, a significant concern has been voiced by the Congressional Budget Office, and others, that FCRA's cost estimation procedures understate taxpayer risk on credit programs by failing to reflect certain market risks.[12]

Such concerns stem from FCRA's mandate to convert projected cash flows associated with loans to present values using risk-free rates on Treasury securities as discounting factors. In contrast, private financial institutions and even private investors use risk-adjusted discount rates to calculate net present value (NPV) and expected return on investment; a methodology known as *fair value* estimation. Using Treasury rates as discounting factors for credit programs fails to include costs associated with market risk, thereby understating expected taxpayer impacts. Whether that understatement should be remedied through revised credit program-related budgetary procedures remains an open question.

Credit programs scored as having negative subsidy costs (i.e., net present value of expected inflows exceeds outflows) create the appearance of the government turning a profit from the transaction, but the government, at times, is merely absorbing risks not accounted for in the loan subsidy estimation process. As the use of credit programs has become increasingly common, so has the embrace of negative *subsidy rates* (budgeteer parlance for expected costs as a share of credit extended). In fact, the President's most recent budget shows 75 percent of loan guaranty programs (42 of 56 programs) as having zero or negative subsidy rates for 2024. Those include FHA and VA housing loans, the vast majority of the credit assistance administered through the U.S. International Development Finance Corporation, and each of the programs operated at both SBA and the Export-Import Bank.

As shown in Figure 3, the prevalence of negative subsidy rate programs has grown to a point where the net government-wide budgetary impact of credit programs since the 2008 financial crisis has more often resulted in perceived savings rather than costs. Figure 3 excludes the Paycheck Protection Program administered by SBA over the 2020-2021 period given its distortionary effect on broader trends.

Figure 3. *Loan Costs as Share of Total Outlays (excluding SBA PPP)*



Source: *Office of Management and Budget, Budget of the United States Government, Fiscal Year 2024. Amounts compiled from data contained in accompanying Federal Credit Supplement spreadsheets.*

The nature of government credit programs – providing loans where the private credit markets will not lend, at least not under the same terms and conditions – generally involves an economic subsidy. Otherwise, private lenders would step in to compete and capture the profit. Advocates of a fair value cost estimation approach point out that its use would strengthen the ability of policymakers to compare costs across diverse types of spending programs, credit or otherwise. Others, such as

David Kamin (2013), have rejected that approach and suggest the inclusion of market risk would distort budget estimates by confusing policy analysis with budgeting. Amid that debate, there has been little progress in either the legislative or executive branch to "reform credit reform" as initially proposed in 2008 by Deborah Lucas and Marvin Phaup.[13] But as credit programs continue to play an ever-larger role in government operations, momentum may build to adopt revised procedures to ensure the government accurately reflects the costs of its lending activities in the budget process.

Alternatives to the binary choice of FCRA or fair value have been offered. One such proposal from Donald Marron involves measuring the fiscal effects of a credit program over any period and for subsidies to be calculated separately from the financial costs of bearing risk, an approach termed *expected returns*.[14] Other budgeting alternatives have included developing a market-based approach (selling direct loans and reinsuring guaranteed loans through private companies with the difference in cost being the subsidy) or inferring cash flows from the terms for comparable private credit.

Administrative expenses. The government's commitment to maintaining and growing an expansive set of credit programs for various purposes requires creativity in designing effective operating procedures and systems. Although data on operating costs are not readily available, it is clear resources to pay for the administration of credit programs have not kept pace with the government's burgeoning loan portfolio. Moreover, with over 125 credit programs spread across an assortment of agencies, the U.S. government is not optimally organized to administer its lending role. As one of the world's largest – if not *the largest* – lending institutions, operating in a severely constrained fiscal environment, the government must innovate to ensure proper delivery of its loan programs.

One option is to establish a shared-services office for credit programs or otherwise centralize certain administrative tasks associated with loan program operations to ensure uniformity of approach in planning, delivery, and evaluation.[15] More ambitiously, a single credit entity could be established to consolidate similar activities now performed in each credit agency (Criscitello, 2019). Such an approach could result in savings relative to the status quo and provide opportunities to improve outcomes for borrowers and taxpayers alike. Presenting the government as a single entity to lenders and borrowers – rather than a fragmented assortment of agencies and programs each with its unique rules and forms – would benefit all involved.

Designing Loan Programs along a Path of Least Resistance

The expansive set of federal credit programs to which policymakers and the American public have grown accustomed shows no signs of returning to prior levels. Even before the post-2008 crisis surge in lending, the trajectory of U.S. credit programs has pointed consistently upward with few periods of portfolio contraction. As suggested by Raghuram Rajan (2010, p. 31), politicians have sought to provide easier credit as a path of least resistance with government-supported credit one of the few policy options not immediately opposed by one political party or the other – notwithstanding potential harm imposed on loan recipients and taxpayers if loan programs are poorly designed and targeted. Accordingly, there exists a need to think smartly about how best to design credit assistance, exercise diligence to ensure intended public policy objectives are met, and confirm taxpayer costs are held to a minimum.

Determining Form of Assistance

It is no easy task to design and implement an effective credit program. The first step involves deciding whether a credit program is the best means to accomplish a desired policy objective. Alternatives such as providing targeted grants or direct subsidies can often be deployed to accomplish a goal in a more succinct manner than through the use of a credit product. The time and budgetary resources required to establish and operate a government loan program are substantial and should not be underestimated (Ryan, 2012, p. 8).

Financing markets in the U.S. are well-developed, so the bar is higher now than in the 20th century to demonstrate why a government credit program is the preferred means of stimulating certain activities. Key questions include: Does the government have a comparative advantage for a particular line of lending (e.g., long loan terms, ability to originate and hold loans)? Does the lending process itself help establish or catalyze a new debt market (e.g., the 30-year mortgage market)? Does the government have some unique ability to accept a specific risk that is most efficiently conveyed through a loan? Can a grant or other form of subsidy support the policy objective more efficiently?

Figure 4. *Continuum of Government Involvement*

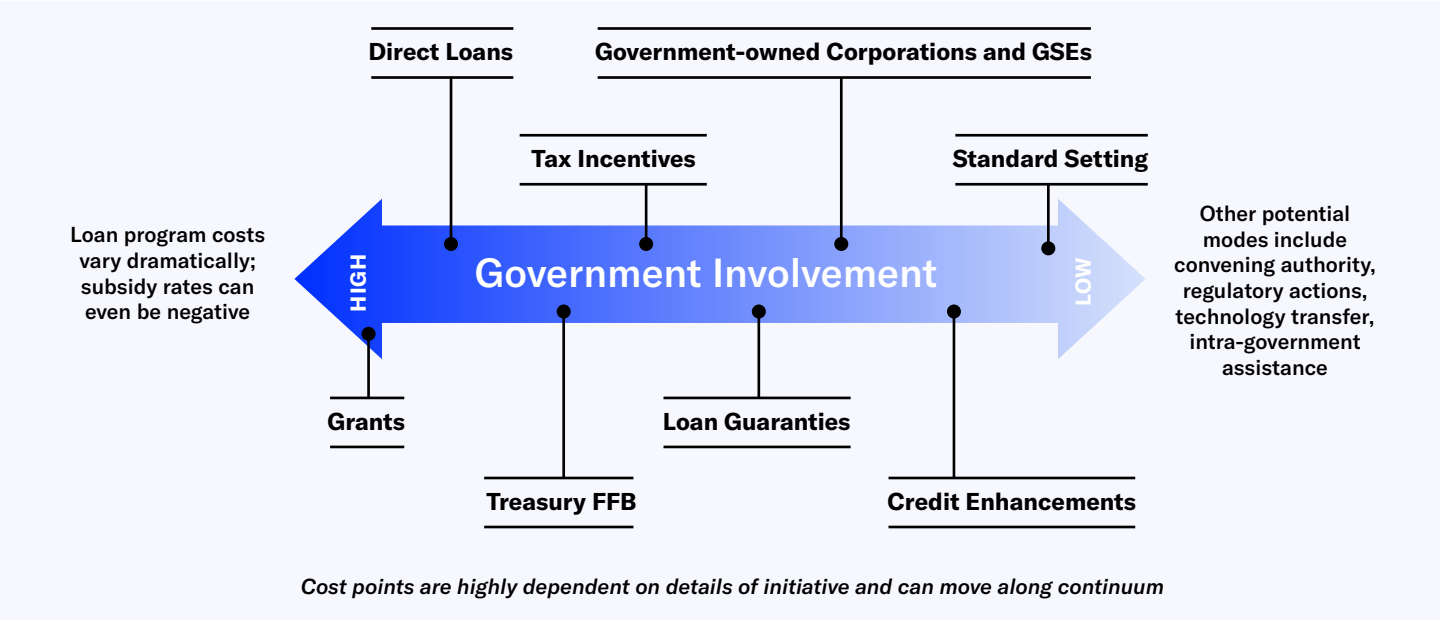


Figure 4 shows a continuum of possibilities to provide or incentivize financing for societally beneficial purposes. Governments can enable such financing by providing grants and grant-like forms of assistance, direct loans, loan guaranties, tax breaks, as well as credit enhancements through government corporations and GSEs to incentivize securitizations and other capital markets transactions. Alternatively, governments can provide more passive forms of support by setting standards for financing, taking regulatory actions to ease reporting burdens and tax implications of such financings, facilitating technology transfer, and coordinating intra-governmental assistance. It might also make available anonymized borrower information to help private credit market participants better understand the expected performance of different lines of lending and types of borrowers.

Realizing Program Objectives

Well-designed government loan programs clearly define the mission, market, and metrics for any lending initiative.[16] Regardless of the type of borrower to be assisted, there are five key considerations in designing an effective credit program.

1. Clearly define the perceived credit gap or targeted subsidy and provide only the amount of subsidy or other support necessary to accomplish the desired policy outcome.
2. Recognize intended risks and related budgetary implications. For programs designed to take exceptional risks there should be an upfront recognition of such risks and related costs and a willingness to accept a specified level of loan defaults.
3. Do not compete with responsible private sector providers.

4. Pass the credit gap back to private sector as soon as private lenders show an interest in filling it.
5. Build in statutory requirements to measure performance and report to the Congress and the public on program outcomes and whether the need for the program persists.

OMB Circular A-129 (2013, Appendix A and B) requires agencies to conduct credit program reviews and be deliberate in the design of new lending initiatives. That guidance seeks to help agencies define program objectives, ascertain whether credit assistance is the best means to achieve objectives, and explain why private sources of financing are insufficient. Importantly, the guidance drives agencies to contemplate the problem they are trying to solve through a credit program. Clearly articulated, measurable objectives will help justify the need for a program, improve agency implementation, and help determine whether a program should be funded.

For existing programs, reviews can help determine whether intended societal returns are being realized. For instance, if private lenders have developed a willingness to lend into an area that overlaps with a federal credit program, the government can respond in four ways. It can: 1) preserve demand for its program by deepening subsidies; 2) compete with private lenders, thereby duplicating a service already provided; 3) redirect the market frontier; or 4) exit the marketplace altogether. Only the last two options preserve taxpayer interests.

To the extent programs can be redirected, agencies should strive to undertake actions such as improving credit access in markets where private lenders have erred in judging risk, failed to serve certain geographical areas, or followed unfair lending practices. Other laudable policy objectives might involve advancing national priorities such as improving credit opportunities for firms able to strengthen U.S. supply chains, reducing carbon emissions, or helping those operating in economically distressed areas. Another worthwhile approach is to mesh federal credit initiatives with similarly targeted programs available through state and local governments.

Technology, data availability, and process improvements have better positioned agencies to assess program outcomes in a rigorous and evidence-driven way. Results such as whether a borrower has repaid a loan needs to be extended to consider whether that borrower has been made better off, societal benefits have been generated, or the private credit marketplace has been strengthened by learning more about a particular potential line of lending. Agencies must have the time, staff, and budgetary resources to address such matters in order to form a dispassionate basis of benefit/cost analyses. As explored by Tom Stanton, Alan Rhinesmith, and Michael Easterly in *Federal Credit Programs Borrower Outcomes Matter More than Volume*, a report highlighting the need to manage and monitor agency performance and progress in meeting credit program goals, a focus on outcomes to determine whether the benefits of a program are ultimately worth the cost is of paramount importance.

Estimating Cost

In addition to policy goals, cost considerations are of vital importance and driven by the design and operational features of a credit program. Those include loan attributes (e.g., interest rate, term, fees, and embedded options), risk tolerance, and agency policies and operating procedures governing a program. The mechanics behind cost estimation are complex and largely beyond the scope of this paper.[17] Credit programs scored as having a zero or negative subsidy rate require no upfront appropriations, not surprisingly leading to their increasing use as an expeditious way to convey financial assistance to the public.

As discussed above, there exists significant concern and disagreement about the cost estimation procedures used to assess taxpayer risk and cost emanating from the government's lending activities. Setting aside that debate for the moment, it must be noted that subsidy estimates can, at times, be dramatically and directionally off the mark.

To illustrate, consider the programs used by FHA to enable homeownership. The agency's Single Family Mortgage Insurance

programs were forecast to generate budgetary savings each year from 2000-2009, but official estimates were revised in the aftermath of the 2008 financial crisis to indicate each cohort of loans made over that period actually resulted in costs instead. Initial estimates were cumulatively tens of billions of dollars too low. Magnifying the effect of those subsidy misestimates, billions in forecast savings were transferred and spent on other programs over that same period. Swapping uncertain future *profits* for certain current spending is obviously not a best budgeting practice and illustrates a difficulty of mixing cash and accrual concepts. Enabling that practice is a statutory feature within FCRA allowing agencies to take any funds from the Treasury needed to keep their credit programs solvent; essentially a hold-harmless provision for subsidy cost misestimates.

The student loan program at the Department of Education provides another example of subsidy estimates being substantially and directionally incorrect. The Government Accountability Office (GAO) has reported that budgetary projections from the Department of Education for direct student loans made over the past 25 years has swung from an estimated *savings* of $114 billion to an estimated *cost* of $197 billion (GAO, 2022). That $311 billion swing resulted from programmatic changes – most notably, loan forgiveness to certain borrowers and a pandemic-driven payment pause – along with actual (vs forecast) borrower performance, and changing macroeconomic conditions now incorporated into budget estimates. Similarly, annual budgetary impacts have also been significant.[18]

A related shortcoming is that the use of risk-free Treasury rates has severely limited the government's options in disposing of direct or repurchased guaranteed loans through securitizations or loan asset sales. Such actions could be an effective tool as agencies attempt to manage surging loan volumes. While the government has occasionally used loan sales to reduce the administrative burden of servicing loans, the economics of doing so has become unattractive under credit reform.[19]

Regardless of anticipated costs, economic benefits are conveyed to borrowers and lenders through government loans, and costs and risks to taxpayers accrue even if not reflected in the budget process. With artificially low subsidy rates resulting from the use of Treasury rates and, to a lesser extent, the omission of administrative costs, credit program growth is to be expected. However, policymakers should keep front of mind – regardless of the sign in front of a subsidy rate – that government lending activities generally convey some sort of subsidy, whether to reduce the price of credit for borrowers or to increase its availability by lenders.

Addressing Emerging Challenges

There is a growing recognition that private financing partners can add substantial value and reduce taxpayer risks in the design and delivery of governmental credit programs aimed at advancing critical policy priorities. Many of the emerging challenges facing the nation require the involvement of non-governmental entities in the solution set.

Examples abound of American public sector institutions, particularly at the federal level, using private sector partners and the capital markets to stimulate socially desirable financing outcomes that otherwise would not occur. Those include support for GSEs, secondary market guaranties for small business and home loans, bond issuance support for power authorities, and various economic development incentive programs.

The next generation of government credit programs will engage private partners in new ways. In particular, the use of public-private partnership (P3) financing structures is being considered increasingly as a way to minimize upfront government costs and speed the development of initiatives across some or all of the design, build, operate, and finance stages of project finance. A few examples are discussed below.

Public infrastructure finance. With enactment of the Bipartisan Infrastructure Law (BIL), as well as other infrastructure development statutes pre-dating the BIL, the need is great to embrace the tools of modern finance to determine the optimal mix of taxpayer dollars and private investment on specific projects. Unlike simply rolling out a taxpayer-backed loan program covering the lion's share of financing costs, there is a compelling need to study and make decisions based on the most socially beneficial blend of financing options. Using the tools of modern finance, standardized approaches can be deployed

to determine which financing options have the least risk and cost to achieve desired outcomes. It is imperative the correct finance concepts be applied in making such determinations and that governments have the personnel capacity to effectively administer the programs.

A pertinent example involves the methodology used to calculate the cost of capital to determine project cash flows that drive project selection and lending decisions. As discussed above, the U.S. government uses risk-free rates on Treasury securities for discounting credit program cash flows. However, as Deborah Lucas and Jorge Jimenez (2019) point out in a volume developed by the National Bureau of Economic Research to inform policymakers responsible for setting infrastructure spending levels:

> *…the government's borrowing rate, although frequently used by governments for discounting project cash flows, is not a full measure of the government's cost of capital for a risky investment. That conclusion rests on the observation that a risky investment can never be fully financed by low-risk government debt. Taxpayers and other government stakeholders are the residual claimants to any profits or losses; effectively citizens are conscripted equity holders in all risky investments undertaken by governments. (Lucas and Jimenez, 2019, p. 370)*

They go on to stipulate P3s generate a return reflecting the risks they assume – rather than the common misconception private contractors have higher capital costs because they need to make a profit (p. 370).

Biomedical research and pandemic preparedness. Having a strong national biomedical research and pandemic response capability requires not only federal investments but the use of financial innovations and contributions from private industry. A mixed investment model can accommodate a broad portfolio of funding mechanisms including direct government contributions, innovative finance mechanisms, and public-private partnerships that drive investments in vaccine and therapeutics production (Criscitello, 2021).

Public-private partnerships with innovative financing structures recently have been explored to help bridge the gap between biomedical research and clinical trials and to prepare for and respond to pandemics. For example, a megafund concept (Fernandez, Stein, and Lo, 2012) has been contemplated for various biomedical research purposes involving cancer, Alzheimer's, rare diseases, and vaccines. The basic notion is that if a sufficiently large number of candidates at various stages of development can be funded using financial engineering techniques (e.g., securitization) and are included in a portfolio, it is statistically likely to result in at least one promising candidate for development.

Researchers and financial market innovators have developed such approaches to incentivize financing across the preliminary stages of drug discovery and development without needing the government to play a large and long-lasting role. In at least some of the megafund-related proposals that have been considered by the Congress, government assistance ends and the fund is privatized as the funding entity becomes fully operational.[20] In such instances, government financial commitments are modest, but they may also be large – cost is dependent on program design and the nature of the research being funded. On the larger side, a megafund-like proposal was developed (Lo and Sharma, 2022) during the Covid-19 pandemic leveraging lessons learned from Operation Warp Speed to enhance the country's ability to anticipate and respond to future pandemics.[21]

Climate change and clean energy. There is likely significant unaccounted for risk in existing U.S. credit programs due to climate change – particularly for mortgage assistance programs and various economic development and infrastructure finance programs. Agencies responsible for mortgage lending (principally HUD, USDA, and VA) have been directed by OMB to consider approaches to better integrate climate-related financial risk into their underwriting standards, loan terms and conditions, and asset management and servicing procedures (OMB, Analytical Perspectives, 2023, p. 99). Such work will help to identify shortcomings of current approaches to calculating the risk of climate change and hopefully generate best practices for integrating such risks into federal lending operations going forward. The government also must recognize the potential for private lenders to offload climate-related risks onto government-backed lending platforms. More broadly, the Financial Stability Oversight Council (FSOC) has identified climate change as posing an increasing risk to U.S. financial stability and

has reported on steps being taken by federal financial regulators to address such threats (FSOC, 2021).

Operationally, lending agencies such as the Department of Energy and EPA are in the process of rolling out new and revised credit programs aimed at combating and responding to climate change. Given the growing impacts of global warming, credit agencies will increasingly be forced to address climate change resilience as part of the equation in loan making – even for agencies not traditionally on the front lines of environmental matters. For instance, at HUD there is an opportunity to explore how that department can use its programs to develop energy efficient homes and increase resilience to the effects of climate change on communities and homes (Cunningham and Criscitello, 2021).

Supporting industrial policies. Although the notion of picking winners and losers has been largely a non-starter in U.S. policy circles for decades, there appears to be a growing political consensus in favor of narrowly defined industrial policies to safeguard national security and address economic pressures from international competition. As evidenced by the $75 billion in lending authority recently provided in the CHIPS and Science Act to promote semiconductor manufacturing, loan programs are already playing a role in ensuring financing for industries and economic activities deemed to be in the national interest.

Final Thoughts

This paper focuses on trends in federal lending programs since the 2008 financial crisis. Contrary to an Inside-the-Beltway perception that lending has been growing steadily for decades, the government's portfolio of outstanding loans and guaranties held relatively steady in inflation-adjusted terms from the early 1970s until the 2008 financial crisis. Since then, there has been a real surge in lending through traditional lending programs – augmented by the introduction of new credit programs – pushing the portfolio to unprecedented heights. This expanded role in allocating credit will have far-reaching impacts not only on the credit marketplace but also the government's balance sheet for decades to come.

In addition to reporting on the increases in federal lending, this paper explores key issues affecting budgeting for credit programs, particularly in relation to the statutory and administrative importance the legislative and executive branches have placed on accurate upfront and ongoing loan program cost estimates. Beyond budgeting, the report provides a discussion of steps the government could explore to improve loan program design, administration, and performance.

Augmenting its slate of traditional credit programs with a variety of new lending initiatives designed to address emerging national challenges and priorities, it is clear the expansive array of programs comprising the U.S. government's loan portfolio is here to stay, at least for the foreseeable future. Managing that burgeoning portfolio in a purposeful, data-driven, and cost-efficient way is crucial to ensure borrowers benefit as intended and taxpayer interests are protected.

End Notes

1 *Much has been written on the flawed business models and roles played by two GSEs in particular, Fannie Mae and Freddie Mac, in contributing to the 2008 financial crisis. See Financial Crisis Inquiry Commission (2011, p. 309-323).*

2. *For purposes of this report, credit programs are defined consistent with the Federal Credit Reform Act of 1990: direct loan as a disbursement of funds by the government to a borrower requiring repayment, and loan guarantee as any federal repayment pledge on any debt obligation of a borrower to a lender. Notwithstanding substantial taxpayer exposure, certain credit and insurance activities are excluded, such as those by the Federal Deposit Insurance Corporation, Pension Benefit Guaranty Corporation, National Flood Insurance Program, and Government-Sponsored Enterprises like Fannie Mae and Freddie Mac.*

3. *Although shown in the President's 2024 Budget as a credit program, some contend the Paycheck Protection Program is essentially a grant program given the modest requirements for loan forgiveness. See Hong and Lucas (2023, p. 7, 50-51).*

4. *The President's Budget for many years included a discussion in the Analytical Perspectives volume, Credit and Insurance chapter, explaining the economic rationale for federal involvement in the credit marketplace, albeit using different categories than NBER. For instance, the fiscal year 2017 volume listed: 1) information failures; 2) monitoring needs; 3) limited ability to secure resources; 4) insufficient competition; 5) externalities; and 6) financial market instability.*

5. *The Circular holds that "Federal credit assistance should be provided only when it is necessary and the best method to achieve clearly-specified Federal objectives. Use of private credit markets should be encouraged, and any impairment of such markets or misallocation of the nation's resources through the operation of Federal credit programs should be minimized."*

6. *In the year before the pandemic (2019), SBA approved 51,907 loans for $23.2 billion under the Section 7(a) loan guarantee program.*

7. *A precise number is difficult to determine given not all credit agencies report aggregate historical loan amounts, but lending has clearly been robust over the past century. The Federal Housing Administration alone has reported insuring more than 40 million loans since its founding in 1934. In addition, there are currently 45 million student loans outstanding; not reflecting the many millions of loans repaid (or defaulted) through the years. The U.S. Department of Veterans Affairs (VA) has backed more than 25 million home loans to veterans. As noted above, SBA recently made nearly 12 million PPP loans.*

8. *While the precise magnitude of PPP fraud remains uncertain, SBA's Office of Inspector General has reported the agency disbursed over $200 billion (17% of the assistance provided) in potentially fraudulent loans across the PPP and EIDL loan programs.*

9. *The SBA, however, is expected to experience a reduction from 2021 to 2024 as many PPP loans are forgiven.*

10. *The proposed student loan forgiveness program at the Department of Education would have resulted in a temporary portfolio contraction, but the proposal was deemed legally impermissible in June 2023. See Supreme Court of the United States. 2023. Joseph R. Biden, President of the United States, Et Al., V Nebraska Et Al. No. 22-506. Notwithstanding that decision, the Department of Education is pursuing a negotiated rulemaking that would allow it to forgive student loan debt in a targeted way rather than effecting broad-based debt cancellation.*

11. *For a discussion of new credit initiatives as well as traditional loan programs included in the 2024 Budget, see OMB, 2023, Budget of the U.S. Government: Fiscal Year 2024, Analytical Perspectives, p. 64-65.*

12. *See various reports of the Congressional Budget Office including "Estimates of the Cost of Federal Credit Programs in 2021," April 2020. That report indicates using FCRA procedures for federal loans and guaranties issued in 2021 would result in savings of $41.8 billion, while using a fair-value approach would result in budgetary costs of $46.8 billion.*

13. *Lucas and Phaup point out that comparable market prices, risk-adjusted discount rates, or options pricing approaches could be used to estimate the market cost of capital for pricing loans and loan guarantees.*

14. *Marron contends the use of the methodologies behind FCRA and fair value both seek to arrive at a single budgetary estimate – the net present value of a loan at origination. He stipulates there are four separate measures that should be considered in understanding the fiscal impacts of credit programs, and no single number can capture all four. Those include: 1) expected cost at origination; 2) cost during the relevant Congressional budget window; 3) cost over the life of the loan; and 4) the amount of subsidy conveyed to borrowers. He proposes an alternative, which he refers to as expected returns, that allows for fiscal effects to be measured over any period and for subsidies to be calculated distinct from the financial costs of bearing risk.*

15. *See General Services Administration website for information on Quality Service Management Offices.*

16. *The MIT Golub Center for Finance and Policy presented "Mission and Metrics," an in-person instructional seminar for U.S. government credit program professionals in 2016. That seminar (slides available online) provides extensive information on designing credit programs to realize intended outcomes.*

17. *As referenced above, the MIT Golub Center for Finance and Policy has made available online the content of a course Mission and Metrics, developed for federal credit program professionals. That course provides extensive information regarding both the theory and practice of credit program budgeting.*

18. *Consider the President's Budget from both 2017 and 2024. The 2017 Budget forecast a weighted average subsidy rate of negative 4 percent for direct student loans made that year. In the 2024 Budget, the rate for new student loans in 2024 is forecast to be nearly 20 percent. Given estimated loan volumes of $163 billion in 2017 and $135 billion in 2024, the budgetary impact of student loans swung from recording a savings of about $7 billion ($163B x .04) in 2017 to incurring an expected cost of $27 billion ($135B x .20) in 2024.*

19. *A theoretical private bidder for government loans would discount expected cash flows from a prospective loan purchase using significantly higher rates than Treasury rates, thereby generating a lower bid than the forecast hold value – even if the private bidder is able to service loans more efficiently than the government.*

20. *For instance, see "The Rare Disease Fund Act of 2019."*

21. *Lo and Sharma contend that by using a $10 billion taxpayer investment in portfolio-based vaccine development for 10 emerging infectious diseases, a strong case is made that the U.S. could greatly strengthen its capabilities around vaccine development and production to be prepared for the next pandemic incident.*

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