

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
DIVISION OF RESERVE BANK OPERATIONS AND PAYMENT SYSTEMS

2024 Currency Budget

Action

On December 6, 2023, the Board approved the following:

1. A \$1,104.0 million single-cycle operating budget for 2024 (see figure 1).
2. An increase to the Board's authorized position count within the currency program by 2 positions (see figure 1).

On December 6, 2023, the Board conditionally approved the following:¹

3. An additional \$478.0 million for the multicycle project budget, which brings the total to \$3,331.9 million (see figures 4 and 5).² This incremental request is for Bureau of Engraving and Printing (BEP) note production equipment.

Discussion

Statutory Responsibility

The currency budget provides funds to reimburse the BEP for expenses necessarily incurred related to the production of banknotes and the Board's activities that support the Board's role as the issuing authority for banknotes.³ As the issuing authority, the Board is responsible for ensuring that there is an adequate supply of banknotes in circulation, the banknotes meet defined quality standards, and that the development of banknote security features and new design concepts are robust against counterfeiting. To support the Board's role, the budget includes BEP note production costs, consistent with the annual calendar year print order submitted by the director of RBOPS on behalf of the Board. The budget also funds Board costs

¹ Only the chair of the BAC, or the chair's designee, may designate certain operating expenses or multiyear projects for conditional approval. In these instances, separate approval by the director of RBOPS or the Board is required before funds are committed.

² The multicycle project budget is a Board operating budget. Although the multicycle project budget funds capital projects, the assets belong to the BEP, and the budget is an operating expense for the Board.

³ Throughout this memo, Federal Reserve notes, banknotes, notes, and currency are used interchangeably. The Board reimburses the BEP for all costs related to the production of currency because the BEP does not receive federal appropriations. Section 16 of the Federal Reserve Act requires that all costs necessarily incurred for the issuance of notes be paid for by the Board and included in its assessments to the Reserve Banks. All operations and capital investments of the BEP are financed by a revolving fund that is reimbursed through product sales, nearly all of which are sales of Federal Reserve notes to the Board to fulfill its annual print order.

to ship new currency from the BEP to Reserve Banks, ship currency between the Reserve Banks, and program management expenses to support long-term issuance strategies and resiliency.⁴

Program management expenses include work by Board staff, with support from the Reserve Banks, the Treasury Department, the BEP, and the U.S. Secret Service, to ensure that notes meet quality standards and have suitable anti-counterfeit features, from production through destruction. In addition, the Board plays a central role in protecting the integrity of, and maintaining public confidence in, U.S. currency. The U.S. Currency Program (USCP) stakeholders perform development and testing of security features and designs in support of the next banknote family. Board staff monitors counterfeiting threats for each denomination and conducts adversarial analysis to ensure resistance to counterfeiting. The currency budget also funds the Currency Education Program (CEP), which aims to protect and maintain confidence in U.S. currency worldwide by facilitating counterfeit-detection trainings for Reserve Bank and foreign central bank staff and providing education and information about banknote security features to the public. The CEP also conducts outreach to key stakeholders, including commercial banks, retailers, and law enforcement agencies on USCP initiatives.

Currency Budget Overview

The currency budget comprises a single-cycle operating budget and a multicycle project budget. The single-cycle operating budget includes BEP and Board costs. The BEP submits a budget proposal that includes fixed and variable costs for printing Federal Reserve notes. The printing and related support costs constitute 93.6 percent of the 2024 single-cycle currency operating budget. The Board's portion of the 2024 single-cycle operating budget makes up the remaining 6.4 percent and aligns with the Board's strategic priorities. Multicycle project costs for the BEP's large-scale capital investments include the Fort Worth, Texas, western currency facility (WCF) expansion project; the Washington, D.C., replacement facility (DCRF) project; and note production equipment. Board staff reviews the BEP and Board expenses and recommends approval to the Board. Once the Board approves the budget, it assesses the costs of currency to each Federal Reserve Bank monthly.

Because the BEP does not receive federal appropriations, the Board reimburses the BEP for costs necessarily incurred to produce Federal Reserve notes. These reimbursements

⁴ The Board delivers the annual print order to the BEP director in August of each year, and copies are available on [the Board's public website](#).

are placed in a revolving fund for all BEP expenditures. A key distinction between the single-cycle and multicycle budget approval is the timing of Board reimbursements: Budget approval for the multicycle budget does not necessarily provide reimbursement in the same calendar year. Additionally, Board staff conducts periodic reviews of the BEP's revolving fund to ensure an appropriate balance.⁵

Multiyear Strategic Initiatives

There are large-scale, strategic initiatives at the BEP and in the Federal Reserve System (FRS) that are critical to the evolution of the USCP. The following programs will begin to have impacts in the current-year budget proposal, with significant cost increases expected in future years, most notably for production costs of the next family of notes.

- Next family of notes: The next family of notes will have an updated design and include new security features to address counterfeiting risks. The introduction of new designs and new security features will require increased efforts in public education. These security features require new materials and production equipment, leading to increased production costs across the entire family. The issuance is planned to begin with the \$10 note in 2026. In addition to increased production costs, ensuring that an adequate supply of notes is available during the transition will likely require additional inventory of both current notes and the next family of notes.
- DCRF: A new BEP production facility in Maryland will replace the current one on 14th Street, SW in Washington, D.C. The new facility is designed to meet modern production requirements critical to the future of the USCP.⁶ In addition to the lifetime project budget of \$1,784.1 million approved by the Board in October 2023, indirect production and transportation costs are projected to increase during the transition from the current facility to the new facility from 2027 to 2030. A decline in production capacity is expected during the transition that may necessitate the need to build and transport inventory in advance of the move.

⁵ Board and BEP staff have agreed that the revolving fund balance should include 60 days of operating expenses plus 90 days of forecast capital expenditures. There can be large fluctuations in the BEP's revolving fund balance, given the timing of invoice payments, which can then result in an amount that differs from the agreed-upon balance.

⁶ The rationale for the new facility is laid out in a Government Accountability Office (GAO) report published in April 2018: <https://www.gao.gov/products/gao-18-338>.

- NextGen Program: NextGen is an FRS initiative to replace the existing, decades-old, and aging high-speed currency processing equipment with new equipment and technology. This equipment plays a critical role in the USCP's ability to fulfill its mission and maintain confidence in U.S. currency by meeting demand for fit currency, maintaining currency quality, preventing the recirculation of potentially counterfeit notes, and ensuring effective risk and cost management for Reserve Bank cash operations. While the program's cost is included in the Reserve Banks' budgets, there are also indirect currency expenses associated with the program's deployment. During the deployment period between 2025 and 2028, Reserve Banks will need to build inventory while processing capabilities are reduced and until machines are operating with optimal output. The 2024 budget includes increased transportation costs to rebalance inventories as the first phase of offices undergo construction to prepare for 2025 deployment. These additional costs will continue each year of deployment.

2023 Budget Performance and 2024 Budget Request

Figure 1 provides single-cycle operating costs and position counts included in the Board’s 2023 budget, 2023 forecast, and 2024 budget. Figure 2 provides details on the volume of notes the Board included in its 2023 budget, 2023 forecast, and 2024 budget.

Figure 1: Single-cycle operating budget by budget category

| Millions of dollars Budget category | 2023 Budget | 2023 Forecast | 2024 Budget | Variance 23F to 23B | | Variance 24B to 23F | |
|---|----------------|------------------|------------------|------------------------|---------------|------------------------|--------------|
| | | | | Amount | Percent | Amount | Percent |
| BEP costs | \$858.7 | \$858.4 | \$1,033.7 | -\$0.3 | 0.0% | \$175.3 | 20.4% |
| Printing Federal Reserve notes^a | 852.5 | 852.5 | 1,027.4 | 0.0 | 0.0% | 174.9 | 20.5% |
| Fixed printing costs | 587.0 | 587.0 | 665.5 | 0.0 | 0.0% | 78.5 | 13.4% |
| Variable printing costs | 265.5 | 265.5 | 361.9 | 0.0 | 0.0% | 96.4 | 36.3% |
| BEP support costs | 6.2 | 5.9 | 6.3 | -0.3 | -4.1% | 0.4 | 7.3% |
| Currency reader | 1.0 | 1.0 | 1.1 | 0.0 | 3.0% | 0.1 | 12.2% |
| Destruction and compliance | 5.2 | 4.9 | 5.2 | -0.3 | -5.5% | 0.3 | 6.3% |
| Board costs | 72.8 | 64.5 | 70.2 | -8.2 | -11.3% | 5.7 | 8.8% |
| Currency issuance | 33.6 | 26.2 | 31.7 | -7.4 | -22.0% | 5.4 | 20.6% |
| Banknote development | 32.2 | 31.7 | 32.6 | -0.6 | -1.8% | 0.9 | 2.9% |
| Currency education | 6.9 | 6.6 | 6.0 | -0.2 | -3.3% | -0.6 | -9.3% |
| Operating budget | \$931.4 | \$922.9 | \$1,104.0 | -\$8.5 | -0.9% | \$181.0 | 19.6% |

| | | | | | | | |
|--------------------------------|-----------|-----------|-----------|----------|-------------|----------|-------------|
| Positions^b | 22 | 22 | 24 | 0 | 0.0% | 2 | 9.1% |
| Currency issuance | 3 | 4 | 5 | 1 | 33.3% | 1 | 25.0% |
| Banknote development | 10 | 10 | 10 | 0 | 0.0% | 0 | 0.0% |
| Currency education | 9 | 6 | 6 | -3 | -33.3% | 0 | 0.0% |
| Program direction ^c | 0 | 2 | 3 | 2 | N/A | 1 | 50.0% |

Note: Here and in subsequent tables, components may not sum to totals and may not yield percentages shown because of rounding.

a. BEP forecast figures represent the Board payments to the BEP based on budgeted billing rates.

b. Position figures represent authorized Board employment count for the Currency Budget. By the end of 2023, it is anticipated that 20 positions will be filled and 2 positions will be vacant.

c. In the 2023 budget, officers tasked with providing overall program direction were shown with their primary functional oversight responsibility. For the 2024 budget, all officers providing direction for currency issuance, banknote development, and currency education are shown under program direction.

Figure 2: Production of notes

| Millions of notes | 2023 Budget | 2023 Forecast | 2024 Budget | Variance 23F to 23B | | Variance 24B to 23F | |
|--------------------------------------|----------------|------------------|----------------|------------------------|---------|------------------------|---------|
| | | | | Amount | Percent | Amount | Percent |
| Fiscal year print order ^a | 4,931.2 | 5,743.4 | N/A | 812.2 | 16.5% | N/A | N/A |
| Calendar year print order | 5,402.8 | 5,732.1 | 6,320.0 | 329.3 | 6.1% | 587.9 | 10.3% |

a. The print order for 2024 has shifted from a fiscal year basis to a calendar year basis, largely driven by the need for increased supply chain lead time and longer production planning horizons for the BEP. The print order for calendar year 2024 is the first year the Board issued a print order in July (of 2023) for the subsequent calendar year.

2023 Budget Performance

BEP Single-Cycle Operating Costs and Revolving Fund Update

Total 2023 BEP single-cycle operating expenses are forecast to be \$858.4 million, which is \$0.3 million less than the budgeted amount. Although the 2023 forecast, based on Board reimbursements, is anticipated to be slightly under budget, the BEP is projecting an overrun for fixed and variable printing costs. Fixed costs in 2023 are increasing as the BEP is realizing capital outlays delayed from 2022. Variable costs are higher because BEP and Board staff agreed to increase note deliveries to account for updated payment trends and build inventories to prepare for issuance of the next family of notes. Credits from the BEP, however, will cover those overruns and thus offset this increase; these credits result from Board reimbursements greater than the BEP's actual expenditures in 2022 and 2023 (see figure 3) for paper and certain fixed costs.

Figure 3: 2023 Currency budget credits

| Millions of dollars BEP costs of printing Federal Reserve notes | 2023 Budget | 2023 Forecast (unadjusted) | 2023 Credit from BEP | 2023 Forecast (incl. BEP credits) | 2024 Budget | Variance 24B to 23F (incl. BEP credits) | | Variance 24B to 23F (unadjusted) | |
|--|----------------|----------------------------|----------------------|-----------------------------------|------------------|---|--------------|----------------------------------|--------------|
| | | | | | | Amount | Percent | Amount | Percent |
| BEP fixed printing costs | \$587.0 | \$596.2 | -\$9.2 | \$587.0 | \$665.5 | \$78.5 | 13.4% | \$69.3 | 11.6% |
| BEP variable printing costs | 265.5 | 280.5 | -15.0 | 265.5 | 361.9 | 96.3 | 36.3% | 81.3 | 29.0% |
| Total | \$852.5 | \$876.8 | -\$24.2 | \$852.5 | \$1,027.4 | \$174.8 | 20.5% | \$150.6 | 17.2% |

Beginning in 2024, the BEP plans to perform a year-end reconciliation of actual printing costs against Board reimbursements to determine if there will be additional credits, which would be applied to 2024 printing cost invoices. Board staff will work with the BEP to identify these credits through the revolving fund. Based on staff's current review, the projected 2023 balance is in line with the agreement noted in footnote 5.

Board Single-Cycle Operating Costs

The Board single-cycle operating costs for 2023 are forecast to be \$8.2 million, or 11.3 percent, lower than the 2023 budget. The primary drivers are lower currency issuance costs for banknote transportation and an underrun in banknote development. Lower currency issuance costs were due to lower-than-expected transportation contract price increases and fewer contingency shipments required because inventory levels stabilized since the COVID-19 pandemic subsided. Banknote development's underrun was primarily due to decreased membership fees for the Central Bank Counterfeit Deterrence Group.

2024 Operating Budget Request Overview

BEP Single-Cycle Operating Costs

The proposed 2024 BEP budget, which funds BEP printing and support costs, is \$1,033.7 million, which is \$175.3 million, or 20.4 percent, higher than the 2023 forecast. Growth in the 2024 budget is primarily attributable to increased variable printing costs, which result from higher deliveries in 2024 than in 2023, and increased raw material costs. Fixed costs are growing to support cybersecurity efforts and information technology upgrades, and to fund increased staffing levels for manufacturing support.⁷ The increase in fixed costs is partially offset by reduced spending in research and development projects in 2024 because a number of projects have been closed.

BEP Multicycle Project Costs

Figure 4: Multicycle projects in the currency budget

| Millions of dollars | 2022 and prior actual | 2023 Budget | 2023 Forecast | 2024 Budget | 2025 and subsequent forecast | Prior Board approval ^a | Board reimbursable limit ^a | Lifetime project budget |
|--|-----------------------|----------------|---------------|----------------|------------------------------|-----------------------------------|---------------------------------------|-------------------------|
| Multicycle projects | | | | | | | | |
| Fort Worth facility expansion (WCF) ^b | \$253.9 | \$28.9 | \$18.8 | \$10.2 | \$0.0 | \$282.8 | \$273.3 | \$282.8 |
| Washington, D.C. replacement facility (DCRF) ^c | 64.7 | 62.3 | 56.2 | 39.2 | 1,623.9 | 1,784.1 | 1,784.1 | 1,784.1 |
| Subtotal | 318.6 | 91.2 | 75.0 | 49.4 | 1,623.9 | 2,066.9 | 2,057.4 | 2,066.9 |
| Multicycle projects designated for conditional approval | | | | | | | | |
| Note production equipment ^d | 142.0 | 43.8 | 15.5 | 215.3 | 892.2 | 787.0 | 746.8 | 1,265.0 |
| Total | \$460.6 | \$135.0 | \$90.5 | \$264.7 | \$2,516.1 | \$2,853.9 | \$2,804.2 | \$3,331.9 |

Note: BEP forecast and actual figures represent the Board payments to the BEP. Funding for facility projects is provided a quarter in advance of the BEP's expected capital outlays.

a. Board approval represents support for a budgeted project and the authority for the BEP to enter into procurement agreements. This differs from the Board reimbursable limit, which represents the Board's commitment to reimburse the BEP.

b. In August of 2021, the Board approved a lifetime project budget of \$282.8 million, but limited reimbursements to \$249.6 million pending approval from the director of RBOPS. In March 2022, the director of RBOPS approved reimbursements up to \$273.3 million to fund additional labor, contingencies, and requests for equitable adjustments as a result of project delays.

c. The Board approved the DCRF in phases. In December of 2022, the Board approved \$134.1 million. In October of 2023, the Board approved an additional \$1,650.0 million.

d. In December of 2022, the Board conditionally approved a lifetime project budget of \$787.0 million. In August of 2023, under delegated authority, the director of RBOPS approved a reimbursable limit of \$746.8 million.

The multicycle project budget submitted by the BEP includes requests to support budget authority for WCF, DCRF, and note production equipment (see figure 4).⁸ In 2022, the Board approved shifting the WCF and DCRF facility projects to the multiyear total cost approval process to ensure that the BEP has sufficient cash to pay obligations that span multiple budget years, provide regular reporting of lifetime project costs, and provide flexibility to manage inherent project changes. For the same reasons, the Board approved the inclusion of funding for

⁷ Fixed printing costs include manufacturing overhead and support, general and administrative expenses, research and development, prepress and engraving, and capital investments for BEP infrastructure.

⁸ Budget authority approval for the multicycle project differs from the single-cycle budget in that funds are approved prior to the BEP entering into any procurement agreements and will only be reimbursed after the Board is invoiced. Invoices should be remitted one quarter prior to when the funds will be spent.

note production equipment within the multicycle project budget. As of October 2023, there is a total of \$2,853.9 million in approved multicycle project funding, which includes \$282.8 million for the expanded WCF facility, \$1,784.1 million for the new DCRF facility, and \$787.0 million for a generational upgrade of note production equipment. The BEP sought approval of an additional \$478.0 million for note production equipment as part of the generational upgrade. Given the scope of the request, the Board designated the note production equipment for conditional approval, requiring additional review and approval by the director of RBOPS when funding is required.

In 2018, the BEP entered into an agreement to expand WCF to provide additional note production capabilities by including new machines and equipment and more vault space. In August 2021, the Board approved a total lifetime project budget of \$282.8 million. The 2023 forecast of \$18.8 million funds the completion of the production and administrative area expansions, labor costs, project contingencies, and contractor requests for equitable adjustment. The BEP expects to spend up to \$10.2 million in 2024 to fund contractor requests for equitable adjustments and additional contractor support to close out the project (see figure 4).

In October 2023, the Board approved a total lifetime project budget of \$1,784.1 million for DCRF. In late 2022, the Board approved an initial funding amount of \$134.1 million to fund design, project management, and specific portions of construction expenses. In 2023, the Board approved an additional \$1,650.0 million primarily to fund construction costs and contingency.

In 2016, the director of RBOPS and the director of the BEP agreed to a multiyear manufacturing strategic plan to replace aging production equipment. This strategy is reviewed annually by Board and BEP staff to ensure continued alignment on long-term equipment and capital investments to support production needs.⁹ The current budget of \$1,265.0 million for note production equipment funds the replacement of nearly all the production equipment at the BEP through 2033.¹⁰ To determine the appropriate replacement strategy, BEP staff completed an engineering analysis to determine the right balance of equipment to meet the long-term capacity objective of issuing 7.5 billion notes annually. Board staff reviewed and support the BEP's

⁹ Per the current the Memorandum of Understanding (MOU), the BEP can acquire agreed-upon production equipment as part of the long-term manufacturing strategic plan without consulting with the director of RBOPS. The BEP will consult with the director of RBOPS for capital projects that exceed \$1 million that are not part of the plan. Board staff is working with BEP staff to update and improve the MOU which includes guidance to approve and fund capital projects.

¹⁰ BEP staff estimates that the equipment will have a life expectancy of 15-20 years and will require mid-lifecycle upgrades 7-10 years after it has been placed in service.

assessment. In addition to replacement equipment, the budget also includes equipment to support the new family of notes that introduces new security features.

Figure 5: Note production equipment (multicycle project) breakdown

| Millions of dollars | Previously approved | Incremental approval requested | Lifetime project budget |
|--|---------------------|--------------------------------|-------------------------|
| Note production equipment^a | | | |
| Replacement equipment | \$435.4 | \$478.0 | \$913.4 |
| New equipment for next family of notes | 311.4 | 0.0 | 311.4 |
| Subtotal | 746.8 | 478.0 | 1,224.8 |
| Contingency funds | 40.2 | 0.0 | 40.2 |
| Total | \$787.0 | \$478.0 | \$1,265.0 |

a. In December of 2022, the Board conditionally approved a lifetime project budget of \$787.0 million. In August of 2023, under delegated authority, the director of RBOPS approved a reimbursable limit of \$746.8 million.

Board Single-Cycle Operating Costs

The Board single-cycle operating costs for 2024 are projected to be \$70.2 million, which is \$5.7 million, or 8.8 percent, higher than the 2023 forecast expenses. The increased budget is primarily driven by increases to support the multiyear strategic initiatives discussed above.

The currency issuance budget funds transportation, external consulting contracts, and personnel costs and is projected to increase by \$5.4 million, or 20.6 percent, from the 2023 forecast. Increased transportation costs are for additional note deliveries from the BEP, updated contract pricing, and increased shipments to support Reserve Bank cash offices during renovations to support deployment of NextGen machines.

The banknote development budget funds security feature development, counterfeit deterrence, annual memberships, and banknote manufacturing support initiatives and is projected to increase \$0.9 million, or 2.9 percent, from the 2023 forecast. Significant initiatives in 2024 include funding for security feature testing, the banknote usability program to support design and communication initiatives for the next family of notes, improvements to the effectiveness and efficiency of the banknote design process, and the establishment of a program team to oversee the major cross program initiatives and identify risks with executing those projects. Increases in 2024 are partially offset by reductions in development efforts for an automated counterfeit analysis project as it nears completion.

The currency education budget is \$0.6 million, or 9.3 percent, lower than the 2023 forecast. While the overall budget is slightly decreasing, the currency education budget will continue to fund efforts to protect and maintain confidence in U.S. currency worldwide through

training, education, and communication. In 2024, the program will focus on public outreach efforts and brand strategy to prepare for the release of the next family of notes.

The currency budget includes personnel costs for Board staff supporting currency issuance, banknote development, and currency education and in 2024 includes one additional officer position under program direction and one additional staff position under currency issuance.¹¹ Given the upcoming USCP strategic initiatives, these additional positions will support the strategic planning processes, manage increasing scope and complexity in procurements, and manage the growing responsibilities of the USCP.

¹¹ The currency budget also includes indirect costs for enterprise IT, facilities, law enforcement, human resources, and other services that are allocated based on the average number of personnel.