

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

2022 Currency Budget

Action

On December 07, 2021, the Board approved the following:

1. A \$1,060.0 million single-cycle operating budget for 2022. This amount includes an increase of 1 authorized Board position count in the currency issuance program, as presented in figure 1 by budget category.
2. An \$88.2 million multicycle project budget for future costs related to multiyear facility costs, as presented in figure 3 by budget category.¹
3. A \$25,000 single-cycle capital budget for adversarial analysis for 2022.

Discussion

The currency budget provides funds to reimburse the Bureau of Engraving and Printing (BEP) for expenses related to the production of banknotes and the Board's activities related to banknote issuance.² The Board is responsible for issuing the nation's currency in the form of Federal Reserve notes. As part of its role as issuing authority, the Board has a wide variety of responsibilities, such as ensuring that there is an adequate supply of notes in circulation and protecting the integrity of and maintaining the public's confidence in U.S. currency. The Board, with support from the Reserve Banks, the Treasury Department, the BEP, and the U.S. Secret Service (USSS), works to ensure that the notes meet quality standards from production through destruction, monitors counterfeiting threats for each denomination, and conducts adversarial analysis to ensure resistance to counterfeiting. The budget includes the costs of issuing new currency to Reserve Banks, which includes shipping new currency from the BEP to Reserve Banks, shipping fit currency between Reserve Banks, and program management to support long-term issuance strategies and resiliency. The budget also funds the Currency Education Program (CEP), which aims to protect and maintain confidence in currency

¹ The multicycle project budget is an operating budget.

² 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 incurred for the issuing of notes shall 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. Certain costs are reimbursed based on budgeted billing rates per month, while other costs are billed to the Board as expenses are incurred.

worldwide by coordinating counterfeit detection training to Reserve Bank and foreign central bank staff, providing information about banknote security features, and conducting outreach to key stakeholders on U.S. Currency Program (USCP) initiatives.

Under authority delegated by the Board, the director of the Division of Reserve Bank Operations and Payment Systems (RBOPS) submits an annual fiscal year (FY) print order for new currency to the director of the BEP.³ Upon reviewing the order, the BEP forecasts printing costs for new currency during the upcoming calendar year (CY). BEP costs include fixed and variable costs for printing Federal Reserve notes and support costs, which constitute 93.3 percent of the single-cycle currency operating budget. The Board's portion of the budget makes up the remaining 6.7 percent and aligns with the Board's strategic priorities. Multicycle project costs for the BEP's large-scale facilities projects include the Fort Worth, Texas, western currency facility (WCF) expansion project and Washington, D.C., currency facility (DCF) replacement project.⁴ 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. Figure 1 provides the single-cycle operating costs included in the Board's 2021 budget, 2021 forecast, and proposed 2022 budget. Figure 2 provides details on the volume of notes the Board included in its 2021 budget, its 2021 forecast, and its 2022 budget.

³ 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](#).

⁴ The 2022 currency budget is the first full budget year for the facility funding to be reported in a multicycle project budget; previously the facility costs were included in the single-cycle operating budget.

Figure 1: Single-cycle operating budget by budget category

| Millions of Dollars Budget Category | 2021 Budget ^d | 2021 Forecast | 2022 Budget | Variance 21F to 21B | | Variance 22B to 21F | |
|--|-----------------------------|------------------|----------------|------------------------|--------------|------------------------|--------------|
| | | | | Amount | Percent | Amount | Percent |
| | | | | BEP Costs | 980.4 | 886.6 | 989.2 |
| Printing Federal Reserve Notes | 975.4 | 881.9 | 983.8 | -\$93.5 | -9.6 | 101.9 | 11.6 |
| Fixed Printing Costs | 518.6 | 518.1 | 612.5 | -\$0.5 | -0.1 | 94.4 | 18.2 |
| Variable Printing Costs | 456.8 | 363.8 | 371.3 | -\$93.0 | -20.4 | 7.5 | 2.1 |
| BEP Support Costs | 5.0 | 4.7 | 5.4 | -\$0.2 | -4.9 | 0.7 | 14.2 |
| Currency Reader | 1.1 | 0.7 | 1.0 | -\$0.3 | -30.8 | 0.2 | 31.6 |
| Destruction and Compliance | 3.9 | 4.0 | 4.4 | \$0.1 | 2.2 | 0.4 | 10.9 |
| Board Costs | 65.8 | 62.5 | 70.8 | -\$3.3 | -5.0 | 8.3 | 13.2 |
| Currency Issuance ^b | 33.6 | 33.3 | 37.6 | -\$0.3 | -0.9 | 4.3 | 12.8 |
| Banknote Development | 26.4 | 23.6 | 27.1 | -\$2.8 | -10.6 | 3.5 | 14.9 |
| Currency Education | 5.9 | 5.6 | 6.1 | -\$0.2 | -3.6 | 0.5 | 8.9 |
| Operating Budget | 1,046.2 | 949.2 | 1,060.0 | -\$97.0 | -9.3 | 110.8 | 11.7 |

| Positions ^c | 19 | 19 | 20 | 0 | 0.0 | 1 | 5.3 |
|------------------------|----|----|----|---|-----|---|-----|
| Currency Issuance | 0 | 0 | 1 | 0 | N/A | 1 | N/A |
| Banknote Development | 10 | 10 | 10 | 0 | 0.0 | 0 | 0.0 |
| Currency Education | 9 | 9 | 9 | 0 | 0.0 | 0 | 0.0 |

Note: Position figures represent authorized Board employment count for the Currency Budget.

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

b In prior years, the Currency Issuance budget category was titled Currency Transportation. The title change reflects that this category now includes issuance support and personnel costs in addition to shipment costs.

c The 2021 forecast includes the total authorized positions, of which 16 are currently filled and 3 are vacant.

d The 2021 single-cycle operating budget was approved for \$1,095.8 million, which included \$49.6 million for facility reimbursements. In August 2021, the Board approved a WCF total project budget not to exceed \$282.8 million for a multicyle project budget. The large-scale facility projects that span multiple budget years are better suited in the multicyle project budget and are displayed in figure 3.

Figure 2: Production of notes

| Millions of Notes Budget Category | 2021 Budget | 2021 Forecast | 2022 Budget | Variance 21F to 21B | | Variance 22B to 21F | |
|--------------------------------------|----------------|------------------|----------------|---------------------------------|----------------|------------------------|----------------|
| | | | | Amount | Percent | Amount | Percent |
| | | | | Calendar year deliveries | 8,424.3 | 6,642.3 | 7,209.6 |
| Fiscal year print order | 7,568.9 | 6,986.8 | 7,209.6 | -582.1 | -7.7 | 222.8 | 3.2 |

2021 Budget Performance

BEP Single-Cycle Operating Costs

Total 2021 BEP single-cycle operating expenses are forecast to be \$886.6 million, which is \$93.7 million, or 9.6 percent, less than the budgeted amount. The budget underrun is primarily attributable to the BEP delivering fewer notes than anticipated to the Board. The

FY 2021 print order ranged between 7.6 and 9.6 billion notes and the CY 2021 budget for variable printing costs was based on the expected delivery of 8.4 billion notes, which represented a midrange value that was considered the most likely scenario of note deliveries at the time of the budget preparation. However, the BEP delivered less than the original FY commitment of 7.6 billion notes, with plans to deliver a total of 6.6 billion notes for the CY. This lower-than-planned rate of note production is largely attributable to COVID-19 shutdowns, weather and adverse event shutdowns, workforce fatigue due to long-term overtime, and challenging production scenarios introduced by the unusual ratio of denominations needed. Given the forecast delivery total, variable printing costs are projected to be \$93.0 million under budget for the year.

BEP Multicycle Project Costs

Figure 3: Multicycle project budget by budget category

| Millions of Dollars | 2020 and Prior Actual | 2021 Budget ^d | 2021 Forecast | 2022 Budget | Future Budget (2022 and Subsequent) | Project Lifetime Budget |
|--|-----------------------|--------------------------|---------------|-------------|-------------------------------------|-------------------------|
| Budget Category | | | | | | |
| BEP facility funding^a | | | | | | |
| Ft. Worth facility expansion ^b | 160.0 | 40.2 | 40.2 | 52.8 | 82.6 | 282.8 |
| Washington, D.C. replacement facility ^c | 0.7 | 49.6 | 34.9 | 5.5 | 5.5 | TBD |
| Grand Total | 160.7 | 89.8 | 75.1 | 58.3 | 88.2 | 282.8 |

a 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.

b The total project life budget not to exceed \$282.8 million was approved by the Board on August 10, 2021.

c We plan to incorporate the DCF replacement facility into the multicycle project budget within this budget year and to seek Board approval for the lifetime project total when program plans and program management approaches are well defined. The BEP's estimated project total is currently \$1,988.3 million.

d The BEP facility funding in prior years was included in the single-cycle operating budget.

The BEP facility projects, detailed in figure 3, were previously approved on a single-cycle operating budget basis. Funds that were not expended were not carried over to the next calendar year. Earlier this year, the Board approved shifting the WCF expansion project to a multiyear total cost approval to simplify the budgeting process, 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.⁵ For the same reasons, funding the DCF replacement project by a multicycle project budget is preferable to the single-cycle operating budget. Board staff observed DCF program risks in the governance,

⁵ The BEP did not submit a budget request with adequate supporting documentation for the WCF facility expansion for inclusion in the 2021 budget request. We worked with BEP staff to obtain justification for the unbudgeted costs and obtained formal Board approval for the program costs on August 10, 2021.

program management, and financial control processes. Because of these risks, Board staff communicated a pause of funding related to design and engineering work, effective September 3, 2021, but continuation of reimbursements for environmental impact analysis, site demolition, and site preparation expenses. The 2021 forecast for DCF is expected to be \$14.7 million less than budgeted, given the pause of funds for design and engineering work.

Board Single-Cycle Operating Costs

Currency issuance costs are forecast to be less than 1.0 percent of the 2021 budget. Given the reduced number of note deliveries from the BEP, there were fewer shipments of new notes in 2021. This underrun is partially offset by continued demand related to the COVID-19 pandemic. There continue to be increased intra-System shipments of fit notes to rebalance Reserve Bank inventories to ensure sufficient supply across the System. Also, there was an increase in more-expensive chartered air shipments to meet spikes in demand experienced earlier this year.⁶

Banknote development costs are forecast to be 10.6 percent under budget due to lower Central Bank Counterfeit Deterrence Group (CBCDG) membership fees from less travel and related reimbursements for its members. In addition, various banknote development contracts were either delayed or cancelled because of the ongoing pandemic and shifted priorities.

Currency education costs are forecast to be 3.6 percent under budget. Two currency education contracts experienced gaps in service as they changed or renewed vendors. In addition, there are two temporarily vacant staff positions due to turnover.

2022 Operating Budget Request Overview

BEP Single-Cycle Operating Costs

The proposed 2022 BEP budget, which funds BEP printing and support costs, is \$989.2 million, and is \$102.5 million, or 11.6 percent more than the forecast expenses in 2021. Fixed printing costs are the primary driver of the increase and are \$612.5 million, which is \$94.4 million, or 18.2 percent, more than 2021 forecast expenses.⁷ The increase is primarily for capital

⁶ The cost for chartered air shipments were six to seven times more expensive than commercial air; however, they are timelier than using ground shipments.

⁷ Fixed printing costs include manufacturing overhead and support, general and administrative, research and development, prepress and engraving, and capital.

purchases aligned with the BEP's long-term capital equipment plan and investments in cybersecurity, shared services, and technology upgrades.⁸ Additionally, there are increased investments in research and development to support the new security features in the next family of notes. Variable costs are increasing because the BEP expects to deliver more notes to the Board in 2022 than in 2021 (see figure 2). Although the BEP expects to deliver 8.5 percent more notes in CY 2022, the variable expenses are only expected to increase 2.1 percent as economies of scale are realized with increased deliveries. Similarly, costs per note decrease when the BEP is able to maximize production and deliver more notes.

BEP support costs are increasing to account for increased travel budgets as the BEP expects travel to resume in 2022.

BEP Multicycle Project Costs

The currency budget's multicycle project budget includes funds for the WCF and DCF multiyear facility projects. The Board previously approved a total lifetime budget of \$282.8 million for the WCF expansion project, of which the BEP expects to spend \$52.8 million in 2022 to expand the final production area and administrative office space (see figure 3). By the end of 2022 the BEP expects this project to be 85 to 90 percent complete, with the closeout of all work expected in 2023.

RBOPS Cash staff supports constructing a new BEP production facility to replace the original DCF. A new building designed to meet modern production requirements is critical to the future of the USCP.⁹ RBOPS Cash staff plans to seek Board approval for the total project budget when the DCF Program Management Office (PMO) implements well defined governance, program management, and financial control processes for DCF. Currently, we are seeking funding of \$5.5 million for expenses related to environmental impact analysis, site demolition, and site preparation, which represent a small portion of the BEP's current estimate of \$1,988.1 million for total costs related to the DCF replacement.

⁸ By memorandum of understanding between the Board and the Treasury, the BEP is required to consult with the RBOPS director before funds are committed for capital projects that exceed \$1 million. During 2016, the director of RBOPS and the BEP agreed to a long-term manufacturing strategy to replace aging production equipment, which will allow the BEP to acquire the agreed-upon production equipment without consulting with the RBOPS' director. The BEP will continue to consult with the RBOPS director for capital projects that exceed \$1 million that are not part of the long-term manufacturing strategy, and RBOPS staff will review with the BEP annually, its progress and make necessary changes to the plan.

⁹ 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>

Board Single-Cycle Operating Costs

The Board single-cycle operating costs are projected to be \$8.3 million, or 13.2 percent, higher than the 2021 forecast expenses. The increased budget is primarily driven by an increase of \$4.3 million for currency issuance and an increase of \$3.5 million for banknote development costs.

The currency issuance budget funds transportation, consulting, and personnel costs. In addition to typical contract price increases budgeted for 2022, we also project higher BEP and intra-System shipment costs to transport the increased note deliveries and to rebalance banknote inventories across the System, respectively. The 2022 budget also includes an additional position and contract funds to support upcoming changes to the USCP and the Board's strategic priorities. These changes include transitioning to a long-term regional inventory plan, deployment of the NextGen cash-processing machines, the release of the next family of notes, and the DCF replacement. Each one of these major projects will require significant planning and currency shipments.

The banknote development budget funds security feature development, counterfeit deterrence, annual memberships, and banknote manufacturing support initiatives. In 2022, CBCDG membership fees are projected to increase with more travel and reimbursements for its members. Banknote development contracts are planned to support security feature testing, note redesign advisory support, and perception studies to support further banknote development. Additionally, the budget includes more funds for construction management support directed at the program governance and budget and scheduling management for the BEP's DCF project.

The currency education budget funds the Board's currency education program, which is designed to protect and maintain confidence in U.S. currency worldwide through training, education, and communication. There are also minor increases for contracts to support domestic, international, and stakeholder education outreach efforts and improving and maintaining the currency website and its infrastructure.¹⁰

Support and overhead costs allocated to currency issuance, banknote development, and currency education are forecast to increase in 2022.¹¹ Additional budget items,

¹⁰ The CEP team is working with Board Information Technology (IT) to transition this website to Board IT management as an additional cost reduction effort, reduce staff effort spent on site maintenance, and increase staff capacity available for stakeholder engagement.

¹¹ In 2021, the currency budget included support and overhead costs from the Board of Governors for enterprise IT, facilities, law enforcement, human resources, and other services. For 2022, these costs were expanded to include allocations for application development projects

including personnel costs to fund academic assistance, accrued annual leave, transportation subsidy, and interns are included in the currency budget in 2022.¹²

2022 Single-cycle Capital Budget

The workspace at the Board contains an adversarial analysis laboratory to assess the counterfeiting threat to potential new security features. The \$25,000 of single-cycle capital budget for 2022 is needed for repairs to or replacement of aging equipment.

2022 Budget Risks

The most significant risks in the 2022 budget are related to funding the BEP's capital investments and project costs, the Board's transportation costs, and potential work on coin recirculation. While the BEP's capital budget aligns with the long-term capital equipment strategy, the timing of funding can be difficult to predict under normal circumstances given the prolonged procurement process and length of time required to build custom manufacturing equipment. The material shortages and distribution issues in the pandemic environment exacerbate the already lengthy acquisition process. Given these challenges, the 2022 budget funds a scaled-down equipment purchase plan. If BEP staff are able to make progress on a more complete plan, they will require earlier funding for the long-term capital equipment plan in order to ensure a sufficient revolving fund balance is maintained.¹³

The 2022 multicycle project budget includes facility payments to the BEP associated with the WCF and DCF projects. Facility projects have historically experienced cost increases, and recent labor shortages, distribution issues, and volatile construction material costs augment this risk. Once the DCF PMO refines the management controls for the new DCF project, we anticipate requesting multiyear funding for DCF, which is currently estimated to be \$1,988.1 million.

The Board continues to experience transportation capacity constraints as the armored carrier industry faces driver shortages and increased supply costs. These constraints are coupled with volatility in demand, especially for intra-System currency shipments, from the

¹² The personnel costs to fund academic assistance, accrued annual leave, the transportation subsidy, and interns were previously included in the Board budget and expensed to RBOPS.

¹³ 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.

ongoing pandemic. As we explore options to build transportation resiliency with our current carriers, we anticipate transportation costs could increase in 2022.

Although there is currently an adequate overall amount of coins in the economy, the COVID-19 pandemic significantly disrupted normal circulation patterns for U.S. coins. The slowed pace of circulation has reduced available inventories in some areas of the country. The U.S. Coin Task Force was formed in July 2020 to identify, implement, and promote actions to address disruptions to coin circulation. The Federal Reserve System and the U.S. Mint have engaged contract resources in support of coin circulation analysis and efforts for the U.S. Coin Task Force. As a task force member, the Board may have responsibilities to contribute to this effort, which could result in additional 2022 expenses.