

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

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**2020 Currency Budget**

**Action**

On December 18, 2019, the Board approved the calendar year (CY) 2020 currency operating budget of \$877.2 million and 18 new authorized positions. The operating budget is an increase of \$38.9 million, or 4.6 percent, from 2019 forecasted expenses of \$838.3 million and includes \$827.7 million of Bureau of Engraving and Printing (BEP) costs and \$49.5 million of Board costs.<sup>1</sup>

**Discussion**

The currency budget provides funds to reimburse the BEP for expenses related to the production of banknotes and the Board's activities related to banknote issuance.<sup>2</sup> 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 to protecting the integrity of and maintaining the public's confidence in the U.S. currency. The Board works with the Reserve Banks, the Treasury Department, the BEP, and the U.S. Secret Service (USSS) to ensure that the notes meet quality standards from production through destruction, monitors counterfeiting threats for each denomination, and conducts adversarial analysis to ensure they are robust to counterfeiting. The budget includes the cost of shipping new currency from the BEP to Reserve Banks and fit currency between Reserve Banks. The budget also funds the Currency Education Program (CEP), which aims to protect and maintain confidence in currency worldwide by providing information and conducting outreach to key stakeholders.

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<sup>1</sup> In 2019, the Board approved a \$3.2 million multi-cycle capital budget for counterfeit inspection information technology equipment. As the program is in the development stage, no capital dollars have been expended and no additional capital funds are being requested at this time.

<sup>2</sup> 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. Given the timing of invoice payments, there can be large fluctuations in the BEP's revolving fund balance, which has resulted in a projected balance of \$260 million on January 1, 2020. Because of this high balance, the Board will withhold BEP facility reimbursements and a portion of BEP fixed printing costs unless additional cash is required.

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.<sup>3</sup> Upon reviewing the order, the BEP forecasts printing costs for new currency during the upcoming calendar year. BEP costs, including fixed and variable costs for printing Federal Reserve notes, facility costs, and support costs constitute 94.4 percent of the budget. The Board's portion of the budget makes up the remaining 5.6 percent and is formulated to ensure alignment with the Board's strategic priorities. Board staff reviews the BEP and Board expenses and recommends approval to the Board. Once the Board approves the currency budget, it assesses the costs of currency to each Federal Reserve Bank monthly. Table 1 provides the costs included in the Board's 2019 budget, 2019 forecast, and proposed 2020 budget.

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<sup>3</sup> 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](#).

**Table 1**  
**Currency budget**  
**(calendar year)**

	2019 Budget (000s)	2019 Forecast (000s)	Variance 19F to 19B		2020 Budget (000s)	Variance 20B to 19F	
			Amount (000s)	Percent		Amount (000s)	Percent
<b>BEP Costs</b>	<b>\$905,390</b>	<b>\$796,015</b>	<b>-\$109,375</b>	<b>-12.1</b>	<b>\$827,667</b>	<b>\$31,652</b>	<b>4.0</b>
<b>Printing Federal Reserve notes<sup>a</sup></b>	<b>\$690,760</b>	<b>\$641,428</b>	<b>-\$49,332</b>	<b>-7.1</b>	<b>\$732,935</b>	<b>\$91,507</b>	<b>14.3</b>
BEP fixed printing costs	\$401,938	\$401,940	\$2	0.0	\$499,836	\$97,896	24.4
BEP variable printing costs	\$288,822	\$239,488	-\$49,334	-17.1	\$233,099	-\$6,389	-2.7
<b>BEP facility reimbursements</b>	<b>\$210,000</b>	<b>\$150,000</b>	<b>-\$60,000</b>	<b>-28.6</b>	<b>\$90,000</b>	<b>-\$60,000</b>	<b>-40.0</b>
Ft. Worth facility expansion <sup>a</sup>	\$150,000	\$150,000	\$0	0.0	\$60,000	-\$90,000	-60.0
DC facility design work	\$60,000	\$0	-\$60,000	-100.0	\$30,000	\$30,000	N/A
<b>BEP support costs</b>	<b>\$4,629</b>	<b>\$4,586</b>	<b>-\$43</b>	<b>-0.9</b>	<b>\$4,732</b>	<b>\$145</b>	<b>3.2</b>
Currency reader	\$957	\$979	\$22	2.3	\$955	-\$24	-2.4
Other <sup>b</sup>	\$3,673	\$3,607	-\$65	-1.8	\$3,776	\$169	4.7
<b>Board costs</b>	<b>\$50,370</b>	<b>\$42,254</b>	<b>-\$8,116</b>	<b>-16.1</b>	<b>\$49,486</b>	<b>\$7,232</b>	<b>17.1</b>
Currency transportation	\$22,497	\$18,310	-\$4,187	-18.6	\$19,042	\$732	4.0
Research and development	\$11,768	\$7,839	-\$3,929	-33.4	\$15,893	\$8,054	102.7
Annual contributions and management support	\$7,100	\$7,015	-\$85	-1.2	\$8,865	\$1,850	26.4
Quality assurance	\$6,500	\$7,000	\$500	7.7	\$0	-\$7,000	-100.0
Currency education	\$2,430	\$2,027	-\$403	-16.6	\$2,425	\$398	19.6
Personnel costs	\$0	\$0	\$0	N/A	\$2,893	\$2,893	N/A
Travel costs	\$0	\$0	\$0	N/A	\$278	\$278	N/A
Training costs	\$0	\$0	\$0	N/A	\$27	\$27	N/A
Depreciation	\$75	\$63	-\$12	-15.6	\$63	\$0	0.0
<b>Operating budget</b>	<b>\$955,759</b>	<b>\$838,269</b>	<b>-\$117,490</b>	<b>-12.3</b>	<b>\$877,153</b>	<b>\$38,884</b>	<b>4.6</b>

Note: Figures have been rounded to the nearest thousand, but calculation are based on actual dollar and cent figures resulting in rounding errors in the sub-totals, totals, and variance figure

<sup>a</sup> BEP forecast figures represent the Board payments to the BEP based on 2019 budgeted billing rates.

<sup>b</sup> Other BEP expenses include costs to reimburse the BEP for expenses incurred by its Destruction Standards and Compliance Division of the Office of Compliance and Mutilated Currency Division of the Office of Financial Management.

**Table 2**  
**Production of notes**

	2019 Budget (000s)	2019 Forecast (000s)	Variance 19F to 19B		2020 Budget (000s)	Variance 20B to 19F	
			Amount (000s)	Percent		Amount (000s)	Percent
<b>Calendar year deliveries</b>	<b>7,046,400</b>	<b>5,731,200</b>	<b>-1,315,200</b>	<b>-18.7</b>	<b>5,168,000</b>	<b>-563,200</b>	<b>-9.8</b>
<b>Fiscal year print order</b>	<b>7,046,400</b>	<b>6,300,800</b>	<b>-745,600</b>	<b>-10.6</b>	<b>5,168,000</b>	<b>-1,132,800</b>	<b>-18.0</b>

Table 2 provides details on the volume of notes the Board included in its 2019 budget, the 2019 forecast, and the 2020 budget. In June 2019, the Board approved a revision to its FY 2019 order to reflect higher inventory volumes held at the Reserve Banks and the BEP, lower destruction rates, and changes to circulations patterns of Federal Reserve notes. While currency in circulation, which is the direct measure of demand for notes, continues to increase year after year, the decrease in the 2020 budget includes the intentional use of accumulated

unissued inventory. In addition, technology changes, and the full-year effect of a policy change continues to result in fewer notes that are prematurely destroyed.<sup>4</sup>

### ***2019 Budget Performance***

Total 2019 operating expenses are forecasted to be \$838.3 million, which is \$117.5 million, or 12.3 percent, less than the budgeted amount. The budget underrun is primarily attributable to a delay in design work for a new production facility in the Washington, D.C., area, and lower variable printing expenses because of the revised print order (see table 2).<sup>5</sup>

Currency transportation expenses are forecasted to be lower than budgeted primarily because the Board will arrange fewer currency shipments than originally budgeted because the print order was reduced at mid-year. The 2019 research and development budget underrun is primarily the result of the design consulting work ramping up more slowly than planned and fewer requirements for Board IT support of externally-developed prototype equipment that would be used for banknote inspection of notes, sheets, and plates, and a counterfeit analysis tool.

This year concludes a 10-year quality assurance contract to develop and implement an enterprise-wide quality system in collaboration with the BEP. While the contract work is concluding, the BEP and the Board will meet monthly to assess the overall health of the U.S. Currency Program and ensure that the quality system continues to mature and is sustainable over the long term. The current year overrun will ensure completion of all projects this year.

### ***2020 Budget Request Overview: BEP Costs***

The proposed 2020 BEP budget is \$827.7 million, which is \$31.7 million, or 4.0 percent, more than 2019 forecasted expenses. The primary driver of this increase is higher fixed costs to fund capital investments and research and development projects.

The proposed budget for fixed printing costs is \$499.8 million, which is \$97.9 million, or 24.4 percent, more than 2019 forecast expenses.<sup>6</sup> The increase is attributed to investments in manufacturing equipment, information technology projects, and physical security

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<sup>4</sup> The note-facing policy, implemented in 2018 allows for both portrait-side and back-side up, otherwise fit \$50 and \$100 notes to recirculate in commerce. Prior to 2018 only the portrait-side up notes were recirculated, while back-side up notes were prematurely destroyed. Prior to 2011 all denominations were circulated portrait-side up; in 2011 the policy was updated to allow \$1 through \$20 notes to recirculate regardless of side.

<sup>5</sup> In 2019, the Board approved \$210 million to reimburse the BEP for the Ft. Worth facility expansion and for preliminary design studies and contractor expenses in support of a replacement of its Washington, D.C., facility.

<sup>6</sup> Fixed printing costs include manufacturing overhead and support, general and administrative, research and development, prepress and engraving, and capital.

upgrades.<sup>7</sup> Additional increases are for research and development efforts to support the design and security of the next family of notes.

The increase is partially offset by a reduction in variable costs because of the Board's reduced print order (see table 2) and for BEP facility reimbursements. While total variable costs are decreasing this year, the BEP estimates a 3-5 percent increase for paper, ink, direct labor, and other variable manufacturing expenses. The decrease for the Ft. Worth facility expansion reflects the final year of the total \$220 million project.

### ***2020 Budget Request Overview: Board Costs***

Board costs are estimated to be \$49.5 million, or 17.1 percent, more than 2019 forecasted expenses. The primary drivers of the 2020 increase are research and development costs and annual contributions and management support to support all phases of the Cash strategic plan.<sup>8</sup> In 2020, Board staff will continue to work with contract staff to develop prototype equipment that would assess quality at the BEP by performing plate, sheet, and note inspection. The Board will continue to contract services to develop security features for possible inclusion in the next family of notes. Board staff will conduct market research on and expand outreach to banknote equipment manufacturers to identify trends in the market for equipment that accepts and dispenses banknotes. Contract resources also are included to perform financial analysis supporting Board oversight on reimbursements to Treasury for the new D.C. currency production facility.

To support counterfeit deterrence activities, funds are included to support the Counterfeit Currency Processing Facility (CCPF) initiative.<sup>9</sup> The 2020 increase supports development of prototype technology to identify, analyze, and classify suspect counterfeit notes.

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<sup>7</sup> 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, however, will consult with the RBOPS director for capital projects that exceed \$1 million but are not part of the long-term manufacturing strategy.

<sup>8</sup> In 2016, the BAC endorsed a three-phased strategy for the Board to undertake a broader range of activities as issuing authority for U.S. currency. The phases include 1) Create programs that continue our ongoing work, including security feature development and developing a comprehensive inspection strategy; 2) Strengthen the Board's role of issuing authority and support acceleration of the new-design family of notes; and 3) Explore opportunities to assume counterfeit analysis responsibilities from the USSS and develop supporting technology.

<sup>9</sup> The CCPF, currently managed by the USSS, began operations in January 2019 and uses traditional methods to process counterfeit notes. In parallel, the Board is sponsoring the development of technology that would automate counterfeit analysis. A prototype machine is targeted for delivery in December 2020.

Board membership in the Central Bank Counterfeit Deterrence Group (CBCDG) and the Reproduction Research Center (RRC) also support this strategic goal.<sup>10</sup>

The 2020 currency budget includes \$3.2 million for personnel services, travel, and training costs for 18 new positions (a transfer of 12 positions from the Board of Governors operating budget from the RBOPS division and for six new positions).<sup>11</sup> The 12 existing employees support technology and banknote development processes, new design concepts, security feature development, adversarial analysis of proposed security features and design concepts, and the development of new technologies. In addition, staff support the education of users around the world about designs and security features of U.S. currency. Of the six new positions, two will primarily support banknote equipment manufacturer outreach and security feature testing and four positions will focus on domestic and international outreach efforts to financial institutions, retailers, and the gaming industry. Staff recommends moving the costs to the currency budget because these positions work solely on activities that support the role of the issuing authority to protect the integrity of and confidence in Federal Reserve notes.

We recommend that the five other existing positions on the RBOPS cash team remain in the RBOPS division's budget because these staff members primarily support oversight of Reserve Bank cash operations, in addition to policy work in support of U.S. currency.

### ***2020 Capital Budget***

In 2019, the Board approved a \$3.2 million multi-cycle capital budget for information technology equipment in support of the counterfeit inspection technology. As the program is in the developmental stage, no capital dollars have been expended and no additional capital funds are being requested at this time. If necessary, the BAC chair will be consulted before proceeding further.

### ***2020 Budget Risks***

The most significant risks in the 2020 budget are related to the currency transportation contract and personnel increases. Board staff are currently reviewing proposals and will be implementing a new currency transportation contract in 2020. Final contract rates and the possible diversification of transportation options (such as incorporating chartered aircrafts) could have a substantial budget impact. For personnel, the Board plans to hire eight

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<sup>10</sup> The CBCDG includes 35 central banks and operates under the auspices of the G-10 central bank governors to combat digital counterfeiting. The Danmarks Nationalbank hosts a consortium of 14 central banks that contribute technology and equipment to perform independent adversarial analysis on design concepts and potential security features.

<sup>11</sup> The positions will continue to report through to the RBOPS division director.

additional staff over the next two years. The 2020 budget includes funding for six positions, which staff believes can be hired in 2020. If the opportunity arises where the additional two positions can be filled in 2020, the budget would need to increase to accommodate the last two hires.