REPORT TO CONGRESS ON FINANCIAL IMPLICATIONS OF U.S. PARTICIPATION IN THE INTERNATIONAL MONETARY FUND

FY 2017 – FY 2020

This report has been prepared in compliance with section 504(b) of Appendix E, Title V of the Consolidated Appropriations Act for FY 2000, Public Law No. 106-113 (Nov. 29, 1999). The report focuses on the direct financial implications of U.S. participation in the International Monetary Fund (IMF) and does not attempt to quantify the broad and substantial economic benefits to the United States and the global economy resulting from U.S. participation in the IMF.

This report provides quarterly data for fiscal years 2017, 2018, 2019, and 2020 and annual data for full fiscal years 2001-2020. It provides estimates of the financial implications on U.S. participation in the IMF's General Department and Special Drawing Rights (SDR) Department. During the last 20 years, the cumulative net valuation and interest effects for U.S. participation in the IMF overall have reached positive $1.1 billion.

As required, the report provides financial information on the net interest income and valuation changes associated with U.S. participation in the IMF. These data vary over time and may be positive or negative for any given quarter or year. Negative net interest income could arise when U.S. interest rates (associated with financing U.S. transactions with the IMF) are higher than the SDR[1] interest rate (which is the basis for the rate that the IMF pays the United States for the use of U.S. financing). For example, the United States lost about $250 million in FY2019 due to high U.S. interest rates relative to the SDR interest rate. Negative valuation changes can occur when the U.S. dollar strengthens relative to the SDR.

Economic theory suggests that the fluctuations in interest rates or exchange rates should not result in either net gains or net losses over time as exchange rates among major currencies are generally expected to move inversely with interest rate differentials. According to theory, the currency of a country with a lower interest rate is expected to appreciate against the currency of a country with a higher interest rate in an amount that would offset the interest differential. In practice, however, changes in exchange rates and interest rates differential rarely fully offset one another for any given period. Hence, the computations reported below reflect substantial fluctuations, with significant gains or losses often arising for a given period in time.

The methodology used in deriving these figures has been laid out in previous reports. The methodology is also summarized briefly in the footnotes attached to the tables. Historical data are also included in this report to reflect two methodological adjustments, relative to previous reports. These methodological changes are discussed in detail in the Annex. Reports prepared under section 504(b) are made available to the public on the Treasury website: https://home.treasury.gov/policy-issues/international/international-monetary-fund.

Data on the average annual and cumulative income effect and valuation changes related to U.S. participation in the IMF's General Department over the 20-year period from 2001 to 2020 are

---

[1] The SDR is an international reserve asset created by the IMF. The SDR is used as a unit of account by the IMF and other international organizations. Its value is determined as a weighted average of a basket of currencies. The SDR carries a market-based interest rate determined on the basis of a weighted average of interest rates on short-term instruments in the markets of the currencies included in the SDR valuation basket.

provided in Table 1a. Data on the net interest income and valuation changes during fiscal years 2017, 2018, 2019, and 2020 are provided in Table 1b.

Similarly, data on the average annual and cumulative income effect and valuation changes related to U.S. participation in the SDR Department of the IMF over the 20-year period from 2001 to 2020 are provided in Table 2a. Data on net interest income and valuation changes during fiscal years 2017, 2018, 2019, and 2020 are provided in Table 2b.

There are broad and substantial economic benefits to the United States resulting from U.S. participation in the IMF beyond the net interest and valuation effects described in this report. The IMF's work ultimately supports U.S. jobs, exports, and financial markets. During financial crises abroad, the United States leverages the IMF as the first responder to protect our domestic economy by promoting global growth and stability. Through its three main activities—surveillance, lending, and technical assistance—the IMF promotes economic stability and helps prevent and resolve financial crises when they occur. When foreign economies are in crisis, they import less from U.S. businesses, they invest less in the United States, and they can damage our financial markets, hurting the value of retirement savings for American households. U.S. participation in the IMF brings broad benefits for America, for the health of the U.S. economy, and for the prosperity shared by American workers.

Estimating the Financial Implications of U.S. Participation in the General Department

Four elements go into estimating the financial implications of U.S. participation in the IMF in the IMF's General Department:

- Interest forgone by the United States on reserve assets transferred to the IMF.[2]
- Interest paid by the United States on increased borrowing to finance U.S. transfers of U.S. dollars and SDRs to the IMF (under the letter of credit, as part of the quota subscription) and U.S. loans to the IMF (under the New Arrangements to Borrow).
- Interest received by the United States on the U.S. reserve position in the IMF[3] and remuneration on U.S. loans to the IMF (under the New Arrangements to Borrow).
- Changes to the value of the U.S. reserve position in the IMF, as a result of fluctuations in the value of the U.S. dollar relative to the SDR.

Over the period fiscal year 2001 through fiscal year 2020 (Table 1a), the average annual net interest income effect of U.S. participation in the General Department was negative $42 million, while the cumulative net interest income effect was negative $841 million. Negative net interest income arose over this period because the interest rate associated with financing U.S. transactions with the IMF was higher than the interest rate that the IMF provides to repayments to the United States during that same period. The average annual valuation change in the U.S. reserve position was positive $61 million, while the cumulative valuation change was positive $1,229 million, reflecting a U.S. dollar that weakened over the selected period. This long-run inverse relationship between interest and valuation effects is consistent with economic theory, as described above.

[2] When the United States transfers reserve assets including foreign currencies to the IMF to satisfy obligations resulting from a quota increase, the United States incurs a decrease in interest-bearing assets. The SDR interest rate is used in estimating the interest foregone, since assets transferred are currencies that make up the SDR.

[3] The U.S. reserve position in the IMF comprises all outstanding transfers from the United States to the IMF as a part of the U.S. quota subscription. This includes any loans under quota, reserve asset payments under a quota increase, and all gold transfers prior to 1978 (about $2.3 billion). The United States earns interest on the entire reserve position, except for gold.

However, the annual and quarterly figures can fluctuate considerably at times. The financial implications of U.S. participation in the General Department reflected a net interest income effect of negative $89 million for FY2017, negative $143 million for FY2018, negative $221 for FY2019, and negative $51 million for FY2020 (Table 1b). The increase in net interest income costs in FY2018 and FY2019 is due to relatively high U.S. interest rates, generating an interest rate differential with the SDR interest rate as large as 150 basis points. The valuation changes in the U.S. Reserve Position were positive $156 million for FY2017, negative $204 million for FY2018, negative $486 for FY2019, and positive $919 million for FY2020.[4] Valuation changes on the reserve position are unrealized and can fluctuate significantly from year to year.

Estimating the Financial Implications of U.S. Participation in the SDR Department

Three elements go into estimating the financial implications of U.S. participation in the IMF in the IMF's SDR Department:

- Interest paid by the United States on increased borrowing to finance acquisition of SDRs.
- Interest received by the United States on the U.S. holdings of SDRs.
- Changes to the value of U.S. holdings of SDRs, as a result of fluctuations in the value of the U.S. dollar relative to the SDR.

Holdings of SDRs represent an asset, while cumulative allocations received represent a liability. When the United States receives an allocation of SDRs, the United States incurs a liability to the IMF as an offset to its increased holdings of SDRs. The United States can increase its holdings of SDRs by buying SDRs in exchange for dollars, and this causes the U.S. cash position to decline, increasing federal borrowing requirements. When the United States sells SDRs in exchange for dollars, federal borrowing requirements are reduced. When the United States transfers SDRs to the IMF as a part of a quota increase, U.S. holdings of SDRs decline but the U.S. cash position and federal borrowing requirements remain unchanged.[5]

As shown in Table 2a, over the period fiscal year 2001 through fiscal year 2020, the average annual net interest income effect of U.S. participation in the SDR Department was negative $3 million, while the cumulative net interest income effect was negative $52 million. During the same period, the average annual valuation change on U.S. SDR holdings was positive $36 million, while the cumulative valuation change was positive $724 million.

As shown in Table 2b, the net interest income effect of U.S. participation in the SDR Department was negative $10 million for FY2017, negative $18 million for FY2018, negative $22 million for FY2019, and negative $6 million for FY2020. The valuation change on U.S. SDR holdings was positive $45 million for FY2017, negative $22 million for FY2018, negative $41 million for FY2019, and positive $62 million for FY2020.[6]

After transmittal, this report, as with previous reports, will be posted on the Treasury website.

---

[4] For an explanation of the methodology used in deriving these figures, see the section on "Estimating the Financial Implications of U.S. Participation in the General Department" in the report prepared for the fourth quarter of fiscal year 2000, submitted in December 2000 and available at https://www.treasury.gov/press-center/press-releases/Documents/report30732.pdf.

[5] These costs are accounted for under "U.S. participation in the General Department."

[6] For an explanation of the methodology used in deriving these figures, see the section on "Estimating the Financial Implications of U.S. Participation in the SDR Department" in the report prepared for the fourth quarter of fiscal year 2000, submitted in December 2000 and available at https://www.treasury.gov/press-center/press-releases/Documents/report30732.pdf.

Table 1a - Annual U.S. Participation in the IMF's General Department

-- General Department --
U.S. Fiscal Year, Annually
(millions of U.S. Dollars)

Year	Transactions with the IMF			Interest Calculations			Valuation	Total
	Outstanding Credit under U.S. Quota (Letter of Credit & Transfers of Reserve Assets)	Outstanding U.S. Loans to IMF (Under GAB, NAB)	Total Outstanding U.S. Credit with the IMF/1	Interest Expense Associated with Financing U.S. Transactions with the IMF	Remuneration Received by U.S. from IMF & Refund of Burden Sharing	Net Interest Income	Valuation Changes on U.S. Reserve Position	Total
			(Col. 1 + 2)	(Col. 4a + 4b)		(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	**Col. 2**	**Col. 3**	**Col. 4**	**Col. 5**	**Col. 6**	**Col. 7**	**Col. 8**
2001	$18,528	$0	$18,528	-$539	$492	-$47	-$47	-$95
2002	$20,977	$0	$20,977	-$333	$372	$38	$446	$484
2003	$24,200	$0	$24,200	-$286	$348	$62	$1,722	$1,784
2004	$19,577	$0	$19,577	-$282	$300	$18	$648	$666
2005	$13,428	$0	$13,428	-$357	$316	-$41	-$54	-$95
2006	$6,756	$0	$6,756	-$205	$210	$5	$107	$112
2007	$4,616	$0	$4,616	-$78	$107	$29	$259	$288
2008	$4,838	$0	$4,838	-$81	$59	-$22	-$95	-$117
2009	$13,513	$0	$13,513	-$45	$40	-$5	$548	$543
2010	$13,082	$0	$13,082	-$43	$23	-$20	-$166	-$186
2011	$22,810	$6,148	$28,958	-$87	$63	-$24	-$226	-$250
2012	$23,654	$11,753	$35,407	-$92	$52	-$40	-$298	-$338
2013	$19,990	$13,624	$33,614	-$102	$24	-$78	-$184	-$262
2014	$14,854	$13,665	$28,519	-$119	$28	-$91	-$643	-$734
2015	$9,507	$9,528	$19,035	-$74	$10	-$64	-$1,088	-$1,152
2016	$10,024	$8,619	$18,643	-$64	$8	-$56	-$85	-$141
2017	$11,964	$7,372	$19,336	-$140	$52	-$89	$156	$67
2018	$15,813	$4,502	$20,315	-$266	$123	-$143	-$204	-$346
2019	$23,404	$2,518	$25,922	-$431	$210	-$221	-$486	-$707
2020	$31,724	$1,701	$33,425	-$174	$123	-$51	$919	$868
Total						**-$841**	**$1,229**	**$388**
Annual Average						**-$42**	**$61**	**$19**

Table 1b – Quarterly U.S. Participation in the IMF's General Department

-- General Department --

U.S. Fiscal Year, Quarterly

(millions of U.S. Dollars)

Quarter	Transactions with the IMF			Interest			Valuation	Total
	Outstanding Credit under U.S. Quota (Letter of Credit & Transfers of Reserve Assets)	Outstanding U.S. Loans to IMF (Under GAB, NAB)	Total Outstanding U.S. Credit with the IMF/1	Interest Expense Associated with Financing U.S. Transactions with the IMF	Remuneration Received by U.S. from IMF & Refund of Burden Sharing	Net Interest Income	Valuation Changes on U.S. Reserve Position	Total
			(Col. 1 - 2)			(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
FY 2017								
Q1: Oct - Dec 2016	$10,379	$8,301	$18,680	-$23	$3	-$20	-$376	-$396
Q2: Jan - Mar 2017	$10,592	$7,998	$18,590	-$33	$10	-$23	$96	$73
Q3: Apr - June 2017	$10,939	$8,202	$19,140	-$41	$15	-$26	$265	$239
Q4: July - Sept 2017	$11,964	$7,372	$19,336	-$44	$24	-$20	$172	$152
Total						**-$89**	**$156**	**$67**
FY 2018								
Q1: Oct - Dec 2017	$12,146	$5,782	$17,928	-$48	$24	-$25	$84	$59
Q2: Jan - Mar 2018	$12,647	$5,575	$18,222	-$59	$30	-$29	$247	$218
Q3: Apr - June 2018	$15,627	$5,143	$20,770	-$72	$31	-$41	-$411	-$452
Q4: July - Sept 2018	$15,813	$4,502	$20,315	-$86	$39	-$48	-$124	-$171
Total						**-$143**	**-$204**	**-$346**
FY 2019								
Q1: Oct - Dec 2018	$19,002	$3,305	$22,306	-$103	$43	-$60	-$38	-$98
Q2: Jan - Mar 2019	$19,406	$2,976	$22,381	-$108	$52	-$56	-$35	-$91
Q3: Apr - June 2019	$22,074	$2,591	$24,666	-$115	$56	-$59	$33	-$26
Q4: July - Sept 2019	$23,404	$2,518	$25,922	-$105	$59	-$46	-$447	-$492
Total						**-$221**	**-$486**	**-$707**

Table 1b – Quarterly U.S. Participation in the IMF's General Department *(continued)*

-- General Department --
U.S. Fiscal Year, Quarterly
(millions of U.S. Dollars)

Quarter	Transactions with the IMF			Interest			Valuation	Total
	Outstanding Credit under U.S. Quota (Letter of Credit & Transfers of Reserve Assets)	Outstanding U.S. Loans to IMF (Under GAB, NAB)	Total Outstanding U.S. Credit with the IMF/1	Interest Expense Associated with Financing U.S. Transactions with the IMF	Remuneration Received by U.S. from IMF & Refund of Burden Sharing	Net Interest Income	Valuation Changes on U.S. Reserve Position	Total
			(Col. 1 - 2)			(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
FY 2020								
Q1: Oct - Dec 2019	$23,988	$2,455	$26,444	-$88	$53	-$35	$330	$295
Q2: Jan - Mar 2020	$23,799	$1,983	$25,782	-$62	$45	-$16	-$306	-$323
Q3: Apr - June 2020	$29,069	$1,853	$30,922	-$11	$20	$9	$222	$230
Q4: July - Sept 2020	$31,724	$1,701	$33,425	-$13	$5	-$8	$673	$665
Total						**-$51**	**$919**	**$868**

TABLE 1
Footnotes to Columns

Column 1: Total outstanding credit under the U.S. quota, including drawings by the IMF under the U.S. letter of credit, the transfers of reserve assets to the IMF, and gold transfers prior to 1978.

Column 2: Total outstanding dollar funding through loans to the IMF made by the U.S. under the General Arrangements to Borrow (GAB, in FY 1998) and the New Arrangements to Borrow (NAB, in FY 1999 and in FY 2011-present). U.S. loans under the GAB in FY 1998 and NAB in FY 1999 have been repaid. The GAB expired in 2018.

Column 3: Total outstanding U.S. credit with the IMF (horizontal summation of columns 1 and 2).

Column 4: Total interest expense associated with total cumulative transactions shown in column 3. This includes interest paid on incremental public borrowing to fund the IMF's use of U.S. dollars and SDRs under quota and any transfer of U.S. dollars to the IMF under loan arrangements (Supplementary Financing Facility, GAB, NAB), as well as interest income forgone on foreign currencies transferred to the IMF at the time of a quota increase. As Treasury increases its net borrowing from the public in order to provide U.S. dollars or SDRs to the IMF under quota or other loan arrangements, the interest cost associated with such borrowing is calculated using Treasury's average cost of funds. This interest cost enters the federal budget as part of interest on the public debt. For purposes of calculating forgone interest on the transfer of foreign currencies to the IMF, the SDR interest rate is used.

Column 5: Total interest income received through the U.S. reserve position and loans under GAB and NAB. The U.S. reserve position in the IMF is an interest-bearing asset of the Treasury General Account (TGA). This interest ("remuneration") is paid by the IMF every IMF fiscal quarter and is recorded in the federal budget as a negative outlay. The IMF normally pays remuneration in SDRs, which become resources of the Exchange Stabilization Fund (ESF). In return, the ESF transfers an equivalent dollar amount to the TGA. The transfer of dollars from the ESF to the TGA has no effect on Treasury's cash position. If the United States were to request payment in dollars, the payment would be in the form of a decrease in the U.S. letter of credit and a counterpart increase in the U.S. reserve position, but no flow of cash to the TGA.

Column 6: Total net interest paid, forgone, or received as a result of U.S. participation in the General Department of the IMF.

Column 7: The U.S. reserve position in the IMF is denominated in SDRs. The valuation gain (if positive) or loss (if negative) refers to the exchange rate gain or loss on the reserve position due to changes in the dollar value of the SDR. For example, if the SDR appreciates/dollar depreciates, then the dollar value of the reserve position rises and a valuation gain is recorded. This column would also include valuation gains or losses experienced as a result of U.S. loans under the SFF, GAB and NAB.

Column 8: The total of net interest and valuation changes, obtained by summing column 6 and column 7.

Table 2a - Annual U.S. Participation in the IMF's SDR Department

-- SDR Department --
U.S. Fiscal Year, Annually
(millions of U.S. Dollars)

Year	Net SDR Holdings			Interest			Valuation	Total
	SDR Holdings	Cumulative SDR Allocation	Net SDR Holdings	Interest Income on Net SDR Holdings	Interest Expense to finance Net SDR Holdings	Net Interest Income	Valuation Changes	Total
			(Col. 1 - 2)			(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	**Col. 2**	**Col. 3**	**Col. 4**	**Col. 5**	**Col. 6**	**Col. 7**	**Col. 8**
2001	$10,919	$6,316	$4,604	$176	-$201	-$25	-$20	-$44
2002	$11,710	$6,481	$5,229	$118	-$100	$18	$134	$152
2003	$12,062	$7,005	$5,057	$97	-$68	$29	$396	$425
2004	$12,782	$7,197	$5,585	$87	-$79	$8	$137	$145
2005	$8,245	$7,102	$1,143	$114	-$106	$8	-$14	-$5
2006	$8,655	$7,234	$1,421	$44	-$62	-$17	$25	$8
2007	$9,301	$7,627	$1,674	$63	-$77	-$14	$81	$67
2008	$9,418	$7,630	$1,788	$59	-$44	$15	-$3	$12
2009	$57,945	$55,953	$1,992	$20	-$14	$7	$33	$40
2010	$57,410	$54,958	$2,453	$6	-$17	-$11	-$38	-$50
2011	$55,875	$55,150	$726	$7	-$6	$1	$34	$35
2012	$55,232	$54,463	$769	$1	-$3	-$1	-$9	-$10
2013	$54,966	$54,177	$789	$1	-$3	-$2	-$4	-$6
2014	$53,148	$52,358	$790	$1	-$4	-$3	-$27	-$31
2015	$50,332	$49,574	$758	$0	-$4	-$3	-$42	-$45
2016	$50,054	$49,294	$760	$0	-$4	-$4	-$4	-$8
2017	$51,443	$49,912	$1,532	$4	-$15	-$10	$45	$34
2018	$50,918	$49,274	$1,644	$12	-$31	-$18	-$22	-$40
2019	$49,976	$48,146	$1,830	$18	-$41	-$22	-$41	-$63
2020	$51,733	$49,709	$2,024	$10	-$15	-$6	$62	$57
Total						**-$52**	**$724**	**$672**
Annual Average						**-$3**	**$36**	**$34**

Table 2b - Quarterly U.S. Participation in the IMF's SDR Department

-- SDR Department --

U.S. Fiscal Year, Quarterly

(millions of U.S. Dollars)

Quarter	Net SDR Holdings			Interest			Valuation	Total
	SDR Holdings	Cumulative SDR Allocation	Net SDR Holdings	Interest Income on Net SDR Holdings	Interest Expense to finance Net SDR Holdings	Net Interest Income	Valuation Changes	Total
			(Col. 1 - 2)			(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
FY 2017								
Q1: Oct - Dec 2016	$48,882	$47,476	$1,407	$0	-$2	-$2	-$28	-$30
Q2: Jan - Mar 2017	$49,349	$47,918	$1,430	$1	-$4	-$3	$13	$10
Q3: Apr - June 2017	$50,620	$49,138	$1,482	$1	-$4	-$3	$36	$34
Q4: July - Sept 2017	$51,443	$49,912	$1,532	$2	-$5	-$3	$23	$21
Total						**-$10**	**$45**	**$34**
FY 2018								
Q1: Oct - Dec 2017	$51,864	$50,294	$1,569	$2	-$6	-$3	$12	$8
Q2: Jan - Mar 2018	$52,979	$51,344	$1,635	$3	-$7	-$4	$33	$28
Q3: Apr - June 2018	$51,288	$49,674	$1,614	$3	-$9	-$5	-$53	-$58
Q4: July - Sept 2018	$50,918	$49,274	$1,644	$4	-$9	-$5	-$13	-$18
Total						**-$18**	**-$22**	**-$40**
FY 2019								
Q1: Oct - Dec 2018	$50,803	$49,117	$1,686	$4	-$11	-$7	-$5	-$12
Q2: Jan - Mar 2019	$50,766	$49,027	$1,739	$5	-$11	-$6	-$3	-$9
Q3: Apr - June 2019	$50,898	$49,096	$1,802	$5	-$11	-$6	$2	-$3
Q4: July - Sept 2019	$49,976	$48,146	$1,830	$5	-$9	-$4	-$35	-$39
Total						**-$22**	**-$41**	**-$63**

Table 2b - Quarterly U.S. Participation in the IMF's SDR Department *(continued)*

-- SDR Department --

U.S. Fiscal Year, Quarterly
(millions of U.S. Dollars)

Quarter	Net SDR Holdings			Interest			Valuation	Total
	SDR Holdings	Cumulative SDR Allocation	Net SDR Holdings	Interest Income on Net SDR Holdings	Interest Expense to finance Net SDR Holdings	Net Interest Income	Valuation Changes	Total
			(Col. 1 - 2)			(Col. 4 + 5)		(Col. 6 + 7)
	Col. 1	**Col. 2**	**Col. 3**	**Col. 4**	**Col. 5**	**Col. 6**	**Col. 7**	**Col. 8**
FY 2020								
Q1: Oct - Dec 2019	$50,749	$48,836	$1,913	$4	-$8	-$4	$26	$22
Q2: Jan - Mar 2020	$50,136	$48,199	$1,937	$4	-$6	-$2	-$25	-$27
Q3: Apr - June 2020	$50,556	$48,584	$1,973	$2	-$1	$1	$15	$16
Q4: July - Sept 2020	$51,733	$49,709	$2,024	$0	-$1	-$1	$46	$45
Total						**-$6**	**$62**	**$57**

TABLE 2
Footnotes to Columns

Column 1: Total stock of U.S. holdings of SDRs measured at the end of period, converted into dollars at the end of period exchange rate. Source: IMF.

Column 2: Total stock of U.S. SDR allocations measured at the end of period, converted into dollars at the end of period exchange rate. Changes in the dollar value of cumulative SDR allocations reflect new SDR allocations as well as exchange rate changes.

Column 3: Total stock of U.S. SDR holdings minus allocations measured from end of period (Column 1 minus Column 2), converted into dollars at the end of period exchange rate.

Column 4: Net interest earned on SDR holdings. Derived by subtracting actual charges on SDR allocations from actual interest earned on SDR holdings.

Column 5: Net effect on U.S. borrowing costs of cumulative net SDR holdings, derived by multiplying the dollar equivalent of cumulative net SDR holdings by Treasury's average cost of funds rate. Interest is calculated on the basis of end-quarter holdings and compounded quarterly.

Column 6: Net interest income (Column 4 plus Column 5).

Column 7: The valuation change refers to the gain or loss over the period on the reserve position due to changes in the dollar value of the SDR. For example, if the SDR appreciates/dollar depreciates, then the impact on the dollar value of U.S. holdings of SDRs is positive, and a valuation gain is recorded. The change is calculated by subtracting the beginning of period dollar value of SDR reserves from the same SDR reserve figure converted to dollars using the end of period exchange rate. This isolates changes due to exchange rate movements from changes due to actual SDR transactions over the period.

Column 8: The total net interest and valuation changes (sum of Columns 6 and 7).

Annex – Methodological Changes

This report includes two methodological changes to estimate the financial implications of U.S. participation in the IMF. These changes arise due to the theoretical nature of this report and the inherent need for judgment. When the United States lends to the IMF, the United States earns interest on a quarterly basis which can be accounted for through cash deposits into the Treasury General Account. However, the United States does not directly borrow from the public each time the IMF draws from the U.S. letter of credit. Interest expense associated with financing transactions with the IMF must therefore be estimated.

Change #1: calculating stock of IMF lending through quota using the IMF's reserve position

To estimate the interest expense associated with financing quota-based transactions with the IMF, we need to calculate the outstanding stock of lending to the IMF under quota. Prior reports calculated this stock using the cumulative monthly changes in the U.S. letter of credit to the IMF since 1980, net of any valuation changes and quota increases. However, after consultations with IMF staff, we have discovered that this method may count unrelated transfers such as income transfers and gold sales toward the outstanding stock of lending to the IMF. Furthermore, this method does not account for any lending prior to 1980.[1]

IMF staff have recommended that we calculate the outstanding stock of lending to the IMF under quota using the U.S. reserve position at the IMF. The reserve position comprises all outstanding transfers from the United States to the IMF as a part of the U.S. quota subscription, including loans under quota, reserve asset payments under a quota increase, and all gold transfers prior to 1978. To calculate the total stock of transactions with the IMF, we sum the reserve position and the IMF's No. 1 account.[2] Using the non-gold portion of this stock, we estimate interest expense for U.S. dollars and SDRs transferred using the U.S. average cost of funds. For simplicity, we continue to estimate interest expense for foreign currencies transferred to the IMF using the SDR interest rate, since assets transferred are currencies that make up the SDR.

Change #2: estimating interest costs of transferring SDRs using U.S. average cost of funds

There is an inconsistency in how prior reports calculated interest expense for SDR holdings relative to SDR transfers to the IMF. The reports estimated interest expense for SDR holdings using the U.S. average cost of funds, as the United States has to finance U.S. dollars in order to purchase SDRs. However, the reports also estimated interest expense for SDR transfers to the IMF under a quota increase using the SDR interest rate, due to the decrease in interest-bearing assets. To resolve this inconsistency, we only use the U.S. average cost of funds to estimate interest expenses related to SDR holdings and transfers, as the underlying cost is the U.S. dollar.

[1] Prior to 1980, the U.S. lent 1.675 billion SDR worth of gold (about $2.3 billion in 2018) to the IMF—for which the U.S. neither receives interest nor pays interest to finance—and about $1 billion in U.S. dollars, for which the United States earns interest and incurs an interest expense.

[2] The No. 1 account represents part of the IMF currency holdings held at the Federal Reserve Bank of New York which is used for the IMF's operations, including quota subscription payments, purchases, and repurchases. The United States is required to maintain a minimum in No. 1 account equal to 1/4 of 1 percent of the U.S. quota (currently about $290 million).

Table 3 - Methodology Comparison

-- General Department --
U.S. Fiscal Year, Annually
(millions of U.S. Dollars)

Year	Transactions			Interest Expense			Net Interest Income		
	Total U.S. Transactions with the IMF *Cumulative*			Interest Expense Associated with Financing U.S. Transactions with the IMF			Net Interest Income		
	Prior Methodology	Change #1 Only[1]	Changes #1 and #2[2]	Prior Methodology	Change #1 Only[1]	Changes #1 and #2[2]	Prior Methodology	Change #1 Only[1]	Changes #1 and #2[2]
2001	$15,632	$18,528	$18,528	-$484	-$504	-$539	$7	-$12	-$47
2002	$17,635	$20,977	$20,977	-$337	-$346	-$333	$34	$25	$38
2003	$19,136	$24,200	$24,200	-$283	-$308	-$286	$65	$41	$62
2004	$13,867	$19,577	$19,577	-$249	-$296	-$282	$50	$3	$18
2005	$7,772	$13,428	$13,428	-$237	-$330	-$357	$79	-$14	-$41
2006	$1,023	$6,756	$6,756	-$85	-$142	-$205	$125	$68	$5
2007	-$1,375	$4,616	$4,616	-$4	-$35	-$78	$103	$72	$29
2008	$2,285	$4,838	$4,838	-$5	-$118	-$81	$54	-$59	-$22
2009	$15,655	$13,513	$13,513	-$30	-$38	-$45	$10	$2	-$5
2010	$14,692	$13,082	$13,082	-$60	-$17	-$43	-$36	$6	-$20
2011	$24,395	$28,958	$28,958	-$97	-$80	-$87	-$33	-$17	-$24
2012	$35,180	$35,407	$35,407	-$77	-$76	-$92	-$24	-$24	-$40
2013	$35,892	$33,614	$33,614	-$96	-$79	-$102	-$73	-$55	-$78
2014	$30,467	$28,519	$28,519	-$118	-$88	-$119	-$89	-$60	-$91
2015	$31,612	$19,035	$19,035	-$82	-$43	-$74	-$71	-$33	-$64
2016	$22,231	$18,643	$18,643	-$61	-$26	-$64	-$53	-$18	-$56
2017	$24,470	$19,336	$19,336	-$120	-$98	-$140	-$68	-$46	-$89
2018	$29,761	$20,315	$20,315	-$255	-$191	-$266	-$131	-$68	-$143
2019	$44,419	$25,922	$25,922	-$513	-$342	-$431	-$303	-$132	-$221
2020	$53,569	$33,425	$33,425	-$246	-$143	-$174	-$123	-$20	-$51
Total				**-$3,437**	**-$3,300**	**-$3,800**	**-$478**	**-$341**	**-$841**
Annual Average				**-$172**	**-$165**	**-$190**	**-$24**	**-$17**	**-$42**

Note: Calculations under the SDR Department remain unchanged from previous reports. "Remuneration Received by U.S. from IMF & Refund of Burden Sharing" and "Valuation Changes on U.S. Reserve Position" also remain unchanged from previous reports.

[1] "Change #1 Only" only incorporates methodology change #1, as discussed in the Annex.
[2] "Changes #1 and #2" incorporates change #1 and change #2, as discussed in the Annex. This is the method used in the main body of the paper.