STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE CITY OF COLUMBUS, INDIANA, FOR (1) AUTHORITY TO ISSUE BONDS, NOTES, OR OTHER OBLIGATIONS, (2) AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE, (3) APPROVAL OF NEW SCHEDULES OF WATER RATES AND CHARGES, AND (4) AUTHORITY TO ESTABLISH AND IMPLEMENT SYSTEM DEVELOPMENT CHARGES.	))))))))))	**CAUSE NO. 45427**

PUBLIC'S EXHIBIT NO. 3

TESTIMONY

OF

SHAWN W. DELLINGER

ON BEHALF OF

THE INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

December 11, 2020

Respectfully Submitted,

Daniel M. Le Vay, Atty. No. 22184-49
Deputy Consumer Counselor
Scott Franson, Atty. No. 27839-49
Deputy Consumer Counselor
115 W. Washington St., Suite 1500 South
Indianapolis, IN 46204

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Public's Exhibit No. 3, Testimony of Shawn W. Dellinger on behalf of the Indiana Office of Utility Consumer Counselor's*** has been served upon the following counsel of record in the captioned proceeding by electronic service on December 11, 2020.

Nicholas K. Kile
Lauren M. Box
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Email: nicholas.kile@btlaw.com
lbox@btlaw.com

J. Christopher Janak
Jeffery A. Earl
BOSE MCKINNEY & EVANS LLP
111 Monument Circle, Suite 2700
Indianapolis, IN 46204
E-mail: cjanak@boselaw.com
jearl@boselaw.com

Daniel M. Le Vay
Deputy Consumer Counselor

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
115 West Washington Street
Suite 1500 South
Indianapolis, IN 46204
infomgt@oucc.in.gov
317/232-2494 – Phone
317/232-5923 – Facsimile

TESTIMONY OF OUCC WITNESS SHAWN DELLINGER
CAUSE NO. 45427
CITY OF COLUMBUS

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Shawn Dellinger, and my business address is 115 W. Washington St., Suite 1500 South, Indianapolis, IN 46204.

Q: By whom are you employed and in what capacity?

A: I am a Utility Analyst in the Water/Wastewater division employed by the Indiana Office of Utility Consumer Counselor ("OUCC"). My focus is on financial issues.

Q: Please describe your educational background and experience.

A: My credentials are set forth in Appendix A.

Q: What is the purpose of your testimony?

A: The City of Columbus ("Petitioner" or "Columbus") requests authority to issue $22,200,000 of long-term debt in two tranches at interest rates of 3% and 3.3% subject to true-up. I recommend Columbus be authorized to issue the amount of debt, as it has proposed, but that the debt service and debt service reserve revenue requirements be based on interest rates of 2.5% and 2.8%, subject to true-up. I recommend a true-up process so that rates will conform to the actual terms of the debt once issued. Finally, I recommend that, once the debt service reserve is fully funded, Columbus reduce its rates.

Q: What did you do to prepare your testimony?

A: I reviewed the petition and the testimony of Douglas L. Baldessari. I prepared discovery questions and reviewed Petitioner's responses to discovery. I also reviewed various State Revolving Fund ("SRF") documents and presentations, Value Line and other services' interest rate summaries, and Federal Reserve press releases.

II. DEBT SERVICE REVENUE REQUIREMENT

Q: Please describe Petitioner's proposed debt service revenue requirement.

A: Petitioner proposes to borrow $22,200,000 from the State Revolving Fund ("SRF") to fund the construction of various capital projects. Petitioner proposes to split these borrowings into two tranches - a $14,725,000 issuance to be paid over 20 years followed by a $7,475,000 issuance to be paid over 35 years. Petitioner estimates the interest rates on these debt issuances will be 3.0% and 3.3%, respectively. Petitioner calculated annual debt service of $688,425 for Phase 1 rates (projected to be implemented approximately August 1, 2021) and $1,358,051 for Phase 2 rates (projected to be implemented approximately January 1, 2023.)[1] These amounts reflect interest only payments in Phase 1 and payments of interest and principal in Phase 2 and beyond.

Q: Is this borrowing appropriate and necessary?

A: Yes. The proposed capital projects are reasonable and necessary and Petitioner's proposal to debt fund $22,200,000 of these capital projects in two tranches is appropriate.[2] Further, Petitioner is utilizing excess cash on hand to minimize the necessary borrowings, which is in the ratepayers' best interest. I recommend approval of this proposal.

[1] See Petitioner Attachment DLB-1, Schedule of Proposed Combined Bond Amortization, page 15.
[2] For a detailed discussion of Petitioner's proposed capital projects, please see the testimony of OUCC Witness Kristen Willoughby.

Q: Is Petitioner's proposal to issue the debt in two tranches appropriate?

A: Yes. Petitioner is taking advantage of an SRF program that allows certain capital projects to be funded over a period of up to 35 years. Although this extension incurs a higher interest rate, this higher expense is more than offset by the lower overall annual payments due to the extended term. Further, extending the term of the loan in this way more closely aligns the cost with the expected service life of these projects preventing intergenerational inequities.

Q: Do you accept Petitioner's proposed interest rates of 3.0% and 3.3%?

A: No. Mr. Baldessari noted in his testimony that the current SRF interest rate is 2.0% for the 20-year loan and 2.3% for the 35-year loan.[3] Mr. Baldessari explained Petitioner added 100 basis points to propose initial rates based on interest rates of 3.0% and 3.3% because of the risk interest rates will rise before bond closing and the risk the bonds will not receive subsidized interest rate funding causing Petitioner to secure funds through the SRF pooled financing program.[4] Embedding an additional 100 basis points is not justified or necessary.

Q: Why is an additional 100 basis points not justified or necessary?

A: Petitioner proposes to issue these bonds in two tranches in August of 2021.[5] Currently, SRF interest rates are confirmed through December 31, 2020. This 2% rate has been stable since at least July of 2019. Interest rates are always unknowable in the future. However, as can be seen in Attachment SWD-2, which is a series of various projected interest rates provided by Value Line, rates are not anticipated to increase by anything close to 100 basis

[3] Mr. Baldessari's Testimony, page 12.
[4] Id.
[5] See Mr. Baldessari's Testimony, attachment DLB-1, pages 16 and 17.

points in the next nine months.[6] Further, as can be seen in Attachment SWD-3, the Federal Reserve Board members and Federal Reserve Bank Presidents are unanimous in their forecast that the Fed Funds rate will stay at the current 0-.25% rate through 2021.[7] The risk that Columbus will not qualify for SRF funding may be low, but the risk is not zero. However, if this does occur, Columbus will likely qualify for pooled funding from SRF. Pooled funding is based on a pass-through AAA interest rate from SRF, which should be materially below the 3% interest rate for a 20-year term.

Q: What is your recommendation for compensating for potential increases in interest rates?

A: I propose a more moderate adder of 50 basis points to compensate for the possibility of increased interest rates yielding a 2.5% interest rate for the 20-year loan and 2.8% for the 35-year loan. Based on these interest rates, the appropriate revenue requirement for Phase 1, which reflects interest payments only on the two bond issuances, is $577,425. The appropriate revenue requirement for Phase 2, which reflect interest and principal payments, is $1,276,511. Please see OUCC Attachment SWD-1.

III. DEBT SERVICE RESERVE

Q: What debt service reserve revenue requirement does Petitioner propose?

A: Petitioner proposes an annual debt service reserve revenue requirement of $271,610.

[6] For instance, 10 Year Treasurys are anticipated to be 0.8% in Q4 2020 and 1.0% in Q3 of 2021 (+20 bp). Long-Term Treasurys are projected to be 1.6% in Q4 of 2020 and 1.9% in Q3 of 2021 (+30 bp). The Prime Rate is projected to be at 3.3% from Q4 2020 until Q1 2022 (no change). The AAA Corporate Bond Rate is projected to be 2.3% in Q4 2020 and 2.1% in Q3 2021 (-20 bp). Source: Value Line Investment Survey Selection and Opinion, dated November 27, 2020.

[7] This forecast is most easily seen in the dot plot graph, which shows the expectations for each member of the Federal Open Market Committee. Only two pages are included in Attachment SWD-3, full press release is located here: https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20200916.pdf.

Q: Do you accept Petitioner's proposed debt service reserve revenue requirement?

A: No. While I accept Petitioner's methodology used to determine its proposed debt service reserve revenue requirement, my recommended interest rate impacts the amount of debt service reserve required.

Q: What debt service reserve revenue requirement do you recommend?

A: When adjusting the interest rate to 2.5% for the 20-year bond and 2.8% for the 35-year bond, the projected average annual debt payment is $1,276,511. SRF requires the debt service reserve to be funded over a five-year period. Amortizing $1,276,511 over five years yields an annual debt service reserve requirement of $255,302. See OUCC Attachment SWD-1 for details on this calculation.[8]

Q: The debt service reserve is anticipated to be fully funded by approximately August 2026. Do you recommend any actions at that time?

A: Yes. Once the debt service reserve is fully funded, the $255,302 annual revenue requirement is no longer needed, and customer rates should be reduced. At that time, Petitioner should file a tariff update removing the debt service reserve revenue requirement from rates.

Q: Should there be any restrictions placed on Petitioner's debt service reserve?

A: Yes. Petitioner's debt service reserve should be placed in a restricted account, and Petitioner should notify the Commission and the OUCC if it spends any funds from its debt service reserves for any reason other than to make the last payment on its proposed debt issuances. Petitioner should be required to provide a report to the Commission and the

[8] In this case, the average annual debt payment is determined by an Excel formula as indicated in the attachment. The actual payment will be different, due to the lumpiness of the principal payments. However, this difference should be immaterial. Further, utilizing the highest debt payment over a five-year period is not a concern, as all payments are the same with this method, so the highest debt service payment and the average debt service payment over a five year period are the same.

OUCC within five (5) business days of any such transaction. The report should state how much Petitioner spent from its debt service reserve, explain why it spent funds from its debt service reserve, provide a cite to any applicable loan documents that allow it to spend funds from its debt service reserve, describe its plans to replenish its debt service reserve, and describe any cost cutting measures it has implemented to forestall spending funds from its debt service reserve.

IV. DEBT TRUE-UP

Q: Should Petitioner be required to true-up its proposed annual debt service once the interest rates on its proposed debt are known?

A: Yes. The precise interest rates and annual debt service will not be known until Petitioner's debt is issued; therefore, Petitioner's rates should be trued-up to reflect the actual cost of the debt.[9] I recommend the Commission require Petitioner to file a report within thirty (30) days of closing on each of its long term debt issuances explaining the terms of the new loan, the amount of debt service reserve and an itemized account of all issuance costs. The report should include a revised tariff, amortization schedule and indicate the effect on rates.

Q: When should any changes to Petitioner's debt service requirements be implemented?

A: Because Petitioner proposed limiting its Phase 1 rate increase, any adjustment to debt service would likely not affect Phase 1 rates. Phase 2 rates are projected to be implemented concurrently with the beginning of principal payments on the bonds estimated to occur January 1, 2023. The true-up report will affect Phase 2 rates. The Phase 3 increase will not be affected by the terms of the borrowing.

[9] This section is consistent with but more in depth than Mr. Baldessari's testimony on page 13, lines 14-21.

Q: How should disputes regarding Petitioner's true-up report be identified?

A: The OUCC should have no less than fourteen (14) days after service of the true-up report to challenge Petitioner's proposed true-up. Petitioner should similarly have fourteen (14) days to file a response to the OUCC. Thereafter, the Commission should resolve any issue raised through a process it deems appropriate. Any true-up report should state the time frames for objections or responses.

Q: Should there be any exceptions to the requirement for a true-up?

A: Yes. If both parties state in writing that the increase or decrease indicated by the report need not occur because the increase or decrease would be immaterial, the true-up need not be implemented.

Q: What other conditions should be placed on Petitioner's proposed debt issuance?

A: Financing authority should not continue indefinitely. Petitioner expects to complete its requested borrowing in August of 2021. Any financing authority not used by Petitioner should expire 365 days after a final order has been issued in this cause.

V. RECOMMENDATIONS

Q: Please summarize your recommendations to the Commission in this Cause.

A: I recommend the following:

1. The Commission grant Petitioner the authority to borrow up to $22,200,000.
2. The Commission approve a Debt Service Annual Revenue Requirements of $577,425 for Phase 1.
3. The Commission approve a Debt Service Annual Revenue Requirements of $1,276,511 for Phase 2.
4. The Commission approve a Debt Service Reserve Revenue Requirement of $255,302 for

Phase 1 and 2.

5. The Commission require Petitioner to reduce rates once the Debt Service Reserve has been fully funded to reflect the elimination of the Debt Service Reserve Revenue Requirement.

6. The Commission require Petitioner to follow the true-up procedures concurrent with all Phases as discussed.

Q: Does this conclude your testimony?

A: Yes.

Appendix A

Q: Please describe your educational background.

A: I graduated from Indiana University with a degree in Biology, a minor in Economics and a certificate from the Liberal Arts and Management Program (LAMP) which is an honors certificate program through the Kelley School of Business and the College of Arts and Sciences, at the time restricted to twenty five (25) students per year. After spending time in the job market, I received my MBA from Indiana University with a concentration in finance. I am a member of Phi Beta Kappa honor society for my undergraduate work and Beta Gamma Sigma honor society for my masters program.

Q: Please describe your work experience.

A: My first jobs after graduating with my undergraduate degree were in New York in finance at Grant's Interest Rate Observer, which is a financial newsletter and Lebenthal and Co., which was a municipal bond brokerage. I worked at RCI Sales in Indianapolis, which was a manufacturers representative/distributor in the commercial and institutional plumbing space, as the owner for a number of years, leaving when I sold the company and merged it into a competitor. After receiving my MBA, I worked at Amazon as a financial analyst in their fulfillment division.

Q: How long have you been at the OUCC?

A: I have been a Utility Analyst II in the water division at the OUCC since December of 2019. My focus is financial issues, such as ROE's, Capital Structures, etc.

Q: Have you previously testified before the Indiana Utility Regulatory Commission?

A: Yes, I have testified before the commission regarding various aspects of finance.

OUCC Attachment SWD-1

Source: Petitioner Attachment DLB-1, page 16-17

Columbus Debt Service

	Term-Years		20	Term-Years		35
	Interest Rate-Annual		2.50%	Interest Rate-Annual		2.80%
	Term-6 Months		40	Term-Months		70
	Interest Rate-6 Months		1.250%	Interest Rate-Monthly		1.400%
	Balance	$	14,725,000	Balance	$	7,475,000
	Payment-6 Months		$470,042.82	Payment		$168,212.60
Phase 2	Payment-Annual	$	940,085.64	Payment-Annual	$	336,425.21
	Payment Formula	=-PMT(Interest Rate-6 Months,Term-6 Months,Balance)				
	Total Annual Payment	**$**	**1,276,510.85**			
Phase 1	Interest Only-Annual	$	368,125.00	Interest Only-Annual	$	209,300.00
	Total Annual Interest-Prior to Principal Payments	**$**	**577,425.00**			
DSR	Debt Service Reserve-Annual Payment	**$**	**255,302.17**			
	Debt Service Reserve-Formula	+Total Annual Payment/5				

Value Line Forecast for the U.S. Economy

	Actual	Estimated						
	2020:2	2020:3	2020:4	2021:1	2021:2	2021:3	2021:4	2022:1
Gross Domestic Product and its Components (2012 Chain Weighted $) Billions of Dollars								
Final Sales	17643	18674	18812	18906	18999	19094	19212	19354
Total Consumption	11857	12914	13041	13153	13264	13369	13468	13561
Nonresidential Fixed Investment	2526	2645	2665	2685	2698	2711	2725	2745
Structures	488	469	456	460	462	464	467	470
Equipment & Software	1080	1234	1266	1279	1272	1269	1272	1279
Residential Fixed Investment	571	642	672	663	655	648	643	638
Exports	1927	2166	2228	2322	2351	2408	2466	2519
Imports	2702	3177	3254	3309	3342	3375	3416	3442
Federal Government	1358	1337	1326	1330	1333	1336	1335	1333
State & Local Governments	2014	1997	1982	1989	1992	1994	1997	2002
Gross Domestic Product	19525	21158	21472	21728	21945	22163	22405	22662
Real GDP (2012 Chain Weighted $)	17301	18583	18766	18905	18999	19094	19202	19321
Prices and Wages — Annual Rates of Change								
GDP Deflator	-1.8	3.6	2.0	1.8	2.0	2.0	2.1	2.1
CPI-All Urban Consumers	-3.5	5.2	2.3	2.0	2.3	2.5	2.6	2.6
PPI-Finished Goods	-11.4	7.1	2.0	2.1	2.6	2.8	2.8	2.8
Employment Cost Index—Total Comp.	1.7	2.0	2.5	2.0	2.2	2.2	2.5	3.0
Productivity	10.6	4.9	-5.0	-4.0	-2.0	-1.0	-0.5	0.5
Production and Other Key Measures								
Industrial Prod. (% Change, Annualized)	-42.9	39.8	3.0	2.0	1.0	1.0	1.0	2.0
Factory Operating Rate (%)	63.1	70.3	71.0	71.5	71.0	71.0	71.0	71.0
Nonfarm Inven. Change (2012 Chain Weighted $)	-280.8	-4.9	50.0	70.0	75.0	65.0	55.0	60.0
Housing Starts (Mill. Units)	1.08	1.43	1.45	1.40	1.35	1.35	1.33	1.30
Existing House Sales (Mill. Units)	4.31	6.13	6.25	6.00	6.00	5.95	5.90	5.90
Total Light Vehicle Sales (Mill. Units)	11.3	15.3	16.0	15.7	15.7	15.8	15.8	15.8
National Unemployment Rate (%)	13.0	8.8	6.8	6.0	5.8	5.6	5.5	5.0
Federal Budget Surplus (Unified, FY, $Bill)	-2001	-388	-550	-500	-200	-350	-350	-450
Price of Oil ($Bbl., U.S. Refiners' Cost)	26.68	40.88	45.15	45.00	42.50	46.50	46.00	47.00
Money and Interest Rates								
3-Month Treasury Bill Rate (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Federal Funds Rate (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10-Year Treasury Note Rate (%)	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1
Long-Term Treasury Bond Rate (%)	1.4	1.4	1.6	1.7	1.8	1.9	1.9	2.0
AAA Corporate Bond Rate (%)	2.5	2.2	2.3	2.3	2.2	2.1	2.1	2.1
Prime Rate (%)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Incomes								
Personal Income (Annualized % Change)	34.2	-10.2	-10.0	-3.0	2.0	2.5	3.0	3.5
Real Disp. Inc. (Annualized % Change)	46.6	-16.3	-12.0	-5.0	-2.0	1.0	1.0	1.5
Personal Savings Rate (%)	25.7	15.8	10.0	10.0	10.0	9.0	8.0	8.0
After-Tax Profits (Annualized $Bill)	1557	2399	1801	1652	1650	2279	1837	1702
Yr-to-Yr % Change	-19.7	24.9	-10.0	-5.0	6.0	-5.0	2.0	3.0
Composition of Real GDP-Annual Rates of Change								
Gross Domestic Product	-31.4	33.1	4.0	3.0	2.0	2.0	2.3	2.5
Final Sales	-28.1	25.5	3.0	2.0	2.0	2.0	2.5	3.0
Total Consumption	-33.2	40.7	4.0	3.5	3.4	3.2	3.0	2.8
Nonresidential Fixed Investment	-27.2	20.3	3.0	3.0	2.0	2.0	2.0	3.0
Structures	-33.6	-14.6	-10.0	3.0	2.0	2.0	2.0	2.5
Equipment & Software	-35.9	70.1	11.0	4.0	-2.0	-1.0	1.0	2.0
Residential Fixed Investment	-35.6	59.3	20.0	-5.0	-5.0	-4.0	-3.0	-3.0
Exports	-64.4	59.7	12.0	18.0	5.0	10.0	10.0	9.0
Imports	-54.1	91.1	10.0	7.0	4.0	4.0	5.0	3.0
Federal Government	16.7	-6.2	-3.0	1.0	1.0	1.0	-0.5	-0.5
State & Local Governments	-5.4	-3.3	-3.0	1.5	0.5	0.5	0.5	1.0

For release at 2:00 p.m., EDT, September 16, 2020

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, September 2020

Percent

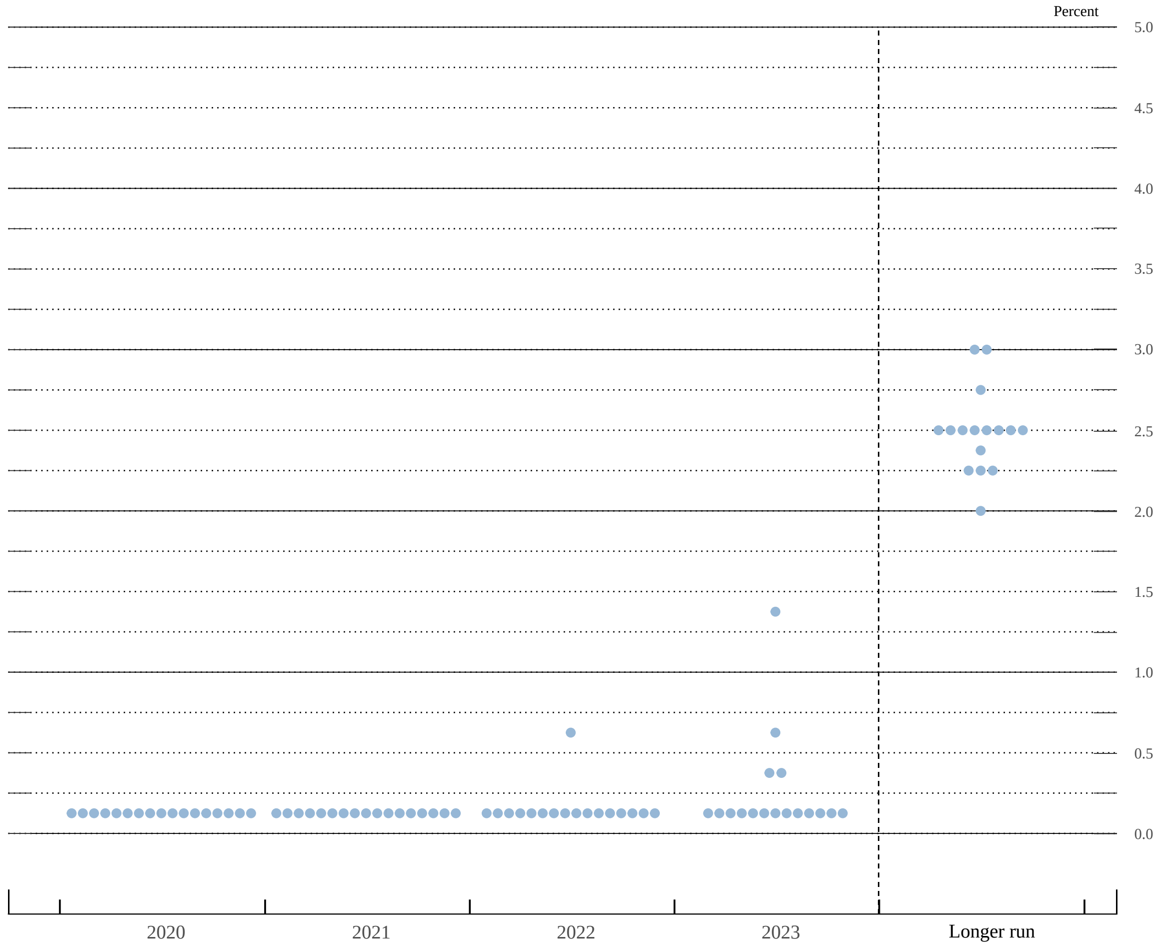
Variable	Median[1]					Central Tendency[2]					Range[3]				
	2020	2021	2022	2023	Longer run	2020	2021	2022	2023	Longer run	2020	2021	2022	2023	Longer run
Change in real GDP	-3.7	4.0	3.0	2.5	1.9	-4.0–-3.0	3.6–4.7	2.5–3.3	2.4–3.0	1.7–2.0	-5.5–1.0	0.0–5.5	2.0–4.5	2.0–4.0	1.6–2.2
June projection	-6.5	5.0	3.5		1.8	-7.6–-5.5	4.5–6.0	3.0–4.5		1.7–2.0	-10.0–-4.2	-1.0–7.0	2.0–6.0		1.6–2.2
Unemployment rate	7.6	5.5	4.6	4.0	4.1	7.0–8.0	5.0–6.2	4.0–5.0	3.5–4.4	3.9–4.3	6.5–8.0	4.0–8.0	3.5–7.5	3.5–6.0	3.5–4.7
June projection	9.3	6.5	5.5		4.1	9.0–10.0	5.9–7.5	4.8–6.1		4.0–4.3	7.0–14.0	4.5–12.0	4.0–8.0		3.5–4.7
PCE inflation	1.2	1.7	1.8	2.0	2.0	1.1–1.3	1.6–1.9	1.7–1.9	1.9–2.0	2.0	1.0–1.5	1.3–2.4	1.5–2.2	1.7–2.1	2.0
June projection	0.8	1.6	1.7		2.0	0.6–1.0	1.4–1.7	1.6–1.8		2.0	0.5–1.2	1.1–2.0	1.4–2.2		2.0
Core PCE inflation[4]	1.5	1.7	1.8	2.0		1.3–1.5	1.6–1.8	1.7–1.9	1.9–2.0		1.2–1.6	1.5–2.4	1.6–2.2	1.7–2.1	
June projection	1.0	1.5	1.7			0.9–1.1	1.4–1.7	1.6–1.8			0.7–1.3	1.2–2.0	1.2–2.2		
Memo: Projected appropriate policy path															
Federal funds rate	0.1	0.1	0.1	0.1	2.5	0.1	0.1	0.1	0.1–0.4	2.3–2.5	0.1	0.1	0.1–0.6	0.1–1.4	2.0–3.0
June projection	0.1	0.1	0.1		2.5	0.1	0.1	0.1		2.3–2.5	0.1	0.1	0.1–1.1		2.0–3.0

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The June projections were made in conjunction with the meeting of the Federal Open Market Committee on June 9–10, 2020. One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate in conjunction with the June 9–10, 2020, meeting, and one participant did not submit such projections in conjunction with the September 15–16, 2020, meeting.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

For release at 2:00 p.m., EDT, September 16, 2020

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



Note. Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.