# Target Date Analysis

4Q 2023

PREPARED FOR

Sample Client

PREPARED BY

Fiduciary Advisors, LLC Kestra Advisory Services, LLC

TARGET DATE FUNDS

BlackRock LifePath Index

Fidelity Freedom

📮 John Hancock Multimanager Lifetime

JPMorgan SmartRetirement

T. Rowe Price Retirement



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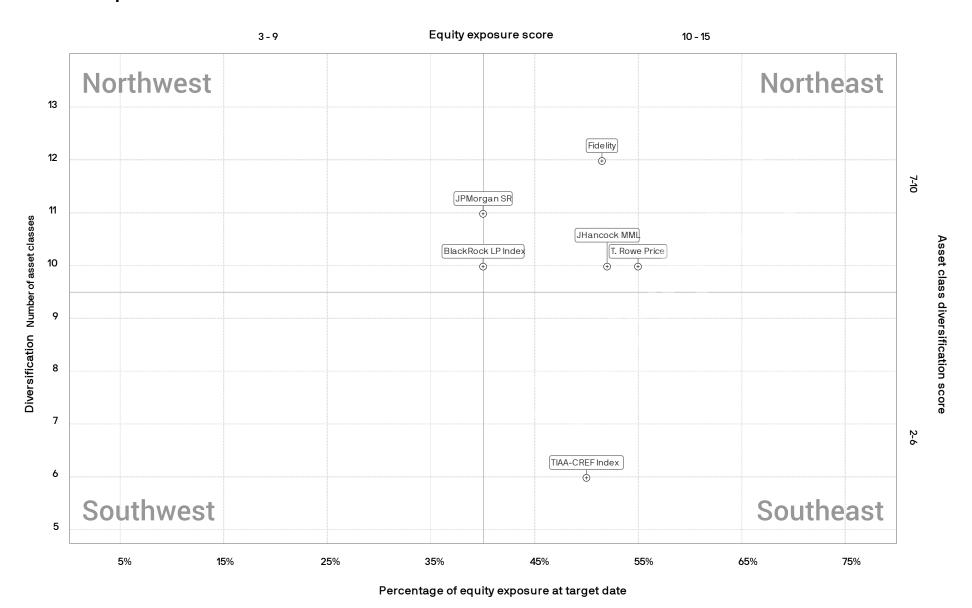
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#### Quadrant map



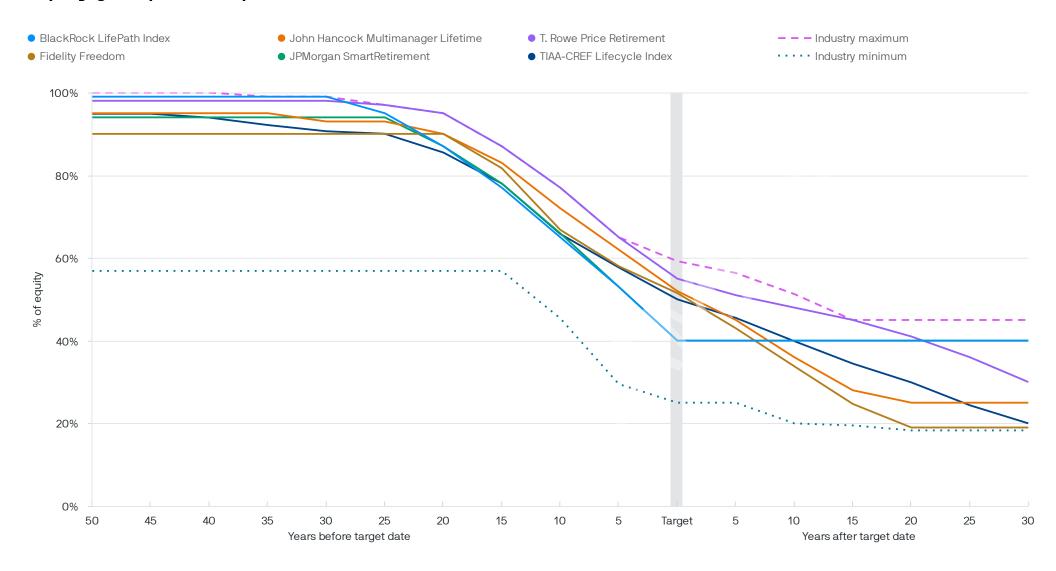
As of 12/31/2023, with the exception of Diversification (# of asset classes), which is as of 09/30/2023. © 2024 Morningstar, Inc. All Rights Reserved. Percentage of equity exposure at target date: Strategic allocation to non-fixed income asset classes at target date, typically age 65. Asset class diversification: Calculated using the target date funds' asset allocation breakdown to 12 J.P. Morgan-de fined separate asset classes. The 12 asset classes include: U.S. large cap equity, U.S. mid cap equity, U.S. small cap equity, International equity, Emerging markets equity, REITs, Commodities, U.S. fixed income, High yield, U.S. TIPs, International fixed income and Emerging markets debt. If a selected mutual fund has less than 5 asset classes, the fund will not be depicted in the above chart. Please see Target Date Compass Methodology for additional information. Commingled fund information not shown due to lack of data availability. See Disclosure page for commingled fund details.



### Asset class summary

Asset class	BlackRock LifePath Index	Fidelity Freedom	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	TIAA-CREF Lifecycle Index
U.S. large cap	•	•	•	•	•	•
U.S. mid cap		<b>©</b>	•	•	•	•
U.S. small cap	•	•	•	•	<b>©</b>	
International equity	•	<b>©</b>	•	•	•	•
Emerging markets equity	•	•	•	•	•	•
U.S. fixed income	•	•	•	•	<b>②</b>	•
U.S. TIPS	•	•		•	•	•
High yield fixed income	•	•	•	•	•	
International fixed income	•	•	•	<b>©</b>	•	
Emerging markets debt	•	•	•	•	•	
REITs	•	•		•		
Commodities		•	•			
Total # of asset classes	10	12	10	11	10	6

### Equity glide path comparison





### Target date series snapshot

	BlackRock LifePath Index	Fidelity Freedom	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	TIAA-CREF Lifecycle Index
MUTUAL FUND ASSETS						
(\$mm) as of 12/31/2023	\$69,520	\$193,045	\$7,092	\$24,816	\$161,603	\$55,863
Earliest inception date	05/31/2011	10/17/1996	10/30/2006	05/15/2006	09/30/2002	09/30/2009
GLIDE PATH						
% of equity at target date	40.0%	51.5%	52.0%	40.0%	54.99%	50.0%
% of equity at landing point	40.0%	19.0%	25.0%	40.0%	30.0%	20.0%
Glide path end (age)	65	85	85	65	95	95
# of asset classes	10	12	10	11	10	6
Tactical	No	Yes	Yes	Yes	Yes	No
FUND STRUCTURE						
Fund of funds	Yes	Yes	Yes	Yes	Yes	Yes
Open architecture (%)	0%	2%	52%	0%	0%	0%
Active exposure (%)	0.16%	86.62%	94.98%	95.67%	89.98%	2.11%
UNDERLYING FUND INFORMATION						
# of underlying funds	11	34	35	24	27	6
Average manager tenure (years)	7.14	10.32	10.00	17.07	6.37	15.78
Longest manager tenure (years)	19.16	15.06	26.82	31.00	31.33	18.25



Top decile 

Bottom decile

	ΥT	ת	1 ye	ear	3 ye	ear	5 y	ear	10 y	/ear	15 \	/ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE RETIREMENT														
BlackRock LifePath® Index Retire K	11.47	16	11.47	16	0.35	51	5.62	10	4.60	5	_	_	4.93	05/31/2011
Fidelity Freedom Income K6	8.42	78	8.42	78	-0.22	78	3.71	79	3.34	69	4.62	92	4.43	10/17/1996
JPMorgan SmartRetirement® Income R6	12.05	3	12.05	3	0.81	29	5.20	22	4.16	20	6.15	11	4.80	05/15/2006
TOTAL FUNDS IN CATEGORY	_	152	_	152	_	146	_	130	_	79	_	63	_	_
S&P Target Date Retirement Income TR USD*	10.35	_	10.35	_	1.00	_	4.90	_	3.98	_	5.18	_	4.33	12/29/2000
US FUND TARGET-DATE 2000-2010														
Fidelity Freedom 2005 K6	8.54	81	8.54	81	-0.09	80	4.23	82	3.87	80	5.86	92	4.49	11/06/2003
Fidelity Freedom 2010 K6	9.97	57	9.97	57	0.34	62	5.17	60	4.52	35	6.72	47	5.98	10/17/1996
JHancock Multimanager 2010 Lifetime R6	10.26	46	10.26	46	1.58	14	6.00	12	4.68	19	7.45	3	4.89	10/30/2006
T. Rowe Price Retirement 2005 I	11.96	18	11.96	18	1.46	18	5.98	14	4.73	16	6.93	35	5.44	02/27/2004
T. Rowe Price Retirement 2010 I	12.49	8	12.49	8	1.70	9	6.46	3	5.09	2	7.59	1	6.86	09/30/2002
TIAA-CREF Lifecycle Index 2010 Instl	11.42	32	11.42	32	1.12	45	5.99	13	4.96	5	_	_	6.13	09/30/2009
TOTAL FUNDS IN CATEGORY	_	116	_	114	_	107	_	102	_	48	_	33	_	_
S&P Target Date 2010 TR USD*	10.79	_	10.79	_	1.49	_	5.61	_	4.50	_	6.03	_	4.54	12/29/2000
US FUND TARGET-DATE 2015														
Fidelity Freedom 2015 K6	11.54	37	11.54	37	0.81	65	6.08	34	5.13	12	7.25	36	5.57	11/06/2003
JHancock Multimanager 2015 Lifetime R6	11.14	49	11.14	49	1.56	20	6.46	15	5.02	21	7.95	5	5.09	10/30/2006
T. Rowe Price Retirement 2015 I	12.90	8	12.90	8	2.00	10	7.00	4	5.53	1	8.38	3	6.18	02/27/2004
TIAA-CREF Lifecycle Index 2015 InstI	12.24	21	12.24	21	1.43	33	6.51	10	5.32	4	_	-	6.58	09/30/2009
TOTAL FUNDS IN CATEGORY	_	113	_	112	_	102	_	97	_	46	_	32	_	_
S&PTarget Date 2015 TR USD*	11.38	_	11.38	_	1.86	_	6.10	_	4.94	_	6.77	_	4.82	12/29/2000

As of 12/31/2023. © 2024 Morningstar, Inc. All Rights Reserved. Past performance is not a guarantee of future results. All performance information is shown net of fees. Performance includes the reinvestment of income.

\*
Performance information may include extended performance returns, provided by Morningstar, where available. Total return assumes reinvestment of dividends and capital gains distributions but is not adjusted for sales charges or redemptions fees. Since inception return and Inception date for mutual funds reflect extended performance and inception date of the Fund's oldest share class, respectively. Total funds in category and % rank in cat(egory) refer to Morningstar's open end and exchange traded fund universe. See Disclosure page for ranking criteria details. For commingled funds: Morningstar ranks open-end funds against their category peers each month, and then ranks CITs by comparing/overlaying their returns to the open-end peers. For ranking purposes, JPMCB target date CITs may have longer track records than what is available in Morningstar, but only trailing performance time frames within Morningstar's database receive competitive rankings. Inception date for commingled funds reflects the data for the specific series and share class selected. See Disclosure page for commingled fund details.



Top decile 

Bottom decile

	Y	ΓD	1ye	ear	3 y	ear	5 y	ear	10 y	ear	15 y	ear ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE 2020				,						,				
Fidelity Freedom 2020 K6	13.17	16	13.17	16	1.24	55	6.92	16	5.64	10	7.94	43	6.49	10/17/1996
JHancock Multimanager 2020 Lifetime R6	11.62	61	11.62	61	1.52	43	7.01	13	5.45	27	8.53	7	5.38	10/30/2006
JPMorgan SmartRetirement® 2020 R6	11.98	49	11.98	49	0.77	82	5.56	81	4.77	76	7.76	59	5.43	05/15/2006
T. Rowe Price Retirement 2020 I	13.54	10	13.54	10	2.29	10	7.66	5	6.05	1	9.15	1	7.88	09/30/2002
TIAA-CREF Lifecycle Index 2020 Instl	13.07	20	13.07	20	1.74	27	7.03	13	5.71	5	_	_	7.09	09/30/2009
TOTAL FUNDS IN CATEGORY	_	145	_	144	_	133	_	128	_	64	_	43	_	_
S&PTarget Date 2020 TR USD*	12.32	_	12.32	-	2.12	_	6.47	_	5.28	-	7.39	_	5.03	12/29/2000
US FUND TARGET-DATE 2025														
BlackRock LifePath® Index 2025 K	12.40	64	12.40	64	1.04	83	6.65	70	5.47	52	_	_	5.91	05/31/2011
Fidelity Freedom 2025 K6	14.44	11	14.44	11	1.75	48	7.70	18	6.11	10	8.58	22	6.32	11/06/2003
JHancock Multimanager 2025 Lifetime R6	12.86	52	12.86	52	1.72	51	7.88	7	6.04	14	9.16	10	5.72	10/30/2006
JPMorgan SmartRetirement® 2025 R6	13.58	37	13.58	37	1.43	64	6.74	64	5.49	49	8.59	22	5.56	07/31/2007
T. Rowe Price Retirement 2025 I	14.60	6	14.60	6	2.64	8	8.45	2	6.59	1	9.84	1	6.99	02/27/2004
TIAA-CREF Lifecycle Index 2025 Instl	14.19	17	14.19	17	2.24	21	7.82	11	6.25	7	_	-	7.71	09/30/2009
TOTAL FUNDS IN CATEGORY	_	209	_	208	_	194	_	177	_	104	_	61	_	_
S&P Target Date 2025 TR USD*	12.99	_	12.99	_	2.80	_	7.42	_	5.85	_	8.11	_	5.35	12/29/2000

\*Benchmark



Top decile 

Bottom decile

	ΥT	ΠD	1 ye	ear	3 y	ear	5 y	ear	10 y	ear	15 y	/ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE 2030			3	,							1		1	
BlackRock LifePath® Index 2030 K	14.57	54	14.57	54	2.19	68	7.87	62	6.21	43	_	_	6.61	05/31/2011
Fidelity Freedom 2030 K6	15.72	19	15.72	19	2.46	48	8.75	13	6.85	6	9.21	32	6.90	10/17/1996
JHancock Multimanager 2030 Lifetime R6	14.53	54	14.53	54	1.95	79	8.71	15	6.56	21	9.68	16	6.04	10/30/2006
JPMorgan SmartRetirement® 2030 R6	15.59	22	15.59	22	2.31	59	7.83	65	6.14	53	9.30	25	6.39	05/15/2006
T. Rowe Price Retirement 2030 I	16.28	9	16.28	9	3.11	17	9.25	2	7.12	3	10.47	2	8.76	09/30/2002
TIAA-CREF Lifecycle Index 2030 InstI	15.55	23	15.55	23	2.84	24	8.66	18	6.80	6	_	_	8.34	09/30/2009
TOTAL FUNDS IN CATEGORY	_	212	_	210	_	196	_	175	_	102	_	64	_	_
S&PTarget Date 2030 TR USD*	14.80	_	14.80	_	3.61	_	8.42	_	6.44	_	8.78	_	5.62	12/29/2000
US FUND TARGET-DATE 2035			,											
BlackRock LifePath® Index 2035 K	16.59	47	16.59	47	3.25	55	9.03	55	6.92	36	_	_	7.26	05/31/2011
Fidelity Freedom 2035 K6	18.06	9	18.06	9	3.72	18	10.32	2	7.71	7	9.97	18	7.19	11/06/2003
JHancock Multimanager 2035 Lifetime R6	15.93	68	15.93	68	2.40	91	9.49	30	7.00	33	10.11	15	6.42	10/30/2006
JPMorgan SmartRetirement® 2035 R6	17.53	24	17.53	24	3.56	30	9.29	41	6.86	42	10.01	18	6.49	07/31/2007
T. Rowe Price Retirement 2035 I	18.17	7	18.17	7	3.68	21	10.04	13	7.58	7	10.97	1	7.64	02/27/2004
TIAA-CREF Lifecycle Index 2035 Instl	17.25	32	17.25	32	3.58	29	9.57	25	7.37	16	-	_	8.97	09/30/2009
TOTAL FUNDS IN CATEGORY	_	208	_	201	_	187	_	174	_	101	_	58	_	_
S&PTarget Date 2035 TR USD*	16.63	_	16.63	_	4.45	_	9.45	_	7.04	_	9.40	_	5.89	12/29/2000

\*Benchmark



Top decile • • • • • • Bottom decile

	Y	TD	1ye	ear	3 y	ear	5у	ear	10 y	ear	15 y	/ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE 2040				•					3				5	
BlackRock LifePath® Index 2040 K	18.58	41	18.58	41	4.26	41	10.08	41	7.55	27	_	_	7.85	05/31/2011
Fidelity Freedom 2040 K6	20.26	1	20.26	1	4.77	10	11.37	1	8.17	9	10.34	27	5.17	09/06/2000
JHancock Multimanager 2040 Lifetime R6	17.24	70	17.24	70	2.90	92	10.25	32	7.43	39	10.41	20	6.68	10/30/2006
JPMorgan SmartRetirement® 2040 R6	18.98	25	18.98	25	4.33	33	10.20	35	7.38	43	10.41	20	7.23	05/15/2006
T. Rowe Price Retirement 2040 I	19.60	13	19.60	13	4.13	47	10.71	17	7.97	10	11.30	1	9.26	09/30/2002
TIAA-CREF Lifecycle Index 2040 Instl	18.98	25	18.98	25	4.43	25	10.52	22	7.96	12	_	_	9.50	09/30/2009
TOTAL FUNDS IN CATEGORY	_	206	_	205	_	190	_	175	_	102	_	64	_	_
S&PTarget Date 2040 TR USD*	18.16	_	18.16	_	5.16	_	10.22	-	7.49	_	9.86	_	6.11	12/29/2000
US FUND TARGET-DATE 2045				,									,	
BlackRock LifePath® Index 2045 K	20.29	19	20.29	19	5.11	15	10.95	26	8.05	15	_	_	8.31	05/31/2011
Fidelity Freedom 2045 K6	20.91	5	20.91	5	4.95	24	<b>11.</b> 49	1	8.24	7	10.44	28	6.88	06/01/2006
JHancock Multimanager 2045 Lifetime R6	18.34	78	18.34	78	3.38	93	10.69	41	7.65	41	10.55	19	6.80	10/30/2006
JPMorgan SmartRetirement® 2045 R6	20.01	23	20.01	23	4.97	23	10.83	31	7.67	40	10.63	17	7.11	07/31/2007
T. Rowe Price Retirement 2045 I	20.48	17	20.48	17	4.53	55	11.19	16	8.21	8	11.47	1	8.08	05/31/2005
TIAA-CREF Lifecycle Index 2045 Instl	20.07	23	20.07	23	5.05	20	11.29	13	8.36	3	_	_	9.79	09/30/2009
TOTAL FUNDS IN CATEGORY	_	202	_	201	_	187	_	174	_	101	_	57	_	_
S&PTarget Date 2045 TR USD*	19.14	_	19.14	_	5.62	_	10.68	_	7.76	_	10.15	_	7.27	05/31/2005

\*Benchmark



Top decile 

Bottom decile

	Y	ΓD	1ye	ear	3 ye	ear	5у	ear	10 y	ear	15 y	ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE 2050			5	,					5					
BlackRock LifePath® Index 2050 K	21.36	4	21.36	4	5.58	12	11.41	6	8.30	6	_	_	8.58	05/31/2011
Fidelity Freedom 2050 K6	20.87	20	20.87	20	4.95	36	11.47	4	8.24	13	10.46	24	6.76	06/01/2006
JHancock Multimanager 2050 Lifetime R6	18.79	76	18.79	76	3.48	93	10.73	48	7.66	46	_	_	7.93	04/29/2011
JPMorgan SmartRetirement® 2050 R6	20.42	35	20.42	35	5.01	33	10.85	41	7.68	46	10.64	14	7.13	07/31/2007
T. Rowe Price Retirement 2050 I	20.81	22	20.81	22	4.65	57	11.25	17	8.25	7	11.49	1	7.35	12/29/2006
TIAA-CREF Lifecycle Index 2050 Instl	20.54	26	20.54	26	5.22	25	11.47	5	8.49	2	_	_	9.88	09/30/2009
TOTAL FUNDS IN CATEGORY	_	203	_	202	_	188	_	175	_	102	_	50	_	_
S&PTarget Date 2050 TR USD*	19.58	_	19.58	_	5.84	_	10.92	-	7.92	_	10.32	_	7.20	05/31/2006
US FUND TARGET-DATE 2055			,											
BlackRock LifePath® Index 2055 K	21.60	9	21.60	9	5.69	12	11.50	5	8.37	6	_	_	8.70	05/31/2011
Fidelity Freedom 2055 K6	20.85	25	20.85	25	4.95	37	11.47	6	8.22	11	_	_	8.53	06/01/2011
JHancock Multimanager 2055 Lifetime R6	18.81	79	18.81	79	3.49	93	10.76	51	_	_	_	_	7.81	03/26/2014
JPMorgan SmartRetirement® 2055 R6	20.33	43	20.33	43	5.04	36	10.87	45	7.70	46	_	_	9.29	01/31/2012
T. Rowe Price Retirement 2055 I	20.78	26	20.78	26	4.59	65	11.20	23	8.21	13	11.47	20	7.33	12/29/2006
TIAA-CREF Lifecycle Index 2055 Instl	20.76	27	20.76	27	5.33	23	11.60	4	8.58	2	_	_	9.01	04/29/2011
TOTAL FUNDS IN CATEGORY	_	202	_	201	_	187	_	174	_	87	_	8	_	_
S&PTarget Date 2055 TR USD*	19.62	_	19.62	_	5.91	_	10.98	_	7.99	_	10.43	_	6.44	05/31/2007

\*Benchmark



Top decile • • • • • • Bottom decile

	YI	D	1ye	ear	3 y	ear	5 y	ear	10 y	ear	15 y	ear		
Target date fund name	Total return	% rank in cat	Since inc return	Inception date										
US FUND TARGET-DATE 2060				•					3					
BlackRock LifePath® Index 2060 K	21.66	9	21.66	9	5.68	14	11.51	11	_	_	_	_	10.78	02/29/2016
Fidelity Freedom 2060 K6	20.87	31	20.87	31	4.93	41	11.46	13	_	_	_	_	8.45	08/05/2014
JHancock Multimanager 2060 Lifetime R6	18.85	78	18.85	78	3.51	93	10.78	56	_	_	_	_	9.39	03/30/2016
JPMorgan SmartRetirement® 2060 R6	20.25	46	20.25	46	5.04	38	10.85	52	_	_	_	_	9.02	08/31/2016
T. Rowe Price Retirement 2060 I	20.85	32	20.85	32	4.63	63	11.21	32	_	_	_	_	8.00	06/23/2014
TIAA-CREF Lifecycle Index 2060 Instl	20.91	29	20.91	29	5.44	22	11.73	4	_	_	_	_	8.79	09/26/2014
TOTAL FUNDS IN CATEGORY	_	201	_	200	_	181	_	162	_	8	_	_	_	_
S&PTarget Date 2060 TR USD*	19.74	_	19.74	_	5.89	_	11.04	-	8.04	_	_	_	9.85	05/28/2010
US FUND TARGET-DATE 2065+				,										
BlackRock LifePath® Index 2065 K	21.62	10	21.62	10	5.70	17	_	_	_	_	_	_	9.17	10/30/2019
Fidelity Freedom 2065 K6	20.78	39	20.78	39	4.94	46	_	_	_	_	_	_	9.30	06/28/2019
JHancock Multimanager 2065 Lifetime R6	18.81	80	18.81	80	3.55	89	_	_	_	_	_	_	9.03	09/23/2020
JPMorgan Smartretirement® 2065 R6	19.95	66	19.95	66	_	_	_	_	_	_	_	_	20.16	11/01/2022
T. Rowe Price Retirement 2065 I	20.84	37	20.84	37	4.86	51	_	_	_	_	_	_	7.98	10/13/2020
TIAA-CREF Lifecycle Index 2065 Instl	21.16	19	21.16	19	5.63	23	_	_	_	_	_	_	9.66	09/30/2020
TOTAL FUNDS IN CATEGORY	_	176	_	172	_	123	_	9	_	_	_	_	_	_
S&PTarget Date 2065+ TR USD*	19.84	_	19.84	_	5.98	_	11.09	_	_	_	_	_	9.64	05/31/2016

\*Benchmark

							T	otal return							
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE RETIREMENT															
BlackRock LifePath® Index Retire K	11.47	-15.20	6.92	12.22	15.90	-3.50	10.75	5.82	-0.31	5.78	7.72	9.17	_	_	_
Fidelity Freedom Income K6	8.42	-11.25	3.24	9.06	10.71	-1.71	8.22	5.16	-0.38	3.86	4.56	6.40	2.02	7.63	16.12
JPMorgan SmartRetirement® Income R6	12.05	-13.89	6.19	10.02	14.32	-4.44	11.22	5.31	-0.97	5.17	7.91	10.30	1.13	11.35	21.62
S&PTarget Date Retirement Income TR USD*	10.35	-11.17	5.11	8.81	13.33	-2.54	8.54	5.01	-0.18	4.86	6.28	7.51	3.98	9.09	11.37
US FUND TARGET-DATE 2000-2010															
Fidelity Freedom 2005 K6	8.54	-11.71	4.07	9.68	12.48	-2.49	10.49	5.91	-0.33	4.50	8.01	8.82	0.18	10.57	23.40
Fidelity Freedom 2010 K6	9.97	-13.04	5.65	11.26	14.46	-3.40	12.49	6.42	-0.28	4.84	11.08	10.43	-0.28	11.65	24.82
JHancock Multimanager 2010 Lifetime R6	10.26	-11.71	7.68	10.67	15.38	-4.15	10.95	7.49	-1.11	4.47	11.14	12.85	0.12	12.62	31.40
T. Rowe Price Retirement 2005 I	11.96	-13.66	8.05	11.24	15.08	-3.26	10.67	6.72	-0.75	4.72	9.74	11.35	1.43	11.51	24.55
T. Rowe Price Retirement 2010 I	12.49	-14.00	8.75	11.90	16.16	-3.61	11.66	7.11	-0.76	4.99	11.93	12.44	0.54	12.70	27.95
TIAA-CREF Lifecycle Index 2010 Instl	11.42	-13.24	6.95	11.97	15.57	-2.87	11.15	5.74	-0.06	6.31	10.80	10.51	3.33	10.77	_
S&PTarget Date 2010 TR USD*	10.79	-11.44	6.54	9.95	14.30	-3.10	9.95	5.82	-0.21	5.07	9.42	8.94	2.61	10.56	14.61
US FUND TARGET-DATE 2015															
Fidelity Freedom 2015 K6	11.54	-14.48	7.38	12.58	16.48	-4.32	14.41	7.04	-0.34	5.17	11.88	10.68	-0.34	11.75	25.62
JHancock Multimanager 2015 Lifetime R6	11.14	-13.30	8.73	12.11	16.43	-4.69	12.20	7.64	-0.98	4.68	13.58	13.55	-0.95	13.18	33.51
T. Rowe Price Retirement 2015 I	12.90	-14.17	9.54	12.57	17.40	-4.17	13.34	7.31	-0.58	5.37	15.18	13.81	-0.32	13.79	31.35
TIAA-CREF Lifecycle Index 2015 InstI	12.24	-13.80	7.85	12.58	16.70	-3.29	12.23	6.13	-0.04	6.40	12.79	11.31	2.56	11.31	_
S&PTarget Date 2015 TR USD*	11.38	-12.16	8.01	10.28	15.40	-3.67	11.39	6.56	-0.16	5.49	12.16	10.32	1.53	11.85	17.48

							Ţ	otal return							
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE 2020															
Fidelity Freedom 2020 K6	13.17	-15.92	9.07	13.94	18.15	-5.03	15.74	7.26	-0.23	5.34	13.22	11.77	-1.36	12.93	28.86
JHancock Multimanager 2020 Lifetime R6	11.62	-14.58	9.72	13.65	18.00	-5.44	14.09	7.97	-1.03	5.12	16.49	14.35	-2.33	13.99	35.44
JPMorgan SmartRetirement® 2020 R6	11.98	-13.88	6.12	10.48	15.94	-5.30	14.14	5.87	-0.65	6.92	13.77	14.58	-0.76	15.02	29.39
T. Rowe Price Retirement 2020 I	13.54	-14.66	10.47	13.19	19.37	-4.94	15.74	7.41	-0.31	5.63	18.05	15.01	-1.20	14.74	34.19
TIAA-CREF Lifecycle Index 2020 InstI	13.07	-14.36	8.75	13.07	17.95	-3.75	13.67	6.65	-0.14	6.48	15.59	12.28	1.53	11.97	_
S&PTarget Date 2020 TR USD*	12.32	-12.81	8.76	10.24	16.52	-4.16	12.80	7.22	-0.19	5.67	14.76	11.48	0.58	12.93	19.95
US FUND TARGET-DATE 2025															
BlackRock LifePath® Index 2025 K	12.40	-15.77	8.94	12.42	18.98	-4.78	14.43	6.87	<b>-0.4</b> 5	6.47	13.48	12.34	_	_	_
Fidelity Freedom 2025 K6	14.44	-16.54	10.29	14.87	19.72	-5.78	16.97	7.47	-0.16	5.63	16.50	13.15	-2.65	13.82	30.03
JHancock Multimanager 2025 Lifetime R6	12.86	-16.43	11.59	15.76	19.93	-6.35	16.38	8.33	-1.11	5.41	19.76	14.88	-3.67	14.95	35.99
JPMorgan SmartRetirement® 2025 R6	13.58	-15.51	8.74	11.89	18.66	-6.48	16.43	6.19	-0.89	7.45	17.07	16.14	-2.42	15.73	31.47
T. Rowe Price Retirement 2025 I	14.60	-15.67	11.88	14.69	20.95	-5.62	17.68	7.55	-0.17	5.84	20.78	16.00	-2.06	15.37	36.29
TIAA-CREF Lifecycle Index 2025 Instl	14.19	-15.02	10.14	14.00	19.59	-4.42	15.36	7.30	-0.25	6.62	18.21	13.30	0.56	12.59	_
S&PTarget Date 2025 TR USD*	12.99	-13.13	10.67	11.22	18.38	-5.02	14.55	7.82	-0.25	5.56	17.03	12.51	-0.28	13.82	22.03

							1	lotal return							
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE 2030															
BlackRock LifePath® Index 2030 K	14.57	-16.41	11.42	13.05	21.08	-5.56	16.36	7.29	-0.50	6.64	15.40	13.28	_	_	_
Fidelity Freedom 2030 K6	15.72	-16.77	11.69	15.84	22.06	-6.83	20.00	8.13	-0.16	5.67	18.13	13.47	-3.15	14.04	30.57
JHancock Multimanager 2030 Lifetime R6	14.53	-18.06	12.91	17.57	21.87	-7.37	18.38	8.57	-1.21	5.71	22.11	15.33	-4.59	15.69	36.30
JPMorgan SmartRetirement® 2030 R6	15.59	-16.45	10.88	12.74	20.77	-7.45	19.00	6.23	-1.25	7.71	19.94	17.24	-4.03	16.53	32.98
T. Rowe Price Retirement 2030 I	16.28	-16.98	13.55	15.90	22.48	-6.28	19.45	7.69	-0.02	6.05	23.09	16.82	-2.70	16.01	37.99
TIAA-CREF Lifecycle Index 2030 Instl	15.55	-15.70	11.67	14.76	21.35	-5.04	17.06	7.83	-0.33	6.68	20.95	14.31	-0.32	13.18	_
S&PTarget Date 2030 TR USD*	14.80	-13.96	12.61	11.91	20.38	-5.99	16.19	8.35	-0.30	5.64	19.14	13.43	-1.17	14.52	23.70
US FUND TARGET-DATE 2035															
BlackRock LifePath® Index 2035 K	16.59	-17.07	13.85	13.72	23.08	-6.36	18.29	7.74	-0.56	6.82	17.02	14.07	_	_	_
Fidelity Freedom 2035 K6	18.06	-17.51	14.56	17.41	24.74	-8.15	22.20	8.63	-0.21	5.75	20.68	14.45	-4.59	14.46	31.26
JHancock Multimanager 2035 Lifetime R6	15.93	-18.94	14.27	18.77	23.34	-8.24	20.25	8.62	-1.24	5.66	23.65	15.76	-5.15	15.99	36.78
JPMorgan SmartRetirement® 2035 R6	17.53	-17.14	14.05	14.45	22.64	-8.66	20.54	6.50	-1.44	7.79	22.19	18.16	-4.65	16.69	34.13
T. Rowe Price Retirement 2035 I	18.17	-18.04	15.08	17.05	23.70	-6.87	20.88	7.64	0.13	6.07	24.86	17.35	-3.26	16.34	39.04
TIAA-CREF Lifecycle Index 2035 Instl	17.25	-16.28	13.21	15.54	23.02	-5.73	18.72	8.47	-0.54	6.80	23.61	15.28	-1.21	13.67	_
S&PTarget Date 2035 TR USD*	16.63	-14.99	14.93	12.79	22.18	-6.88	17.78	8.85	-0.35	5.69	20.84	14.12	-1.71	15.02	24.99

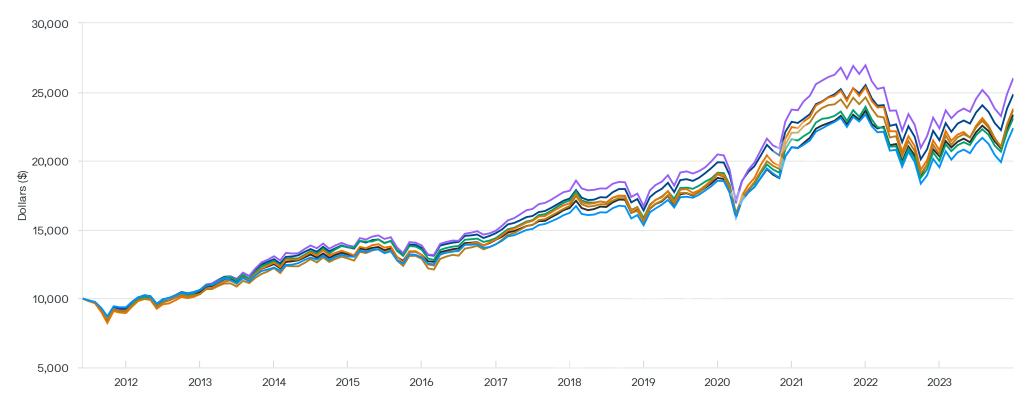
							1	lotal return							
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE 2040															
BlackRock LifePath® Index 2040 K	18.58	-17.65	16.05	14.10	25.01	-7.08	19.95	8.10	-0.56	6.90	18.66	15.03	_	_	_
Fidelity Freedom 2040 K6	20.26	-18.06	16.70	18.53	25.70	-8.75	22.42	8.60	-0.18	5.71	21.05	14.53	-4.63	14.62	31.65
JHancock Multimanager 2040 Lifetime R6	17.24	-19.39	15.29	19.98	24.60	-8.79	21.45	8.79	-1.23	5.59	23.93	15.84	-5.09	15.93	36.55
JPMorgan SmartRetirement® 2040 R6	18.98	-17.63	15.86	15.20	24.23	-9.38	21.95	6.88	-1.60	7.91	23.02	18.29	-4.80	16.86	33.87
T. Rowe Price Retirement 2040 I	19.60	-18.86	16.35	18.11	24.68	-7.32	22.02	7.63	0.17	6.18	25.93	17.55	-3.49	16.51	39.07
TIAA-CREF Lifecycle Index 2040 InstI	18.98	-16.68	14.89	16.27	24.52	-6.36	20.37	9.01	-0.67	6.85	25.18	15.69	-1.42	13.76	_
S&PTarget Date 2040 TR USD*	18.16	-15.56	16.55	13.37	23.37	-7.41	18.87	9.23	-0.40	5.69	22.10	14.69	-2.17	15.38	25.97
US FUND TARGET-DATE 2045															
BlackRock LifePath® Index 2045 K	20.29	-18.05	17.81	14.64	26.25	-7.50	21.07	8.28	-0.64	7.10	20.32	15.61	_	_	_
Fidelity Freedom 2045 K6	20.91	-18.12	16.78	18.46	25.76	-8.74	22.50	8.57	-0.16	5.79	21.60	14.79	-5.02	14.72	32.04
JHancock Multimanager 2045 Lifetime R6	18.34	-19.43	15.87	20.45	24.84	-8.86	21.52	8.82	-1.22	5.65	23.84	15.87	-5.18	16.05	36.55
JPMorgan SmartRetirement® 2045 R6	20.01	-18.09	17.65	15.64	25.02	-9.67	22.17	6.90	-1.61	7.89	23.02	18.42	-4.74	16.56	34.30
T. Rowe Price Retirement 2045 I	20.48	-19.11	17.20	18.65	25.39	<b>-7.</b> 57	22.41	7.69	0.17	6.14	25.93	17.62	-3.47	16.44	39.10
TIAA-CREF Lifecycle Index 2045 Instl	20.07	-17.24	16.65	17.02	25.84	-6.92	21.18	9.31	-0.71	6.85	25.23	15.67	-1.41	13.77	_
S&PTarget Date 2045 TR USD*	19.14	-15.84	17.52	13.66	24.02	-7.74	19.56	9.54	-0.46	5.67	23.14	15.15	-2.56	15.62	26.40

	Total return														
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE 2050															
BlackRock LifePath® Index 2050 K	21.36	-18.33	18.75	15.04	26.77	-7.82	21.43	8.41	-0.67	7.28	21.61	16.37	_	_	_
Fidelity Freedom 2050 K6	20.87	-18.10	16.79	18.48	25.65	-8.74	22.57	8.63	-0.24	5.78	21.87	15.06	-5.57	14.90	32.47
JHancock Multimanager 2050 Lifetime R6	18.79	-19.52	15.91	20.31	24.88	-8.93	21.54	8.80	-1.24	5.66	24.05	15.68	_	_	_
JPMorgan SmartRetirement® 2050 R6	20.42	-18.23	17.60	15.59	25.01	-9.64	22.13	6.82	-1.45	7.83	23.01	18.37	-4.80	17.02	33.94
T. Rowe Price Retirement 2050 I	20.81	-19.17	17.35	18.68	25.32	-7.58	22.38	7.71	0.19	6.19	25.90	17.55	-3.36	16.41	38.92
TIAA-CREF Lifecycle Index 2050 Instl	20.54	-17.50	17.14	17.20	26.03	-7.01	21.52	9.49	-0.66	6.80	25.25	15.58	-1.41	13.79	_
S&PTarget Date 2050 TR USD*	19.58	-15.97	17.99	13.86	24.35	-7.94	20.18	9.74	-0.47	5.69	24.13	15.49	-2.87	15.62	26.40
US FUND TARGET-DATE 2055															
BlackRock LifePath® Index 2055 K	21.60	-18.33	18.87	15.02	26.89	-7.85	21.51	8.37	-0.60	7.50	22.95	16.83	_	_	_
Fidelity Freedom 2055 K6	20.85	-18.07	16.77	18.46	25.67	-8.68	22.40	8.56	-0.20	5.75	22.71	15.32	_	_	_
JHancock Multimanager 2055 Lifetime R6	18.81	-19.47	15.86	20.39	24.91	-8.94	21.55	8.71	-1.24	_	-	_	_	_	_
JPMorgan SmartRetirement® 2055 R6	20.33	-18.16	17.68	15.59	25.06	-9.64	22.12	6.89	-1.51	7.86	23.10	_	_	_	_
T. Rowe Price Retirement 2055 I	20.78	-19.24	17.29	18.55	25.38	-7.62	22.33	7.73	0.18	6.18	25.86	17.60	-3.35	16.41	38.97
TIAA-CREF Lifecycle Index 2055 Instl	20.76	-17.57	17.39	17.22	26.37	-7.14	21.72	9.74	-0.74	6.86	25.15	15.74	_	_	_
S&PTarget Date 2055 TR USD*	19.62	-15.97	18.19	13.86	24.48	-7.97	20.48	9.94	-0.54	5.64	24.96	15.81	-2.87	15.62	26.40

	Total return														
Target date fund name	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
US FUND TARGET-DATE 2060															
BlackRock LifePath® Index 2060 K	21.66	-18.32	18.80	15.06	26.92	-7.84	21.51	_	_	_	_	_	_	_	_
Fidelity Freedom 2060 K6	20.87	-18.09	16.71	18.53	25.60	-8.69	22.33	8.61	-0.22	_	_	_	_	_	_
JHancock Multimanager 2060 Lifetime R6	18.85	-19.48	15.90	20.44	24.90	-8.94	21.50	_	_	_	_	_	_	_	_
JPMorgan SmartRetirement® 2060 R6	20.25	-18.10	17.68	15.48	25.05	-9.54	22.07	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2060 I	20.85	-19.28	17.41	18.47	25.37	-7.57	22.29	7.63	0.24	_	_	_	_	_	_
TIAA-CREF Lifecycle Index 2060 Instl	20.91	-17.59	17.64	17.40	26.51	-7.13	21.88	9.84	-0.64	_	_	_	_	_	_
S&PTarget Date 2060 TR USD*	19.74	-16.01	18.05	13.99	24.73	-7.95	20.75	10.08	-0.66	5.64	24.96	15.81	-2.87	_	_
US FUND TARGET-DATE 2065+															
BlackRock LifePath® Index 2065 K	21.62	-18.32	18.87	15.47	_	_	_	_	-	_	_	_	_	_	_
Fidelity Freedom 2065 K6	20.78	-18.04	16.75	18.33	_	_	_	_	_	_	_	_	_	_	_
JHancock Multimanager 2065 Lifetime R6	18.81	-19.42	15.97	_	_	_	_	_	_	_	_	_	_	_	_
JPMorgan Smartretirement® 2065 R6	19.95	_	_	_	_	_	_	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2065 I	20.84	-19.27	18.18	_	_	_	_	_	_	_	_	_	_	_	_
TIAA-CREF Lifecycle Index 2065 Instl	21.16	-17.61	18.08	_	_	_	_	_	_	_	_	_	_	_	_
S&PTarget Date 2065+ TR USD*	19.84	-15.95	18.17	13.99	24.73	-7.95	20.75	_	_	_	_	_	_	_	_

### Growth of \$10,000 | 2030 funds

06/01/2011 - 12/31/2023



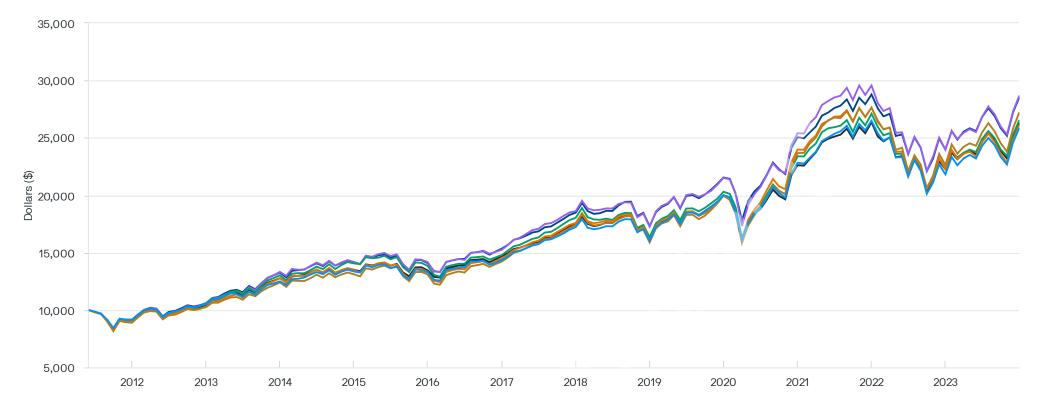
Target date fund name	Cumulative total return	Annualized total return	Ending value	Target date fund name	Cumulative total return	Annualized total return	Ending value
BlackRock LifePath Index	123.84%	6.61%	\$22,384	T. Rowe Price Retirement	160.07%	7.89%	\$26,007
Fidelity Freedom	137.07%	7.10%	\$23,707	TIAA-CREF Lifecycle Index	148.39%	7.50%	\$24,839
John Hancock Multimanager Lifetime	137.92%	7.13%	\$23,792	S&P Target Date 2030*	133.52%	6.97%	\$23,352
JPMorgan SmartRetirement	131.09%	6.88%	\$23,109				*Benchmark

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### Growth of \$10,000 | 2040 funds

06/01/2011 - 12/31/2023

JPMorgan SmartRetirement



Target date fund name	Cumulative total return	Annualized total return	Ending value	Target date fund name	Cumulative total return	Annualized total return	Ending value
BlackRock LifePath Index	158.80%	7.85%	\$25,880	T. Rowe Price Retirement	186.96%	8.74%	\$28,696
Fidelity Freedom	172.25%	8.28%	\$27,225	TIAA-CREF Lifecycle Index	185.43%	8.69%	\$28,543
John Hancock Multimanager Lifetime	161.32%	7.93%	\$26,132	S&PTarget Date 2040*	163.11%	7.99%	\$26,311
JPMorgan SmartRetirement	165.68%	8.07%	\$26.568				*Benchmark

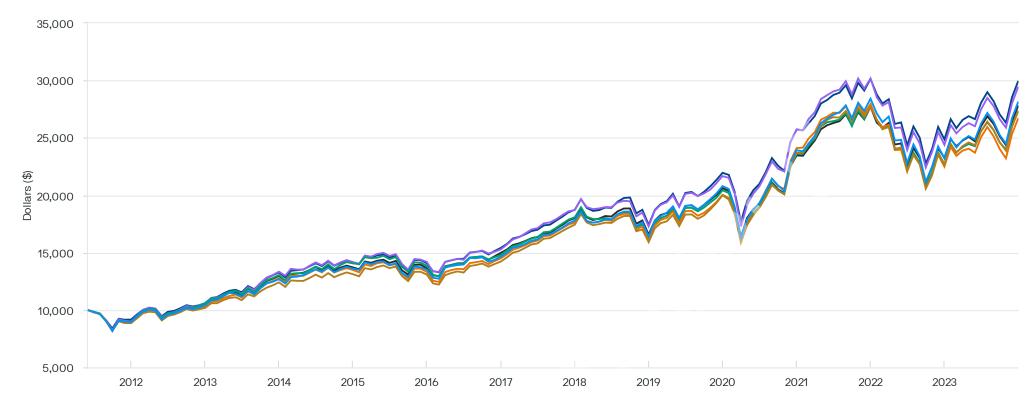
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\$26,568

### Growth of \$10,000 | 2050 funds

06/01/2011 - 12/31/2023

JPMorgan SmartRetirement



Target date fund name	Cumulative total return	Annualized total return	Ending value	Target date fund name	Cumulative total return	Annualized total return	Ending value
BlackRock LifePath Index	181.65%	8.58%	\$28,165	T. Rowe Price Retirement	194.76%	8.97%	\$29,476
Fidelity Freedom	173.94%	8.34%	\$27,394	TIAA-CREF Lifecycle Index	199.79%	9.12%	\$29,979
John Hancock Multimanager Lifetime	167.24%	8.12%	\$26,724	S&PTarget Date 2050*	178.36%	8.47%	\$27,836
JPMorgan SmartRetirement	173 52%	8.32%	\$27352				*Benchmark

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\$27,352

8.32%

173.52%

### +

### Drawdown | 2030 funds

Time period (line graph): 01/01/2009 - 12/31/2023 | Time period (table): Since common performance start date: 06/01/2011



Target date fund name	Max drawdown Peak date Valley date (common)	Months to recover	Target date fund name	Max drawdown (common)	Peak date Valley date	Months to recover
BlackRock LifePath Index	<b>-24.19%</b> 02/20/202003/23/2020	4.4	T. Rowe Price Retirement	-28.55%	02/20/202003/23/2020	4.4
Fidelity Freedom	<b>-24</b> .66% 02/20/202003/23/2020	4.4	TIAA-CREF Lifecycle Index	-23.86%	02/20/202003/23/2020	4.4
John Hancock Multimanager Lifetime	<b>-26.88%</b> 02/20/202003/23/2020	3.9	● S&PTarget Date 2030*	-24.87%	02/15/2020 03/23/2020	4.7
JPMorgan SmartRetirement	-25.39% 02/20/202003/23/2020	5.1			*	Benchmark

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### Drawdown | 2040 funds

Time period (line graph): 01/01/2009 - 12/31/2023 | Time period (table): Since common performance start date: 06/01/2011



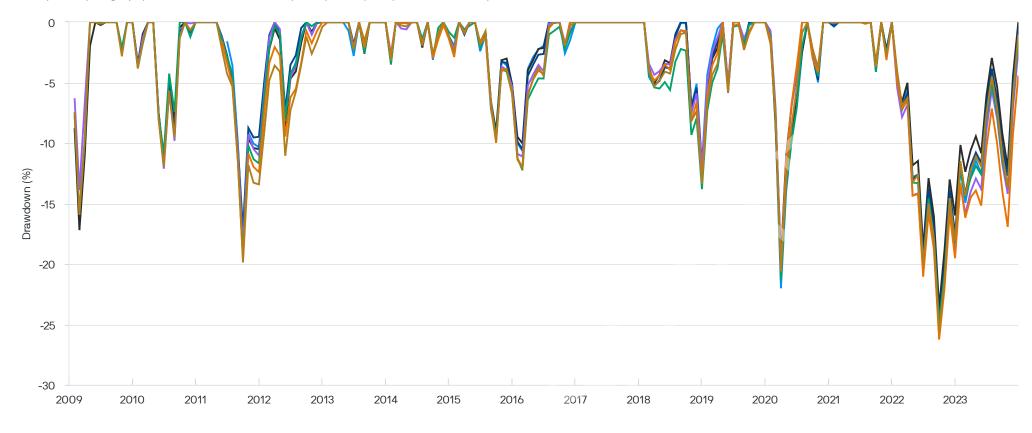
Target date fund name	Max drawdown Peak date Valley date (common)	Months to recover	Target date fund name	Max drawdown (common)	Peak date Valley date	Months to recover
BlackRock LifePath Index	-31.13% 02/13/2020 03/23/2020	5.1	T. Rowe Price Retirement	-31.46%	02/13/2020 03/23/2020	4.7
<ul><li>Fidelity Freedom</li></ul>	-30.95% 01/18/2020 03/23/2020	) 4.7	TIAA-CREF Lifecycle Index	-28.82%	02/20/202003/23/2020	4.5
John Hancock Multimanager Lifetime	-30.94% 02/20/202003/23/2020	9.4.4	● S&PTarget Date 2040*	-30.04%	02/13/2020 03/23/2020	5.1
JPMorgan SmartRetirement	-31.42% 02/20/202003/23/2020	5.1			*	Benchmark

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## +

### Drawdown | 2050 funds

Time period (line graph): 01/01/2009 - 12/31/2023 | Time period (table): Since common performance start date: 06/01/2011

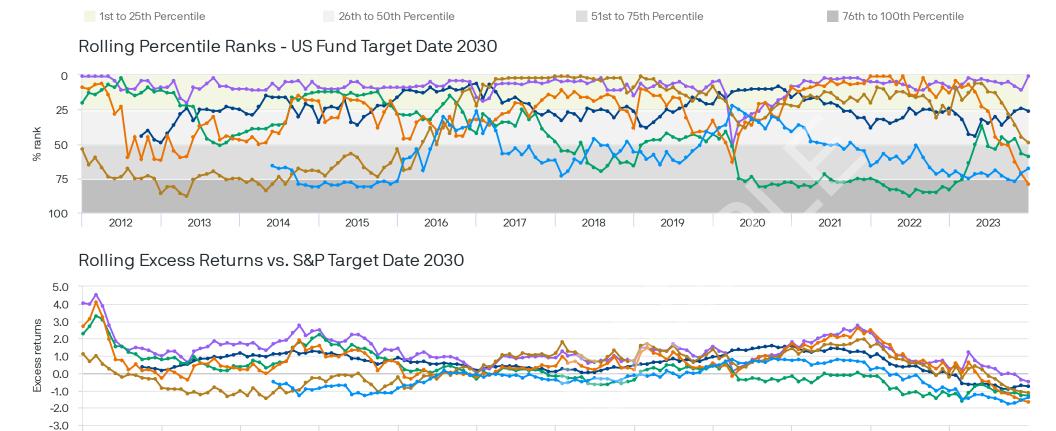


Target date fund name	Max drawdown (common)	Peak date Valley date	Months to recover	Target date fund name	Max drawdown (common)	Peak date Valley date	Months to recover
BlackRock LifePath Index	-34.29%	02/13/2020 03/23/2020	5.1	T. Rowe Price Retirement	-32.51%	02/13/2020 03/23/2020	4.7
Fidelity Freedom	-30.91%	01/18/2020 03/23/2020	4.7	TIAA-CREF Lifecycle Index	-31.41%	02/13/2020 03/23/2020	4.7
John Hancock Multimanager Lifetime	-32.07%	02/20/202003/23/2020	4.4	S&P Target Date 2050*	-31.76%	02/13/2020 03/23/2020	5.2
JPMorgan SmartRetirement	-33.24%	02/20/202003/23/2020	5.2			*	Benchmark

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### 3-year rolling returns | 2030 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 3 years 1 month shift



% of time	BlackRock LifePath Index	<ul><li>Fidelity Freedom</li></ul>	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	• TIAA-CREF Lifecycle Index
Top quartile rank / # of periods available	2% / 116	52% / 145	50% / 145	26% / 145	97% / 145	57% / 136
Outperforms bmk / # of periods available	29% / 116	58% / 145	84% / 145	57% / 145	97% / 145	90% / 136

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% of time

Top quartile rank / # of

Outperforms bmk / # of

periods available

periods available

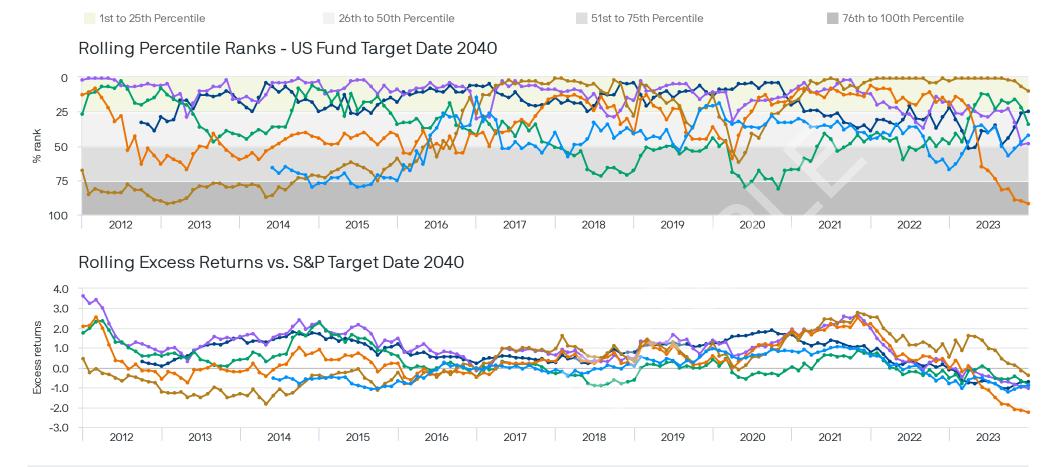
### 3-year rolling returns | 2040 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 3 years 1 month shift

BlackRock LifePath Index

4% / 116

47% / 116



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John Hancock

Multimanager Lifetime

39% / 145

68% / 145

Fidelity Freedom

50% / 145

58% / 145

JPMorgan

SmartRetirement

27% / 145

61% / 145

T. Rowe Price

Retirement

88% / 145

90% / 145

TIAA-CREF Lifecycle

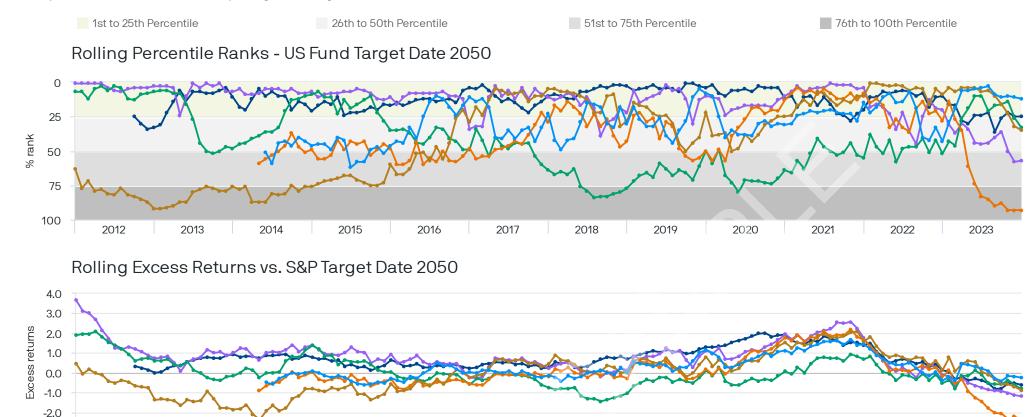
72% / 136

90% / 136

-3.0

### 3-year rolling returns | 2050 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 3 years 1 month shift



% of time	BlackRock LifePath Index	<ul><li>Fidelity Freedom</li></ul>	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	TIAA-CREF Lifecycle Index
Top quartile rank / # of periods available	44% / 116	46% / 145	30% / 117	28% / 145	85% / 145	93% / 136
Outperforms bmk/# of periods available	59% / 116	52% / 145	42% / 117	41% / 145	88% / 145	91% / 136

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1.0 0.0 -1.0 -2.0

2014

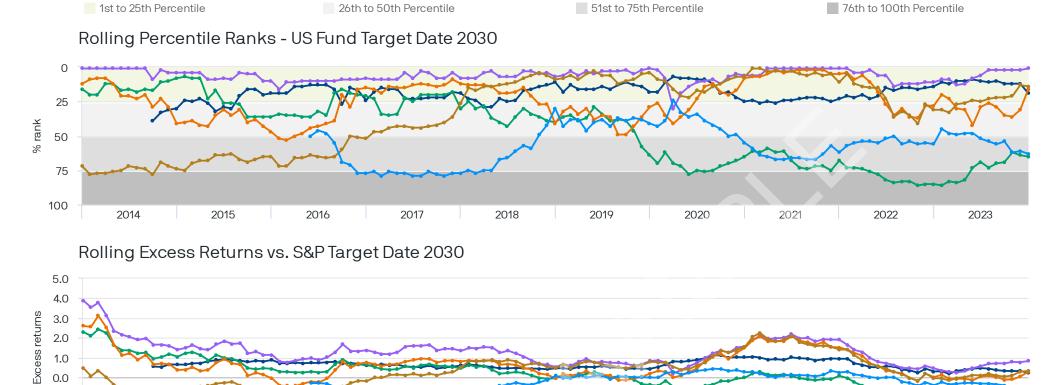
2015

2016

2017

### 5-year rolling returns | 2030 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 5 years 1 month shift



% of time	BlackRock LifePath Index	<ul><li>Fidelity Freedom</li></ul>	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	TIAA-CREF Lifecycle Index
Top quartile rank / # of periods available	1% / 92	51% / 121	50% / 121	26% / 121	99% / 121	88% / 112
Outperforms bmk / # of periods available	41% / 92	66% / 121	83% / 121	60% / 121	100% / 121	100% / 112

2019

2020

2021

2022

2018

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2023

Top quartile rank / # of

Outperforms bmk / # of

periods available

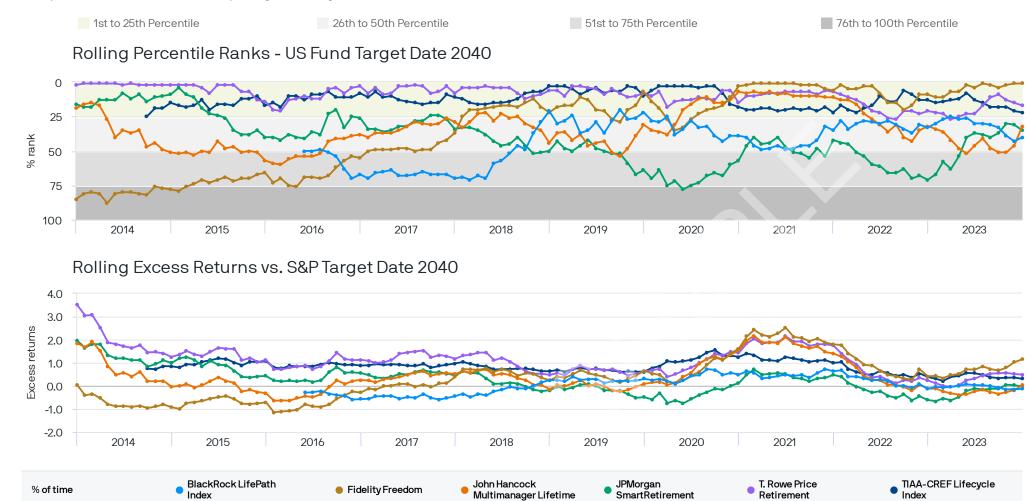
periods available

### 5-year rolling returns | 2040 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 5 years 1 month shift

7% / 92

58% / 92



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26% / 121

70% / 121

20% / 121

64% / 121

98% / 121

99% / 121

55% / 121

66% / 121

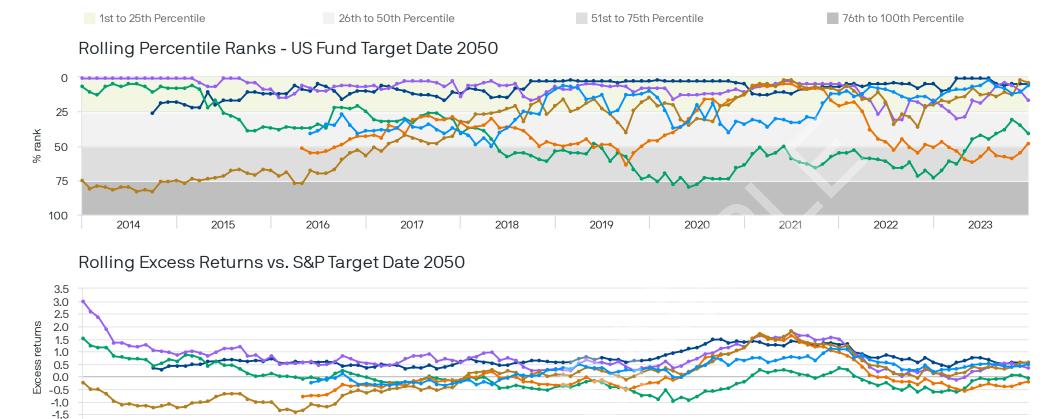
100% / 112

100% / 112

-2.0

### 5-year rolling returns | 2050 funds

Time period: 01/01/2009 - 12/31/2023 | Rolling window: 5 years 1 month shift



% of time	BlackRock LifePath Index	<ul><li>Fidelity Freedom</li></ul>	John Hancock Multimanager Lifetime	JPMorgan SmartRetirement	T. Rowe Price Retirement	• TIAA-CREF Lifecycle Index
Top quartile rank / # of periods available	49% / 92	45% / 121	24% / 93	19% / 121	96% / 121	99% / 112
Outperforms bmk / # of periods available	71% / 92	57% / 121	29% / 93	39% / 121	98% / 121	100% / 112

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### 3-year risk/return comparison

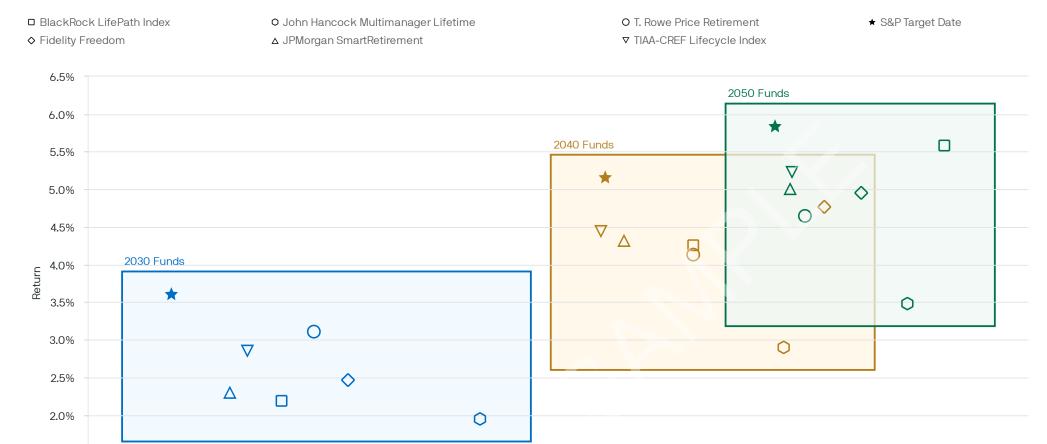
Monthly return data

1.5%

1.0%

12.0%

13.0%



14.0%

Volatility (standard deviation)

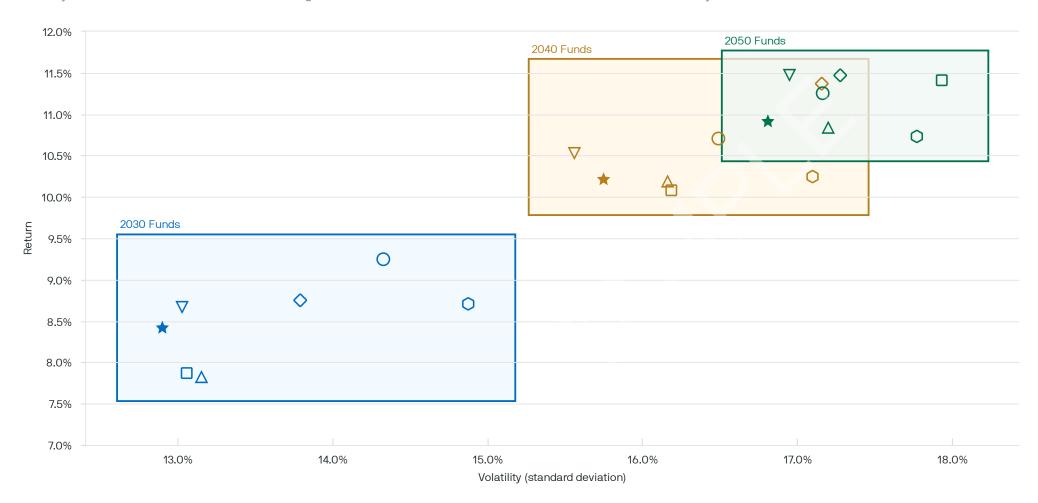
15.0%

16.0%

17.0%

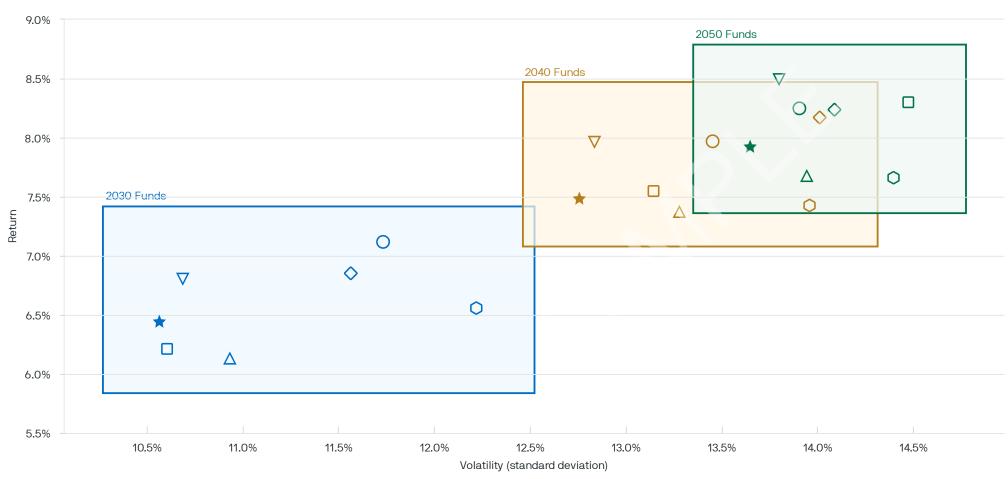
### 5-year risk/return comparison

Monthly return data



### 10-year risk/return comparison

Monthly return data



Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE RETIREMENT								
BlackRock LifePath® Index Retire K	0.35	10.45	-0.21	-0.27	1.28	124.92	132.47	99.30
Fidelity Freedom Income K6	-0.22	7.25	-0.38	-0.72	0.87	79.67	89.35	96.62
JPMorgan SmartRetirement® Income R6	0.81	9.30	-0.18	-0.12	1.13	113.77	116.41	98.60
S&PTarget Date Retirement Income TR USD*	1.00	8.18	-0.18	_	_	_	_	_
US FUND TARGET-DATE 2000-2010								
Fidelity Freedom 2005 K6	-0.09	7.48	-0.35	-0.79	0.84	77.18	88.33	96.04
Fidelity Freedom 2010 K6	0.34	8.77	-0.25	-0.85	1.00	94.25	103.54	97.59
JHancock Multimanager 2010 Lifetime R6	1.58	9.17	-0.10	0.08	1.05	106.42	106.29	98.39
T. Rowe Price Retirement 2005 I	1.46	9.35	-O.11	-0.02	1.07	108.56	109.68	98.70
T. Rowe Price Retirement 2010 I	1.70	9.79	-0.08	0.14	1.12	114.88	114.57	98.49
TIAA-CREF Lifecycle Index 2010 Instl	1.12	9.36	-0.15	-0.35	1.08	106.88	110.80	99.20
S&PTarget Date 2010 TR USD*	1.49	8.67	-0.12	_	_	_	_	_
US FUND TARGET-DATE 2015				$\triangleright$				
Fidelity Freedom 2015 K6	0.81	10.16	-0.17	-0.62	1.08	102.91	111.74	97.68
JHancock Multimanager 2015 Lifetime R6	1.56	10.15	-0.09	-0.21	1.09	107.48	110.76	98.66
T. Rowe Price Retirement 2015 I	2.00	10.13	-0.05	0.11	1.08	110.42	110.52	98.82
TIAA-CREF Lifecycle Index 2015 Instl	1.43	10.05	-0.11	-0.37	1.08	106.82	111.09	99.21
S&P Target Date 2015 TR USD*	1.86	9.29	-0.07	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Upcapture	Down capture	R2
US FUND TARGET-DATE 2020								
Fidelity Freedom 2020 K6	1.24	11.57	-O.11	-0.42	1.14	109.79	117.59	98.19
JHancock Multimanager 2020 Lifetime R6	1.52	11.08	-0.09	-0.41	1.10	107.44	112.92	98.97
JPMorgan SmartRetirement® 2020 R6	0.77	9.33	-0.19	-1.04	0.92	87.76	96.15	98.77
T. Rowe Price Retirement 2020 I	2.29	10.60	-0.02	0.14	1.05	107.04	106.70	98.94
TIAA-CREF Lifecycle Index 2020 Instl	1.74	10.68	-0.07	-0.37	1.06	105.34	108.92	99.31
S&PTarget Date 2020 TR USD*	2.12	10.05	-0.04	_	_	_	_	_
US FUND TARGET-DATE 2025								
BlackRock LifePath® Index 2025 K	1.04	11.26	-0.13	-1.21	1.05	96.96	108.75	98.51
Fidelity Freedom 2025 K6	1.75	12.45	-0.06	-0.44	1.15	108.78	117.50	97.98
JHancock Multimanager 2025 Lifetime R6	1.72	12.43	-0.06	-0.51	1.16	110.78	120.03	98.95
JPMorgan SmartRetirement® 2025 R6	1.43	10.87	-0.10	-1.19	1.01	95.21	103.94	98.86
T. Rowe Price Retirement 2025 I	2.64	11.52	0.01	-0.12	1.07	107.66	110.03	99.16
TIAA-CREF Lifecycle Index 2025 Instl	2.24	11.52	-0.02	-0.43	1.07	104.98	109.67	99.15
S&PTarget Date 2025 TR USD*	2.80	10.69	0.03	_	_	_	_	_
US FUND TARGET-DATE 2030								
BlackRock LifePath® Index 2030 K	2.19	12.66	-0.03	-1.02	1.05	100.08	108.88	98.99
Fidelity Freedom 2030 K6	2.46	13.06	-0.00	-0.56	1.08	102.40	109.92	98.00
JHancock Multimanager 2030 Lifetime R6	1.95	13.85	-0.04	-0.73	1.15	108.46	120.32	98.91
JPMorgan SmartRetirement® 2030 R6	2.31	12.35	-0.02	-1.00	1.02	97.80	105.43	98.92
T. Rowe Price Retirement 2030 I	3.11	12.86	0.05	-0.35	1.07	105.83	110.02	99.14
TIAA-CREF Lifecycle Index 2030 Instl	2.84	12.46	0.03	-0.61	1.03	101.16	106.09	99.08
S&PTarget Date 2030 TR USD*	3.61	12.01	0.09	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2035								
BlackRock LifePath® Index 2035 K	3.25	13.94	0.05	-0.91	1.03	99.85	106.37	99.17
Fidelity Freedom 2035 K6	3.72	14.53	0.08	-0.34	1.07	103.61	108.33	98.13
JHancock Multimanager 2035 Lifetime R6	2.40	14.91	-0.01	-0.99	1.10	103.17	115.02	98.86
JPMorgan SmartRetirement® 2035 R6	3.56	13.67	0.08	-0.65	1.01	97.80	102.17	99.00
T. Rowe Price Retirement 2035 I	3.68	14.13	0.08	-0.55	1.04	102.77	107.54	99.16
TIAA-CREF Lifecycle Index 2035 InstI	3.58	13.53	0.08	-0.64	1.00	97.86	102.16	98.98
S&PTarget Date 2035 TR USD*	4.45	13.50	0.14	_	_	_	_	_
US FUND TARGET-DATE 2040								
BlackRock LifePath® Index 2040 K	4.26	15.13	0.12	-0.67	1.03	101.63	106.54	99.30
Fidelity Freedom 2040 K6	4.77	15.91	0.14	-0.17	1.08	106.05	109.36	98.29
JHancock Multimanager 2040 Lifetime R6	2.90	15.67	0.03	-1.19	1.07	100.45	111.99	98.90
JPMorgan SmartRetirement® 2040 R6	4.33	14.71	0.12	-0.55	1.00	97.88	101.60	98.93
T. Rowe Price Retirement 2040 I	4.13	15.12	0.11	-0.67	1.03	101.44	106.94	99.03
TIAA-CREF Lifecycle Index 2040 Instl	4.43	14.57	0.13	-0.50	0.99	98.29	101.56	98.99
S&P Target Date 2040 TR USD*	5.16	14.60	0.18	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2045								
BlackRock LifePath® Index 2045 K	5.11	16.12	0.16	-0.34	1.05	104.65	108.16	99.37
Fidelity Freedom 2045 K6	4.95	16.08	0.15	-0.31	1.04	102.03	105.69	98.29
JHancock Multimanager 2045 Lifetime R6	3.38	16.30	0.05	-1.18	1.06	100.10	110.95	98.95
JPMorgan SmartRetirement® 2045 R6	4.97	15.54	0.16	-0.39	1.01	99.49	102.51	98.85
T. Rowe Price Retirement 2045 I	4.53	15.63	0.13	-0.68	1.02	100.20	105.47	98.96
TIAA-CREF Lifecycle Index 2045 Instl	5.05	15.39	0.17	-0.40	1.00	99.87	102.60	99.13
S&PTarget Date 2045 TR USD*	5.62	15.30	0.20	_	_	_	_	_
US FUND TARGET-DATE 2050								
BlackRock LifePath® Index 2050 K	5.58	16.62	0.19	-0.16	1.06	106.33	109.02	99.39
Fidelity Freedom 2050 K6	4.95	16.13	0.15	-0.41	1.02	99.87	104.01	98.23
JHancock Multimanager 2050 Lifetime R6	3.48	16.41	0.06	-1.29	1.04	98.45	109.24	98.92
JPMorgan SmartRetirement® 2050 R6	5.01	15.70	0.16	-0.49	1.00	98.09	101.52	98.83
T. Rowe Price Retirement 2050 I	4.65	15.79	0.14	-0.74	1.01	99.18	104.61	98.95
TIAA-CREF Lifecycle Index 2050 Instl	5.22	15.71	0.17	-0.42	1.00	99.86	102.74	99.10
S&P Target Date 2050 TR USD*	5.84	15.61	0.21	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2055								
BlackRock LifePath® Index 2055 K	5.69	16.71	0.19	-0.14	1.06	106.55	109.13	99.41
Fidelity Freedom 2055 K6	4.95	16.08	0.15	-0.45	1.02	99.24	103.53	98.24
JHancock Multimanager 2055 Lifetime R6	3.49	16.40	0.06	-1.33	1.04	97.94	108.82	98.91
JPMorgan SmartRetirement® 2055 R6	5.04	15.69	0.16	-0.52	0.99	97.68	101.20	98.86
T. Rowe Price Retirement 2055 I	4.59	15.83	0.13	-0.82	1.00	98.76	104.65	98.95
TIAA-CREF Lifecycle Index 2055 Instl	5.33	15.84	0.18	-0.40	1.01	100.30	103.09	99.16
S&PTarget Date 2055 TR USD*	5.91	15.68	0.22	_	_	_	_	_
US FUND TARGET-DATE 2060								
BlackRock LifePath® Index 2060 K	5.68	16.73	0.19	-0.12	1.06	106.54	109.02	99.36
Fidelity Freedom 2060 K6	4.93	16.14	0.15	-0.44	1.02	99.39	103.71	98.21
JHancock Multimanager 2060 Lifetime R6	3.51	16.42	0.06	-1.30	1.04	98.05	108.74	98.89
JPMorgan SmartRetirement® 2060 R6	5.04	15.67	0.16	-0.51	0.99	97.38	100.71	98.86
T. Rowe Price Retirement 2060 I	4.63	15.85	0.13	-0.80	1.00	98.69	104.27	99.00
TIAA-CREF Lifecycle Index 2060 Instl	5.44	15.93	0.18	-0.30	1.01	100.92	103.23	99.11
S&P Target Date 2060 TR USD*	5.89	15.71	0.22	_	_	_	_	_



Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2065+								
BlackRock LifePath® Index 2065 K	5.70	16.77	0.19	-0.17	1.07	106.51	109.37	99.43
Fidelity Freedom 2065 K6	4.94	16.08	0.15	-0.49	1.01	98.87	103.43	98.26
JHancock Multimanager 2065 Lifetime R6	3.55	16.43	0.06	-1.35	1.04	97.90	108.79	98.94
JPMorgan Smartretirement® 2065 R6	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2065 I	4.86	15.90	0.15	-0.69	1.01	99.82	105.00	98.96
TIAA-CREF Lifecycle Index 2065 Instl	5.63	16.03	0.20	-0.24	1.02	101.73	103.74	99.21
S&PTarget Date 2065+ TR USD*	5.98	15.70	0.22	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE RETIREMENT								
BlackRock LifePath® Index Retire K	5.62	9.87	0.37	0.33	1.26	124.50	129.49	99.21
Fidelity Freedom Income K6	3.71	6.65	0.26	-0.60	0.83	79.86	82.39	94.96
JPMorgan SmartRetirement® Income R6	5.20	9.29	0.34	0.15	1.17	114.75	119.24	97.16
S&PTarget Date Retirement Income TR USD*	4.90	7.83	0.37	_	_	_	_	_
US FUND TARGET-DATE 2000-2010								
Fidelity Freedom 2005 K6	4.23	7.21	0.31	-0.66	0.83	80.35	83.30	95.65
Fidelity Freedom 2010 K6	5.17	8.64	0.37	-0.32	1.01	97.98	101.28	97.59
JHancock Multimanager 2010 Lifetime R6	6.00	9.63	0.42	0.22	1.12	109.92	111.42	97.71
T. Rowe Price Retirement 2005 I	5.98	9.62	0.41	0.22	1.12	110.54	112.58	97.94
T. Rowe Price Retirement 2010 I	6.46	10.25	0.43	0.38	1.19	118.15	119.60	97.83
TIAA-CREF Lifecycle Index 2010 Instl	5.99	9.14	0.44	0.41	1.07	108.28	108.97	99.39
S&PTarget Date 2010 TR USD*	5.61	8.50	0.42	_	_	_	_	_
US FUND TARGET-DATE 2015								
Fidelity Freedom 2015 K6	6.08	10.17	0.40	-0.01	1.08	105.71	109.05	97.87
JHancock Multimanager 2015 Lifetime R6	6.46	10.59	0.42	0.20	1.13	110.45	112.89	98.53
T. Rowe Price Retirement 2015 I	7.00	10.85	0.46	0.43	1.16	114.95	114.89	98.20
TIAA-CREF Lifecycle Index 2015 InstI	6.51	9.93	0.45	0.41	1.07	107.76	108.23	99.35
S&P Target Date 2015 TR USD*	6.10	9.29	0.44	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2020								
Fidelity Freedom 2020 K6	6.92	11.64	0.42	0.21	1.14	112.07	114.65	98.20
JHancock Multimanager 2020 Lifetime R6	7.01	11.67	0.43	0.28	1.15	112.93	115.21	98.79
JPMorgan SmartRetirement® 2020 R6	5.56	9.57	0.37	-0.54	0.93	90.48	93.03	97.50
T. Rowe Price Retirement 2020 I	7.66	11.77	0.48	0.53	1.15	115.19	113.25	98.02
TIAA-CREF Lifecycle Index 2020 Instl	7.03	10.71	0.47	0.56	1.05	107.30	106.48	99.39
S&PTarget Date 2020 TR USD*	6.47	10.14	0.44	_	_	_	_	_
US FUND TARGET-DATE 2025								
BlackRock LifePath® Index 2025 K	6.65	11.34	0.41	-0.55	0.99	96.87	100.93	98.45
Fidelity Freedom 2025 K6	7.70	12.69	0.45	0.13	1.11	109.39	112.31	98.02
JHancock Multimanager 2025 Lifetime R6	7.88	13.28	0.44	0.20	1.17	114.52	118.77	99.09
JPMorgan SmartRetirement® 2025 R6	6.74	11.45	0.41	-0.47	1.00	96.63	99.87	98.39
T. Rowe Price Retirement 2025 I	8.45	12.97	0.50	0.48	1.14	113.24	112.70	98.80
TIAA-CREF Lifecycle Index 2025 Instl	7.82	11.83	0.49	0.35	1.04	105.03	104.75	99.23
S&PTarget Date 2025 TR USD*	7.42	11.31	0.48	_	_	_	_	_
US FUND TARGET-DATE 2030								
BlackRock LifePath® Index 2030 K	7.87	13.06	0.45	-0.41	1.01	99.30	102.44	98.95
Fidelity Freedom 2030 K6	8.75	13.79	0.49	0.17	1.06	105.53	106.29	98.29
JHancock Multimanager 2030 Lifetime R6	8.71	14.88	0.45	0.12	1.15	112.48	117.05	99.02
JPMorgan SmartRetirement® 2030 R6	7.83	13.15	0.44	-0.39	1.01	98.45	101.40	98.71
T. Rowe Price Retirement 2030 I	9.25	14.33	0.51	0.42	1.11	109.76	109.56	99.05
TIAA-CREF Lifecycle Index 2030 Instl	8.66	13.03	0.51	0.21	1.01	101.71	101.08	99.22
S&PTarget Date 2030 TR USD*	8.42	12.90	0.50	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2035								
BlackRock LifePath® Index 2035 K	9.03	14.67	0.48	-0.33	1.00	99.67	101.81	99.25
Fidelity Freedom 2035 K6	10.32	15.80	0.53	0.39	1.08	108.17	107.41	98.50
JHancock Multimanager 2035 Lifetime R6	9.49	16.10	0.46	0.02	1.10	107.95	111.66	98.98
JPMorgan SmartRetirement® 2035 R6	9.29	14.89	0.49	-0.10	1.02	99.74	100.47	98.84
T. Rowe Price Retirement 2035 I	10.04	15.53	0.52	0.35	1.06	105.50	104.95	99.09
TIAA-CREF Lifecycle Index 2035 Instl	9.57	14.30	0.53	0.10	0.98	99.03	97.84	99.21
S&PTarget Date 2035 TR USD*	9.45	14.58	0.51	_	_	_	_	_
US FUND TARGET-DATE 2040								
BlackRock LifePath® Index 2040 K	10.08	16.18	0.50	-0.10	1.02	102.26	104.06	99.39
Fidelity Freedom 2040 K6	11.37	17.16	0.55	0.48	1.08	109.38	108.19	98.62
JHancock Multimanager 2040 Lifetime R6	10.25	17.09	0.48	0.01	1.08	106.41	109.39	98.98
JPMorgan SmartRetirement® 2040 R6	10.20	16.16	0.51	-0.01	1.02	100.67	101.10	98.94
T. Rowe Price Retirement 2040 I	10.71	16.49	0.53	0.28	1.04	103.90	103.35	99.04
TIAA-CREF Lifecycle Index 2040 Instl	10.52	15.56	0.55	0.23	0.98	100.06	98.56	99.29
S&P Target Date 2040 TR USD*	10.22	15.75	0.52	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2045								
BlackRock LifePath® Index 2045 K	10.95	17.37	0.51	0.18	1.05	105.38	106.73	99.48
Fidelity Freedom 2045 K6	11.49	17.26	0.55	0.38	1.04	105.30	104.04	98.64
JHancock Multimanager 2045 Lifetime R6	10.69	17.67	0.49	0.00	1.07	105.40	107.99	98.99
JPMorgan SmartRetirement® 2045 R6	10.83	17.11	0.52	0.08	1.03	102.31	102.73	98.99
T. Rowe Price Retirement 2045 I	11.19	17.10	0.54	0.28	1.03	103.27	102.43	99.01
TIAA-CREF Lifecycle Index 2045 Instl	11.29	16.66	0.56	0.46	1.01	102.65	101.06	99.40
S&PTarget Date 2045 TR USD*	10.68	16.47	0.53	_	_	_	_	_
US FUND TARGET-DATE 2050								
BlackRock LifePath® Index 2050 K	11.41	17.93	0.52	0.29	1.06	106.83	107.83	99.48
Fidelity Freedom 2050 K6	11.47	17.28	0.55	0.27	1.02	103.07	101.98	98.62
JHancock Multimanager 2050 Lifetime R6	10.73	17.77	0.49	-0.09	1.05	103.55	106.14	98.97
JPMorgan SmartRetirement® 2050 R6	10.85	17.20	0.51	-0.04	1.02	100.57	101.18	98.97
T. Rowe Price Retirement 2050 I	11.25	17.16	0.54	0.19	1.02	101.65	100.88	98.99
TIAA-CREF Lifecycle Index 2050 InstI	11.47	16.95	0.56	0.41	1.01	102.28	100.83	99.38
S&P Target Date 2050 TR USD*	10.92	16.81	0.53	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2055								
BlackRock LifePath® Index 2055 K	11.50	18.00	0.53	0.31	1.06	106.68	107.53	99.50
Fidelity Freedom 2055 K6	11.47	17.27	0.55	0.24	1.01	102.33	101.20	98.62
JHancock Multimanager 2055 Lifetime R6	10.76	17.74	0.49	-O.11	1.04	102.81	105.19	98.94
JPMorgan SmartRetirement® 2055 R6	10.87	17.16	0.52	-0.07	1.01	99.87	100.34	99.00
T. Rowe Price Retirement 2055 I	11.20	17.22	0.53	0.12	1.01	101.05	100.54	98.96
TIAA-CREF Lifecycle Index 2055 InstI	11.60	17.15	0.56	0.46	1.01	102.80	101.32	99.41
S&PTarget Date 2055 TR USD*	10.98	16.94	0.53	_	_	_	_	_
US FUND TARGET-DATE 2060								
BlackRock LifePath® Index 2060 K	11.51	18.03	0.53	0.28	1.06	106.44	107.39	99.46
Fidelity Freedom 2060 K6	11.46	17.29	0.55	0.20	1.01	102.08	101.16	98.59
JHancock Multimanager 2060 Lifetime R6	10.78	17.78	0.49	-0.13	1.04	102.69	105.20	98.95
JPMorgan SmartRetirement® 2060 R6	10.85	17.13	0.52	-O.11	1.00	99.30	99.83	99.00
T. Rowe Price Retirement 2060 I	11.21	17.23	0.53	0.10	1.01	100.73	100.29	99.02
TIAA-CREF Lifecycle Index 2060 Instl	11.73	17.29	0.56	0.50	1.02	103.38	101.84	99.40
S&P Target Date 2060 TR USD*	11.04	16.98	0.53	_	_	_	_	_



Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2065+								
BlackRock LifePath® Index 2065 K	_	_	_	_	_	_	_	_
Fidelity Freedom 2065 K6	_	_	_	_	_	_	_	_
JHancock Multimanager 2065 Lifetime R6	_	_	_	_	_	_	_	_
JPMorgan Smartretirement® 2065 R6	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2065 I	_	_	_	_	_	_	_	_
TIAA-CREF Lifecycle Index 2065 Instl	_	_	_	_	_	_	_	_
S&P Target Date 2065+ TR USD*	11.09	16.97	0.54	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Upcapture	Down capture	R2
US FUND TARGET-DATE RETIREMENT								
BlackRock LifePath® Index Retire K	4.60	7.66	0.43	0.36	1.26	123.82	128.81	99.14
Fidelity Freedom Income K6	3.34	5.19	0.38	-0.40	0.83	83.01	82.57	94.20
JPMorgan SmartRetirement® Income R6	4.16	7.32	0.38	0.10	1.19	116.57	124.06	96.86
S&PTarget Date Retirement Income TR USD*	3.98	6.07	0.43	_	_	_	_	_
US FUND TARGET-DATE 2000-2010								
Fidelity Freedom 2005 K6	3.87	5.92	0.43	-0.38	0.86	86.65	87.08	94.93
Fidelity Freedom 2010 K6	4.52	7.12	0.45	0.02	1.04	103.79	105.83	96.51
JHancock Multimanager 2010 Lifetime R6	4.68	7.68	0.44	0.12	1.13	109.58	112.90	97.30
T. Rowe Price Retirement 2005 I	4.73	7.56	0.45	0.17	1.11	109.02	111.33	97.70
T. Rowe Price Retirement 2010 I	5.09	8.11	0.46	0.33	1.19	117.12	119.51	97.66
TIAA-CREF Lifecycle Index 2010 Instl	4.96	7.29	0.50	0.58	1.08	109.17	108.42	99.35
S&PTarget Date 2010 TR USD*	4.50	6.74	0.47	_	_	_	_	_
US FUND TARGET-DATE 2015								
Fidelity Freedom 2015 K6	5.13	8.34	0.45	0.13	1.10	108.15	110.62	97.47
JHancock Multimanager 2015 Lifetime R6	5.02	8.52	0.43	0.05	1.12	108.51	112.61	98.15
T. Rowe Price Retirement 2015 I	5.53	8.75	0.48	0.35	1.15	113.70	114.63	98.08
TIAA-CREF Lifecycle Index 2015 InstI	5.32	7.94	0.50	0.50	1.05	106.37	105.46	99.31
S&PTarget Date 2015 TR USD*	4.94	7.51	0.48	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2020								
Fidelity Freedom 2020 K6	5.64	9.47	0.45	0.21	1.13	111.27	113.68	97.92
JHancock Multimanager 2020 Lifetime R6	5.45	9.50	0.43	O.11	1.14	110.91	115.17	98.46
JPMorgan SmartRetirement® 2020 R6	4.77	7.98	0.43	-0.37	0.95	93.81	95.85	97.36
T. Rowe Price Retirement 2020 I	6.05	9.63	0.49	0.42	1.15	114.30	113.94	97.99
TIAA-CREF Lifecycle Index 2020 Instl	5.71	8.68	0.50	0.55	1.04	105.60	104.07	99.36
S&PTarget Date 2020 TR USD*	5.28	8.29	0.47	_	_	_	_	_
US FUND TARGET-DATE 2025								
BlackRock LifePath® Index 2025 K	5.47	9.20	0.45	-0.33	0.98	96.07	97.64	98.37
Fidelity Freedom 2025 K6	6.11	10.39	0.46	0.14	1.10	108.80	111.15	97.87
JHancock Multimanager 2025 Lifetime R6	6.04	10.87	0.43	0.10	1.16	112.65	117.72	98.84
JPMorgan SmartRetirement® 2025 R6	5.49	9.50	0.44	-0.28	1.01	98.54	101.28	98.14
T. Rowe Price Retirement 2025 I	6.59	10.65	0.49	0.41	1.14	112.20	111.85	98.51
TIAA-CREF Lifecycle Index 2025 Instl	6.25	9.65	0.51	0.45	1.03	104.22	102.78	99.27
S&PTarget Date 2025 TR USD*	5.85	9.31	0.48	_	_	_	_	_
US FUND TARGET-DATE 2030								
BlackRock LifePath® Index 2030 K	6.21	10.60	0.46	-0.20	1.00	98.51	99.65	98.80
Fidelity Freedom 2030 K6	6.85	11.56	0.48	0.21	1.08	108.51	109.53	97.80
JHancock Multimanager 2030 Lifetime R6	6.56	12.22	0.43	0.05	1.15	111.99	117.22	98.79
JPMorgan SmartRetirement® 2030 R6	6.14	10.93	0.44	-0.21	1.03	100.69	103.59	98.28
T. Rowe Price Retirement 2030 I	7.12	11.73	0.49	0.38	1.10	109.17	108.35	98.62
TIAA-CREF Lifecycle Index 2030 Instl	6.80	10.69	0.51	0.39	1.01	102.31	100.58	99.27
S&P Target Date 2030 TR USD*	6.44	10.57	0.48	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Upcapture	Down capture	R2
US FUND TARGET-DATE 2035								
BlackRock LifePath® Index 2035 K	6.92	11.91	0.47	-0.10	1.00	99.44	100.01	99.05
Fidelity Freedom 2035 K6	7.71	13.14	0.49	0.31	1.10	110.43	110.67	98.09
JHancock Multimanager 2035 Lifetime R6	7.00	13.23	0.43	-0.02	1.11	108.50	112.96	98.78
JPMorgan SmartRetirement® 2035 R6	6.86	12.27	0.45	-0.11	1.03	101.14	103.00	98.46
T. Rowe Price Retirement 2035 I	7.58	12.68	0.49	0.32	1.06	105.43	104.18	98.56
TIAA-CREF Lifecycle Index 2035 Instl	7.37	11.76	0.51	0.32	0.99	100.83	98.81	99.21
S&PTarget Date 2035 TR USD*	7.04	11.86	0.48	_	_	_	_	_
US FUND TARGET-DATE 2040								
BlackRock LifePath® Index 2040 K	7.55	13.14	0.47	0.05	1.03	102.23	102.88	99.13
Fidelity Freedom 2040 K6	8.17	14.01	0.49	0.33	1.09	109.40	109.34	98.40
JHancock Multimanager 2040 Lifetime R6	7.43	13.96	0.44	-0.03	1.09	106.62	110.21	98.85
JPMorgan SmartRetirement® 2040 R6	7.38	13.28	0.45	-0.06	1.03	101.99	103.67	98.57
T. Rowe Price Retirement 2040 I	7.97	13.45	0.49	0.27	1.05	104.06	102.78	98.47
TIAA-CREF Lifecycle Index 2040 Instl	7.96	12.84	0.52	0.41	1.00	102.62	100.71	99.20
S&P Target Date 2040 TR USD*	7.49	12.76	0.48	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2045								
BlackRock LifePath® Index 2045 K	8.05	14.05	0.48	0.21	1.05	104.64	104.98	99.20
Fidelity Freedom 2045 K6	8.24	14.07	0.49	0.26	1.05	105.34	104.79	98.45
JHancock Multimanager 2045 Lifetime R6	7.65	14.33	0.44	-0.06	1.07	104.79	107.77	98.89
JPMorgan SmartRetirement® 2045 R6	7.67	13.90	0.46	-0.05	1.04	102.08	103.62	98.70
T. Rowe Price Retirement 2045 I	8.21	13.87	0.50	0.26	1.03	102.73	101.13	98.53
TIAA-CREF Lifecycle Index 2045 Instl	8.36	13.60	0.52	0.56	1.02	103.84	101.80	99.40
S&PTarget Date 2045 TR USD*	7.76	13.33	0.48	_	_	_	_	_
US FUND TARGET-DATE 2050								
BlackRock LifePath® Index 2050 K	8.30	14.47	0.48	0.25	1.06	105.22	105.35	99.22
Fidelity Freedom 2050 K6	8.24	14.09	0.49	0.17	1.02	102.86	102.27	98.45
JHancock Multimanager 2050 Lifetime R6	7.66	14.39	0.44	-0.16	1.05	102.56	105.42	98.90
JPMorgan SmartRetirement® 2050 R6	7.68	13.94	0.45	-0.15	1.01	99.77	101.17	98.67
T. Rowe Price Retirement 2050 I	8.25	13.90	0.50	0.19	1.01	100.55	98.80	98.49
TIAA-CREF Lifecycle Index 2050 Instl	8.49	13.80	0.52	0.53	1.01	102.78	100.60	99.41
S&P Target Date 2050 TR USD*	7.92	13.65	0.48	_	_	_	_	_

Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Upcapture	Down capture	R2
US FUND TARGET-DATE 2055								
BlackRock LifePath® Index 2055 K	8.37	14.54	0.48	0.26	1.05	104.83	104.73	99.21
Fidelity Freedom 2055 K6	8.22	14.08	0.49	0.14	1.01	101.72	101.08	98.48
JHancock Multimanager 2055 Lifetime R6	_	_	_	_	_	_	_	_
JPMorgan SmartRetirement® 2055 R6	7.70	13.93	0.46	-0.18	1.00	98.81	100.04	98.70
T. Rowe Price Retirement 2055 I	8.21	13.94	0.49	0.13	1.00	99.64	98.08	98.47
TIAA-CREF Lifecycle Index 2055 Instl	8.58	13.94	0.52	0.55	1.01	102.74	100.41	99.42
S&PTarget Date 2055 TR USD*	7.99	13.78	0.48	_	_	_	_	_
US FUND TARGET-DATE 2060								
BlackRock LifePath® Index 2060 K	_	_	_	_	_	_	_	_
Fidelity Freedom 2060 K6	_	_	_	-	_	_	_	_
JHancock Multimanager 2060 Lifetime R6	_	_	_	_	_	_	_	_
JPMorgan SmartRetirement® 2060 R6	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2060 I	_	_	_	_	_	_	_	_
TIAA-CREF Lifecycle Index 2060 Instl	_	_	_	_	_	_	_	_
S&P Target Date 2060 TR USD*	8.04	13.85	0.48	_	_	_	_	_



Target date fund name	Return	Standard deviation	Sharpe ratio	Information ratio	Beta	Up capture	Down capture	R2
US FUND TARGET-DATE 2065+								
BlackRock LifePath® Index 2065 K	_	_	_	_	_	_	_	_
Fidelity Freedom 2065 K6	_	_	_	_	_	_	_	_
JHancock Multimanager 2065 Lifetime R6	_	_	_	_	_	_	_	_
JPMorgan Smartretirement® 2065 R6	_	_	_	_	_	_	_	_
T. Rowe Price Retirement 2065 I	_	_	_	_	_	_	_	_
TIAA-CREF Lifecycle Index 2065 Instl	_	_	_	_	_	_	_	_
S&P Target Date 2065+ TR USD*	_	_	_	_	_	_	_	_



### Fee summary

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE RETIREMENT			
BlackRock LifePath® Index Retire K	LIRKX	0.09	0.13
Fidelity Freedom Income K6	FYTKX	0.24	0.24
JPMorgan SmartRetirement® Income R6	JSIYX	0.34	0.37
Category Mean Net Expense Ratio	_	0.67	_
US FUND TARGET-DATE 2000-2010			
Fidelity Freedom 2005 K6	FITKX	0.24	0.24
Fidelity Freedom 2010 K6	FOTKX	0.25	0.25
JHancock Multimanager 2010 Lifetime R6	JLAIX	0.51	1.01
T. Rowe Price Retirement 2005 I	TRAJX	0.34	0.34
T. Rowe Price Retirement 2010 I	TRPUX	0.34	0.34
TIAA-CREF Lifecycle Index 2010 Instl	TLTIX	0.10	0.21
Category Mean Net Expense Ratio	_	0.52	_
US FUND TARGET-DATE 2015			
Fidelity Freedom 2015 K6	FPTKX	0.27	0.27
JHancock Multimanager 2015 Lifetime R6	JLBJX	0.53	0.97
T. Rowe Price Retirement 2015 I	TRUBX	0.35	0.35
TIAA-CREF Lifecycle Index 2015 Instl	TLFIX	0.10	0.20
Category Mean Net Expense Ratio	_	0.57	_

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE 2020			
Fidelity Freedom 2020 K6	FATKX	0.30	0.30
JHancock Multimanager 2020 Lifetime R6	JLDIX	0.55	0.92
JPMorgan SmartRetirement® 2020 R6	JTTYX	0.34	0.36
T. Rowe Price Retirement 2020 I	TRDBX	0.37	0.37
TIAA-CREF Lifecycle Index 2020 InstI	TLWIX	0.10	0.19
Category Mean Net Expense Ratio	_	0.61	_
US FUND TARGET-DATE 2025			
BlackRock LifePath® Index 2025 K	LIBKX	0.09	0.14
Fidelity Freedom 2025 K6	FDTKX	0.34	0.34
JHancock Multimanager 2025 Lifetime R6	JLEIX	0.57	0.91
JPMorgan SmartRetirement® 2025 R6	JNSYX	0.34	0.36
T. Rowe Price Retirement 2025 I	TREHX	0.38	0.38
TIAA-CREF Lifecycle Index 2025 InstI	TLQIX	0.10	0.18
Category Mean Net Expense Ratio	_	0.66	_
US FUND TARGET-DATE 2030			
BlackRock LifePath® Index 2030 K	LINKX	0.09	0.14
Fidelity Freedom 2030 K6	FGTKX	0.37	0.37
JHancock Multimanager 2030 Lifetime R6	JLFIX	0.58	0.90
JPMorgan SmartRetirement® 2030 R6	JSMYX	0.35	0.36
T. Rowe Price Retirement 2030 I	TRFHX	0.40	0.40
TIAA-CREF Lifecycle Index 2030 InstI	TLHIX	0.10	0.18
Category Mean Net Expense Ratio	_	0.68	_



### Fee summary

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE 2035			
BlackRock LifePath® Index 2035 K	LIJKX	0.09	0.14
Fidelity Freedom 2035 K6	FWTKX	0.41	0.41
JHancock Multimanager 2035 Lifetime R6	JLHIX	0.60	0.91
JPMorgan SmartRetirement® 2035 R6	SRJYX	0.39	0.41
T. Rowe Price Retirement 2035 I	TRFJX	0.42	0.42
TIAA-CREF Lifecycle Index 2035 Instl	TLYIX	0.10	0.17
Category Mean Net Expense Ratio	_	0.68	_
US FUND TARGET-DATE 2040			
BlackRock LifePath® Index 2040 K	LIKKX	0.09	0.15
Fidelity Freedom 2040 K6	FHTKX	0.44	0.44
JHancock Multimanager 2040 Lifetime R6	JLIIX	0.59	0.91
JPMorgan SmartRetirement® 2040 R6	SMTYX	0.40	0.43
T. Rowe Price Retirement 2040 I	TRHDX	0.43	0.43
TIAA-CREF Lifecycle Index 2040 InstI	TLZIX	0.10	0.17
Category Mean Net Expense Ratio	_	0.70	_

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE 2045			
BlackRock LifePath® Index 2045 K	LIHKX	0.09	0.15
Fidelity Freedom 2045 K6	FJTKX	0.45	0.45
JHancock Multimanager 2045 Lifetime R6	JLJIX	0.59	0.92
JPMorgan SmartRetirement® 2045 R6	JSAYX	0.41	0.43
T. Rowe Price Retirement 2045 I	TRIKX	0.44	0.44
TIAA-CREF Lifecycle Index 2045 InstI	TLXIX	0.10	0.17
Category Mean Net Expense Ratio	_	0.70	_
US FUND TARGET-DATE 2050			
BlackRock LifePath® Index 2050 K	LIPKX	0.09	0.15
Fidelity Freedom 2050 K6	FZTKX	0.45	0.45
JHancock Multimanager 2050 Lifetime R6	JLKRX	0.61	0.93
JPMorgan SmartRetirement® 2050 R6	JTSYX	0.41	0.43
T. Rowe Price Retirement 2050 I	TRJLX	0.45	0.45
TIAA-CREF Lifecycle Index 2050 InstI	TLLIX	0.10	0.17
Category Mean Net Expense Ratio	_	0.72	_



### Fee summary

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE 2055			
BlackRock LifePath® Index 2055 K	LIVKX	0.09	0.15
Fidelity Freedom 2055 K6	FCTKX	0.45	0.45
JHancock Multimanager 2055 Lifetime R6	JLKTX	0.60	0.95
JPMorgan SmartRetirement® 2055 R6	JFFYX	0.41	0.44
T. Rowe Price Retirement 2055 I	TRJMX	0.46	0.46
TIAA-CREF Lifecycle Index 2055 Instl	TTIIX	0.10	0.17
Category Mean Net Expense Ratio	_	0.70	_
US FUND TARGET-DATE 2060			
BlackRock LifePath® Index 2060 K	LIZKX	0.09	0.15
Fidelity Freedom 2060 K6	FVTKX	0.45	0.45
JHancock Multimanager 2060 Lifetime R6	JESRX	0.59	0.99
JPMorgan SmartRetirement® 2060 R6	JAKYX	0.40	0.47
T. Rowe Price Retirement 2060 I	TRLNX	0.46	0.46
TIAA-CREF Lifecycle Index 2060 Instl	TVIIX	0.10	0.18
Category Mean Net Expense Ratio	_	0.71	_

Target date fund name	Ticker	Net expense ratio	Gross expense ratio
US FUND TARGET-DATE 2065+			
BlackRockLifePath® Index 2065 K	LIWKX	0.09	0.17
Fidelity Freedom 2065 K6	FFSZX	0.45	0.45
JHancock Multimanager 2065 Lifetime R6	JABEX	0.59	1.34
JPMorgan Smartretirement® 2065 R6	JSMOX	0.44	13.18
T. Rowe Price Retirement 2065 I	TRMOX	0.46	0.46
TIAA-CREF Lifecycle Index 2065 Instl	TFITX	0.10	0.38
Category Mean Net Expense Ratio	_	0.70	_

### Target date quadrants defined



### Quadrant characteristics

- · Lower level of equity exposure at the target date
- Higher number of asset classes—tend to include both traditional and extended asset classes

#### **Investment Orientation**

- · Focus on ensuring income replacement at retirement
- Focus on managing volatility more efficiently
- Believe higher diversification can potentially create more optimal portfolios

#### Plan Profile

- · Seek to help meet participants' income replacement goals at retirement
- · May have participants who exhibit typical savings behavior
- · Prefer target date funds that seek to manage downside risk
- Believe broad diversification is likely to improve portfolio outcomes
- · Believe diversification can be achieved by extending beyond traditional asset classes



#### Quadrant characteristics

- · Higher level of equity exposure at the target date
- · Higher number of asset classes—tend to include both traditional and extended asset classes

#### **Investment Orientation**

- Focus on managing longevity risk post-retirement
- · Focus on growth more efficiently
- · Believe higher diversification can potentially create more optimal portfolios

#### Plan Profile

- Seek to help maximize participants' savings throughout their lifetimes
- · May have participants who more closely exhibit optimal behavior
- · Prefer target date funds that seek to maximize upside return potential
- Believe broad diversification is likely to improve portfolio outcomes
- · Believe diversification can be achieved by extending beyond traditional asset classes



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### Quadrant characteristics

- · Lower level of equity exposure at the target date
- · Lower number of asset classes—tend to maintain focus on traditional asset classes

#### Investment Orientation

- Focus on ensuring income replacement at retirement
- · Focus on managing volatility
- Believe lower diversification can provide appropriate levels of portfolio optimization

#### Plan Profile

- · Seek to help meet participants' income replacement goals at retirement
- · May have participants who exhibit typical savings behavior
- · Prefer target date funds that seek to manage downside risk
- · Believe broad diversification is not likely to improve portfolio outcomes
- · Believe diversification can be achieved primarily with traditional asset classes, such as stocks and bonds



### Quadrant characteristics

- · Higher level of equity exposure at the target date
- · Lower number of asset classes—tend to maintain focus on traditional asset classes

#### **Investment Orientation**

- Focus on managing longevity risk post-retirement
- Focus on managing growth
- Believe lower diversification can provide appropriate levels of portfolio optimization

#### Plan Profile

- Seek to help maximize participants' savings throughout their lifetimes
- May have participants who more closely exhibit optimal behavior
- Prefer target date funds seeking to maximize upside return potential
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- Believe diversification can be achieved primarily with traditional asset classes, such as stocks and bonds

### **Disclaimers**

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TARGET DATE FUNDS: Target date funds are funds with the target date being the approximate date when investors plan to retire. Generally, the asset allocation of each fund will change on an annual basis with the asset allocation becoming more conservative as the fund nears the target retirement date. The principal value of the fund(s) is not guaranteed at any time, including at the target date. Certain underlying funds of target date funds may have unique risks associated with investments in foreign/emerging market securities and/or fixed income instruments. International investing involves increased risk and volatility due to currency exchange rate changes; political, social or economic instability; and accounting or other financial standards differences. Fixed income securities generally decline in price when interest rates rise. Real estate funds may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector, including, but not limited to, declines in the value of real estate, risk related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by the borrower. The fund may invest in futures contracts and other derivatives. This may make the fund more volatile. The gross expense ratio of the fund includes the estimated fees and expenses of the underlying funds. There may be additional fees associated with investing in a Fund of Funds strategy.

COLLECTIVE INVESTMENT TRUSTS FUNDS (COMMINGLED FUNDS): Collective Investment Trusts Funds are collective trust funds established and maintained under a declaration of trust. The fund is not required to file a prospectus or registration statement with the SEC, and accordingly, neither is available. The fund is available only to certain qualified retirement plans and governmental plans and is not offered to the general public. Units of the fund are not bank deposits and are not insured or guaranteed by any bank, government entity, the FDIC or any other type of deposit insurance. You should carefully consider the investment objectives, risk, charges and expenses of the fund before investing. Because of lack of prospectus filing or registration statement, the nature of the data provided in this report is limited.

**EXTENDED PERFORMANCE RETURNS:** An approximation of pre-inception returns for a fund share class based on the fee-adjusted performance of an older share class that shares the same portfolio of holdings. Compounded trailing extended performance returns are based on both pre-inception adjusted monthly returns and post-inception actual monthly returns. The fee adjustment for open-end funds is based on management and distribution fees.

**MORNINGSTAR PERCENTILE RANKINGS:** Each investment's total returns are compared to other investments in the same Morningstar category for various time periods. Total returns are ranked on a scale from 1 to 100 where 1 represents the highest returning 1% of investments and 100 represents the lowest returning investments. Included for mutual funds only.

**DOW JONES US TARGET INDEX SUITE:** Comprised of a set of indices that align to a series of risk allocations corresponding to target date years. Each index is invested a combination of three diverse Composite Major Asset Classes - Dow Jones U.S. Stock CMAC Index, S&P Bond Composite — U.S. Index and S&P Cash Composite — U.S. Index. The Indices assign CMAC allocations that target specific market risk levels based on a pre-determined glide path providing a planned level of market risk exposure over a fifty-year period and are rebalanced to reflect an increasingly conservative asset mix.

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**S&P TARGET DATE INDEX SUITE:** Comprised of a set of indices aligned with specific target date years. Each index is invested a combination of indices seeking to represent the consensus asset allocation and glide path generally available in target date funds. The allocation for each index is determined once a year through a survey of large fund management companies that

MORNINGSTAR LIFETIME ALLOCATION — AGGRESSIVE INDEX SUITE: Comprised of a set of indices aligned with specific target date years. Each index is invested a combination of indices with a Modern Portfolio Theory-based glide path, optimized to human capital asset assumptions and a liability-driven investment (LDI) approach using investor balance sheet construct for surplus optimization. The aggressive glide path follows a human capital model of 80% bonds and 20% stocks. Allocates to a mix of Morningstar Indices across global equities, bonds and inflation hedges.

MORNINGSTAR LIFETIME ALLOCATION — MODERATE INDEX SUITE: Comprised of a set of indices aligned with specific target date years. Each index is invested a combination of indices with a Modern Portfolio Theory-based glide path, optimized to human capital asset assumptions and a liability-driven investment (LDI) approach using investor balance sheet construct for surplus optimization. The moderate glide path follows a human capital model of 70% bonds and 30% stocks. Allocates to a mix of Morningstar Indices across global equities, bonds and inflation hedges.

MORNINGSTAR LIFETIME ALLOCATION — CONSERVATIVE INDEX SUITE: Comprised of a set of indices aligned with specific target date years. Each index is invested a combination of indices with a Modern Portfolio Theory-based glide path, optimized to human capital asset assumptions and a liability-driven investment (LDI) approach using investor balance sheet construct for surplus optimization. The conservative glide path follows a human capital model of 60% bonds and 40% stocks. Allocates to a mix of Morningstar Indices across global equities, bonds and inflation hedges.

**STANDARD DEVIATION:** The standard deviation is a gauge of the variance of a manager's return over its average or mean. Statistically, it is the square root of the variance. Because it measures total variation of the return, standard deviation is a measure of total risk, unlike beta, which measures only market risk. Investors use the standard deviation to try to predict the range of returns that is most likely for a given investment. When a portfolio has a high standard deviation, the predicted range of performance is wide, implying greater volatility. The converse, a low standard deviation, implies that the portfolio will exhibit lower volatility.

SHARPE RATIO: Measures a manager's excess return over the risk-free rate of return (normally the cash return), divided by the standard deviation. It is a statistical measure that incorporates return and risk into a single number. The ratio describes how much excess return you are receiving for the extra volatility that you endure for holding a riskier asset. The higher the Sharpe ratio, the better the portfolio's historical risk-adjusted performance.

**INFORMATION RATIO:** A risk-adjusted performance measure defined as excess return divided by tracking error. Information ratio is a special version of the Sharpe ratio where the benchmark does not have to be the risk-free rate. Since this ratio considers the annualized standard deviation of both series (measures of risks inherent in owning either a portfolio or the benchmark), the ratio shows the risk-adjusted excess return of the portfolio over the benchmark. The higher the Information ratio, the higher the excess return of a portfolio given the amount of risk involved.

BETA: A measure of a portfolio's sensitivity to market movements. The beta of the market is 1.00 by definition. Calculated by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills, so a beta of 1.10 shows that the portfolio has performed 10% better than its benchmark in up markets and 10% worse in down markets, assuming all other factors remain constant. Conversely, a beta of 0.85 indicates that the portfolio's excess return is expected to perform 15% worse than the benchmark's excess return during up markets and 15% better during down markets. It is important to note that a low beta does not necessarily imply a low level of volatility. A low beta signifies only that benchmark-related (market-related) risk is low.

**MAX DRAWDOWN:** The worst peak to trough decline during a specific analysis period for an investment or fund. It is quoted as the percentage decline between the lowest trough and the highest peak before the trough.

**UP-MARKET CAPTURE RATIO:** Measures a manager's performance in up markets relative to the index during the same period. A ratio value of 115 indicates that the manager has outperformed the market index by 15% in periods when the index has risen.

**DOWN-MARKET CAPTURE RATIO:** This ratio is the direct opposite of the up-market capture ratio, gauging performance of the manager relative to the index in down markets. A ratio value of 80 would indicate the manager has declined only 80% as much as the declining overall market, indicating relative out performance.

MONTHS TO RECOVER: The number of months it took an investment to recover from a maximum drawdown to the original level

**R-SQUARED:** Reflects the percentage of a portfolio's movements that can be explained by movements in its benchmark. Measures of the correlation of the portfolio's returns to the benchmark's returns. An R-squared of 100 indicates that all movements of a portfolio can be explained by movements in the benchmark. Conversely, a low R-squared indicates that very few of the portfolio's movements can be explained by movements in its benchmark index R-squared measure of 35, for example, means that only 35% of the portfolio's movements can be explained by movements in the benchmark index.

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