

MML Series Investment Fund and MML Series Investment Fund II Portfolio Holdings
As of 6/30/2021

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Aggressive Allocation Fund	EQUITY	MML GLOBAL FD	19797970.79	1267475.723	11.54079		0
MML Aggressive Allocation Fund	EQUITY	MML FOCUSED EQUITY FUND	16027898.53	2016087.866	9.34311		0
MML Aggressive Allocation Fund	EQUITY	MML MID CAP GROWTH FD	12519472.6	632616.099	7.29795		0
MML Aggressive Allocation Fund	EQUITY	MML BLUE CHIP GROWTH FD	11389485.44	493906.567	6.639249		0
MML Aggressive Allocation Fund	EQUITY	MML INCOME AND GROWTH FD	11088381.27	927122.18	6.463727		0
MML Aggressive Allocation Fund	EQUITY	MML EQUITY INCOME FD	10378462.5	852790.674	6.049896		0
MML Aggressive Allocation Fund	EQUITY	MML FUNDAMENTAL VALUE FUND	10262960.65	729421.51	5.982566		0
MML Aggressive Allocation Fund	EQUITY	MML INTERNATIONAL EQUITY FUND	8761542.43	773304.716	5.107348		0
MML Aggressive Allocation Fund	EQUITY	MML MID CAP VALUE FD	8723106.33	710929.611	5.084942		0
MML Aggressive Allocation Fund	EQUITY	MML FUNDAMENTAL GROWTH FUND	8475444.38	679666.751	4.940573		0
MML Aggressive Allocation Fund	EQUITY	MML FOREIGN FD	7841520.67	705807.441	4.571041		0
MML Aggressive Allocation Fund	EQUITY	MML STRG EMERGING MARKETS FUND	7675189.26	496776.004	4.474082		0
MML Aggressive Allocation Fund	EQUITY	MML TOTAL RETURN BOND FUND	5286620.8	474136.395	3.081719		0
MML Aggressive Allocation Fund	EQUITY	MML SMALL COMPANY VALUE FUND	4157279.35	233949.316	2.423394		0
MML Aggressive Allocation Fund	EQUITY	MML LARGE CAP GROWTH FD	3929630.48	247302.107	2.290691		0
MML Aggressive Allocation Fund	EQUITY	MML INFLATION PROTECTED BD FD	3894067.1	333681.842	2.26996		0
MML Aggressive Allocation Fund	EQUITY	MML MANAGED BOND FUND	3461807.03	253356.393	2.017984		0
MML Aggressive Allocation Fund	EQUITY	MML SMALL/MID CAP VALUE	2904542.84	209411.885	1.693139		0
MML Aggressive Allocation Fund	EQUITY	MML SHORT DURATION BOND FUND	2629618.92	261914.235	1.532878		0
MML Aggressive Allocation Fund	EQUITY	MML SMALL CAP GROWTH EQUITY FD	2430245.4	133819.23	1.416658		0
MML Aggressive Allocation Fund	EQUITY	INVESCO VI GLOBAL FUND	2154170.29	36994.166	1.255726		0
MML Aggressive Allocation Fund	EQUITY	INVESCO VI DISCOVERY MID CAP G	2103957.16	18005.624	1.226455		0
MML Aggressive Allocation Fund	EQUITY	MML HIGH YIELD FUND	1650920.55	154435.973	0.962368		0
MML Aggressive Allocation Fund	EQUITY	MML DYNAMIC BOND FUND	1467406.37	140690.927	0.855392		0
MML Aggressive Allocation Fund	EQUITY	INVESCO VI GLOBAL STRATEGIC IN	1283166.51	273014.151	0.747994		0
MML Aggressive Allocation Fund	EQUITY	MML SER INVT FD	796534.06	23862.614	0.464322		0
MML Aggressive Allocation Fund	EQUITY	INVESCO VI MAIN STREET FUND	270087.29	7772.296	0.157441		0
MML Aggressive Allocation Fund	EQUITY	INVESCO OPPENHEIMER VI INTERNA	186302.41	59904.312	0.108601		0
MML American Funds Core Allocation	EQUITY	AMER FDS INS BOND FD	319485346.6	28248041.26	33.372695		0
MML American Funds Core Allocation	EQUITY	AMER FDS INS GRWTH INC FD	265592698.3	4253566.596	27.743195		0
MML American Funds Core Allocation	EQUITY	AMER FDS INS BLUE CHIP INC GRT	264195607.5	16050765.95	27.597258		0
MML American Funds Core Allocation	EQUITY	AMER FD INS INTERNATIONAL FD	108051923.6	4367498.934	11.286852		0
MML American Funds Growth Fund	EQUITY	AMERICAN FDS INS SER	283019475.2	2392590.035	100		0
MML American Funds International Fund	EQUITY	AMER FD INS INTERNATIONAL FD	62769879.61	2537181.876	100		0
MML Balanced Allocation Fund	EQUITY	MML MANAGED BOND FUND	80574444.49	5896934.882	16.61119		0
MML Balanced Allocation Fund	EQUITY	MML DYNAMIC BOND FUND	48247055.48	4625796.307	9.94659		0
MML Balanced Allocation Fund	EQUITY	MML TOTAL RETURN BOND FUND	48038140.52	4308353.41	9.903521		0
MML Balanced Allocation Fund	EQUITY	MML GLOBAL FD	25664354.06	1643044.434	5.290951		0
MML Balanced Allocation Fund	EQUITY	MML FOCUSED EQUITY FUND	24036596.84	3023471.3	4.955374		0
MML Balanced Allocation Fund	EQUITY	MML FUNDAMENTAL GROWTH FUND	23901828.04	1916746.435	4.92759		0
MML Balanced Allocation Fund	EQUITY	MML SHORT DURATION BOND FUND	22361734.93	2227264.435	4.610085		0
MML Balanced Allocation Fund	EQUITY	MML BLUE CHIP GROWTH FD	21068425.34	913635.097	4.343457		0
MML Balanced Allocation Fund	EQUITY	MML INFLATION PROTECTED BD FD	19859373.15	1701745.771	4.094199		0
MML Balanced Allocation Fund	EQUITY	MML EQUITY INCOME FD	19459204.6	1598948.611	4.011701		0
MML Balanced Allocation Fund	EQUITY	MML MID CAP GROWTH FD	19084127.63	964331.866	3.934375		0
MML Balanced Allocation Fund	EQUITY	MML INCOME AND GROWTH FD	18242211.45	1525268.516	3.760806		0
MML Balanced Allocation Fund	EQUITY	MML FUNDAMENTAL VALUE FUND	18045275.54	1282535.575	3.720206		0
MML Balanced Allocation Fund	EQUITY	MML MID CAP VALUE FD	15705103.07	1279959.5	3.237757		0
MML Balanced Allocation Fund	EQUITY	MML INTERNATIONAL EQUITY FUND	15144141.05	1336640.869	3.122109		0
MML Balanced Allocation Fund	EQUITY	MML FOREIGN FD	13834457.97	1245225.74	2.852105		0
MML Balanced Allocation Fund	EQUITY	MML HIGH YIELD FUND	10587468.66	990408.668	2.182708		0
MML Balanced Allocation Fund	EQUITY	INVESCO VI GLOBAL STRATEGIC IN	10555954.35	2245947.735	2.176211		0
MML Balanced Allocation Fund	EQUITY	MML LARGE CAP GROWTH FD	10284390.46	647224.069	2.120225		0
MML Balanced Allocation Fund	EQUITY	MML SMALL COMPANY VALUE FUND	5200523.26	292657.471	1.072137		0
MML Balanced Allocation Fund	EQUITY	MML SMALL/MID CAP VALUE	5041453.55	363478.987	1.039344		0
MML Balanced Allocation Fund	EQUITY	MML STRG EMERGING MARKETS FUND	4515148.57	292242.626	0.930841		0
MML Balanced Allocation Fund	EQUITY	MML SMALL CAP GROWTH EQUITY FD	1798401.84	99027.345	0.370758		0
MML Balanced Allocation Fund	EQUITY	MML SER INVT FD	1495357.71	44798.014	0.308282		0
MML Balanced Allocation Fund	EQUITY	INVESCO VI GLOBAL FUND	695086.33	11936.911	0.143299		0
MML Balanced Allocation Fund	EQUITY	INVESCO OPPENHEIMER VI INTERNA	565786.65	181924.968	0.116642		0
MML Balanced Allocation Fund	EQUITY	INVESCO VI MAIN STREET FUND	545337.45	15693.164	0.112427		0
MML Balanced Allocation Fund	EQUITY	INVESCO VI DISCOVERY MID CAP G	509860.95	4363.38	0.105113		0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Blend Fund	EQUITY	ISHARES CORE S+P TOTAL US STOC	248291528.4	2514090	30.212485	0	
MML Blend Fund	EQUITY	ISHARES CORE S+P 500 ETF	226519259	526887	27.563202	0	
MML Blend Fund	EQUITY	ISHARES CORE U.S. AGGREGATE BO	129666326.3	1124307	15.777993	0	
MML Blend Fund	EQUITY	ISHARES CORE TOTAL USD BOND MA	129655106.4	2423913	15.776627	0	
MML Blend Fund	EQUITY	ISHARES 5 10 YEAR INVESTMENT G	31040889.56	512903	3.777102	0	
MML Blend Fund	EQUITY	ISHARES IBOX HIGH YIELD CORPO	31022214.6	352365	3.774829	0	
MML Blend Fund	EQUITY	ISHARES CORE S+P MID CAP ETF	17599665.16	65492	2.141554	0	
MML Blend Fund	EQUITY	ISHARES CORE S+P SMALL CAP ETF	7918881.18	70091	0.963581	0	
MML Blend Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	103773.55	103773.55	0.012627	0	7/1/2021
MML Blue Chip Growth Fund	EQUITY	AMAZON.COM INC	61843756.32	17977	10.898125	0	
MML Blue Chip Growth Fund	EQUITY	FACEBOOK INC CLASS A	41683474.8	119880	7.345474	0	
MML Blue Chip Growth Fund	EQUITY	ALPHABET INC CL C	38978288.64	15552	6.868766	0	
MML Blue Chip Growth Fund	EQUITY	MICROSOFT CORP	32766709.5	120955	5.774159	0	
MML Blue Chip Growth Fund	EQUITY	APPLE INC	25124353.28	183443	4.427421	0	
MML Blue Chip Growth Fund	EQUITY	VISA INC CLASS A SHARES	18070077.24	77282	3.184314	0	
MML Blue Chip Growth Fund	EQUITY	INTUIT INC	15492803.19	31607	2.730146	0	
MML Blue Chip Growth Fund	EQUITY	PAYPAL HOLDINGS INC	15042699.84	51608	2.650829	0	
MML Blue Chip Growth Fund	EQUITY	SERVICENOW INC	11997226.05	21831	2.114155	0	
MML Blue Chip Growth Fund	EQUITY	MASTERCARD INC A	11894267.11	32579	2.096011	0	
MML Blue Chip Growth Fund	EQUITY	SNAP INC A	11205146.02	164443	1.974574	0	
MML Blue Chip Growth Fund	EQUITY	SEA LTD ADR	11117181	40485	1.959073	0	
MML Blue Chip Growth Fund	EQUITY	TENCENT HOLDINGS LTD	10560766.81	140400	1.861021	0	
MML Blue Chip Growth Fund	EQUITY	UNITEDHEALTH GROUP INC	10544386.08	26332	1.858135	0	
MML Blue Chip Growth Fund	EQUITY	SALESFORCE.COM INC	10290606.56	42128	1.813414	0	
MML Blue Chip Growth Fund	EQUITY	NETFLIX INC	9868547.43	18683	1.739038	0	
MML Blue Chip Growth Fund	EQUITY	GLOBAL PAYMENTS INC	9791650.94	52211	1.725488	0	
MML Blue Chip Growth Fund	EQUITY	NVIDIA CORP	8713089	10890	1.535423	0	
MML Blue Chip Growth Fund	EQUITY	ALPHABET INC CL A	8656145.55	3545	1.525389	0	
MML Blue Chip Growth Fund	EQUITY	INTUITIVE SURGICAL INC	8498393.24	9241	1.497589	0	
MML Blue Chip Growth Fund	EQUITY	STRYKER CORP	6708566.17	25829	1.182186	0	
MML Blue Chip Growth Fund	EQUITY	DANAHER CORP	6166376.08	22978	1.086641	0	
MML Blue Chip Growth Fund	EQUITY	GOLDMAN SACHS GROUP INC	6133963.86	16162	1.080929	0	
MML Blue Chip Growth Fund	EQUITY	MATCH GROUP INC	5978343.75	37075	1.053505	0	
MML Blue Chip Growth Fund	EQUITY	CIGNA CORP	5730930.18	24174	1.009906	0	
MML Blue Chip Growth Fund	EQUITY	PINTEREST INC CLASS A	5018456.75	63565	0.884354	0	
MML Blue Chip Growth Fund	EQUITY	ZOOM VIDEO COMMUNICATIONS A	4981076.1	12870	0.877767	0	
MML Blue Chip Growth Fund	EQUITY	SYNOPSYS INC	4839287.13	17547	0.852781	0	
MML Blue Chip Growth Fund	EQUITY	S+P GLOBAL INC	4716480.95	11491	0.83114	0	
MML Blue Chip Growth Fund	EQUITY	ASML HOLDING NV NY REG SHS	4569215.76	6614	0.805189	0	
MML Blue Chip Growth Fund	EQUITY	ROSS STORES INC	4549808	36692	0.801769	0	
MML Blue Chip Growth Fund	EQUITY	FISERV INC	4444272.42	41578	0.783171	0	
MML Blue Chip Growth Fund	EQUITY	ADVANCED MICRO DEVICES	4372629.36	46552	0.770546	0	
MML Blue Chip Growth Fund	EQUITY	ALIBABA GROUP HOLDING SP ADR	4326055.28	19076	0.762339	0	
MML Blue Chip Growth Fund	EQUITY	LULULEMON ATHLETICA INC	4324164.56	11848	0.762006	0	
MML Blue Chip Growth Fund	EQUITY	HCA HEALTHCARE INC	4114952.96	19904	0.725138	0	
MML Blue Chip Growth Fund	EQUITY	DOLLAR GENERAL CORP	4039568.52	18668	0.711854	0	
MML Blue Chip Growth Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	4014922.13	4014922.13	0.707511	0	7/1/2021
MML Blue Chip Growth Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	3891353.4	2510	0.685735	0	
MML Blue Chip Growth Fund	EQUITY	BOOKING HOLDINGS INC	3783207.61	1729	0.666678	0	
MML Blue Chip Growth Fund	EQUITY	SHOPIFY INC CLASS A	3424537.12	2344	0.603473	0	
MML Blue Chip Growth Fund	EQUITY	DOCUSIGN INC	3384753.99	12107	0.596462	0	
MML Blue Chip Growth Fund	EQUITY	MARVELL TECHNOLOGY INC	3315243.88	56836	0.584213	0	
MML Blue Chip Growth Fund	EQUITY	FIDELITY NATIONAL INFO SERV	3171282.95	22385	0.558844	0	
MML Blue Chip Growth Fund	EQUITY	ANTHEM INC	3141450.4	8228	0.553587	0	
MML Blue Chip Growth Fund	EQUITY	NIKE INC CL B	3137382.92	20308	0.552871	0	
MML Blue Chip Growth Fund	EQUITY	ZOETIS INC	2992755.24	16059	0.527384	0	
MML Blue Chip Growth Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	2844706.33	5639	0.501295	0	
MML Blue Chip Growth Fund	EQUITY	CARVANA CO	2827147.94	9367	0.498201	0	
MML Blue Chip Growth Fund	EQUITY	MONGODB INC	2753336.32	7616	0.485194	0	
MML Blue Chip Growth Fund	EQUITY	FORTINET INC	2643909	11100	0.46591	0	
MML Blue Chip Growth Fund	EQUITY	ROPER TECHNOLOGIES INC	2591742.4	5512	0.456718	0	
MML Blue Chip Growth Fund	EQUITY	DOORDASH INC A	2590956.57	14529	0.456579	0	
MML Blue Chip Growth Fund	EQUITY	COSTAR GROUP INC	2531807.4	30570	0.446156	0	
MML Blue Chip Growth Fund	EQUITY	SCHWAB (CHARLES) CORP	2475030.33	33993	0.436151	0	
MML Blue Chip Growth Fund	EQUITY	TEXAS INSTRUMENTS INC	2452594.2	12754	0.432197	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Blue Chip Growth Fund	EQUITY	SPOTIFY TECHNOLOGY SA	2375310.21		8619	0.418578	0
MML Blue Chip Growth Fund	EQUITY	RIVIAN AUTO SER F CVT	2372862.14		33869	0.418146	0
MML Blue Chip Growth Fund	EQUITY	GENERAL ELECTRIC CO	1900578.92		141202	0.334921	0
MML Blue Chip Growth Fund	EQUITY	CENTENE CORP	1670607.51		22907	0.294395	0
MML Blue Chip Growth Fund	EQUITY	ATLASSIAN CORP PLC CLASS A	1641335.4		6390	0.289237	0
MML Blue Chip Growth Fund	EQUITY	VEEVA SYSTEMS INC CLASS A	1602636.3		5154	0.282417	0
MML Blue Chip Growth Fund	EQUITY	DENTSPLY SIRONA INC	1495719.44		23644	0.263576	0
MML Blue Chip Growth Fund	EQUITY	ETSY INC	1420296		6900	0.250285	0
MML Blue Chip Growth Fund	EQUITY	SPLUNK INC	1407052.56		9732	0.247951	0
MML Blue Chip Growth Fund	EQUITY	LINDE PLC	1376983.3		4763	0.242652	0
MML Blue Chip Growth Fund	EQUITY	GENERAC HOLDINGS INC	1308137.65		3151	0.23052	0
MML Blue Chip Growth Fund	EQUITY	T MOBILE US INC	1291593.94		8918	0.227605	0
MML Blue Chip Growth Fund	EQUITY	ASTRAZENECA PLC SPONS ADR	1263890		21100	0.222723	0
MML Blue Chip Growth Fund	EQUITY	LIVE NATION ENTERTAINMENT IN	1226260		14000	0.216092	0
MML Blue Chip Growth Fund	EQUITY	ROKU INC	1213338.5		2642	0.213815	0
MML Blue Chip Growth Fund	EQUITY	COUPA SOFTWARE INC	1199415.36		4576	0.211361	0
MML Blue Chip Growth Fund	EQUITY	WORKDAY INC CLASS A	1189163.94		4981	0.209555	0
MML Blue Chip Growth Fund	EQUITY	TWILIO INC A	1167107.76		2961	0.205668	0
MML Blue Chip Growth Fund	EQUITY	IAC/INTERACTIVECORP	113415.74		7222	0.196206	0
MML Blue Chip Growth Fund	EQUITY	MICROCHIP TECHNOLOGY INC	1063154		7100	0.187349	0
MML Blue Chip Growth Fund	EQUITY	INCYTE CORP	1024535.14		12178	0.180544	0
MML Blue Chip Growth Fund	EQUITY	MARSH + MCLENNAN COS	1016694.36		7227	0.179162	0
MML Blue Chip Growth Fund	EQUITY	EVERETT DENNISON CORP	1009152		4800	0.177833	0
MML Blue Chip Growth Fund	EQUITY	ANT INTERNATIONAL CO. LIMITED	973978.65		138153	0.171635	0
MML Blue Chip Growth Fund	EQUITY	TIX COMPANIES INC	939295.44		13932	0.165523	0
MML Blue Chip Growth Fund	EQUITY	DATADOG INC CLASS A	926312		8900	0.163235	0
MML Blue Chip Growth Fund	EQUITY	TE CONNECTIVITY LTD	919428		6800	0.162022	0
MML Blue Chip Growth Fund	EQUITY	YUM BRANDS INC	912417.96		7932	0.160787	0
MML Blue Chip Growth Fund	EQUITY	HILTON WORLDWIDE HOLDINGS IN	880526		7300	0.155167	0
MML Blue Chip Growth Fund	EQUITY	CROWDSTRIKE HOLDINGS INC A	879585		3500	0.155001	0
MML Blue Chip Growth Fund	EQUITY	TRANSUNION	825112.34		7514	0.145402	0
MML Blue Chip Growth Fund	EQUITY	MAXIM INTEGRATED PRODUCTS	822966.96		7811	0.145023	0
MML Blue Chip Growth Fund	EQUITY	ALIGN TECHNOLOGY INC	778414		1274	0.137172	0
MML Blue Chip Growth Fund	EQUITY	EQUIFAX INC	753977.48		3148	0.132866	0
MML Blue Chip Growth Fund	EQUITY	WALT DISNEY CO/THE	681811.83		3879	0.120149	0
MML Blue Chip Growth Fund	EQUITY	APTIV PLC	680924.24		4328	0.119993	0
MML Blue Chip Growth Fund	EQUITY	CINTAS CORP	670792		1756	0.118207	0
MML Blue Chip Growth Fund	EQUITY	HUMANA INC	637074.08		1439	0.112265	0
MML Blue Chip Growth Fund	EQUITY	SQUARE INC A	624371.8		2561	0.110027	0
MML Blue Chip Growth Fund	EQUITY	STARBUCKS CORP	599637.03		5363	0.105668	0
MML Blue Chip Growth Fund	EQUITY	MORGAN STANLEY	544271.84		5936	0.095912	0
MML Blue Chip Growth Fund	EQUITY	MSCI INC	535212.32		1004	0.094315	0
MML Blue Chip Growth Fund	EQUITY	PAYCOM SOFTWARE INC	494319.2		1360	0.087109	0
MML Blue Chip Growth Fund	EQUITY	MCDONALD S CORP	458515.15		1985	0.0808	0
MML Blue Chip Growth Fund	EQUITY	VIMEO INC	403613		8237	0.071125	0
MML Blue Chip Growth Fund	EQUITY	VERTEX PHARMACEUTICALS INC	401243.7		1990	0.070707	0
MML Blue Chip Growth Fund	EQUITY	EXPEDIA GROUP INC	392904		2400	0.069238	0
MML Blue Chip Growth Fund	EQUITY	JD.COM INC ADR	380214.84		4764	0.067002	0
MML Blue Chip Growth Fund	EQUITY	SHERWIN WILLIAMS CO/THE	380067.75		1395	0.066976	0
MML Blue Chip Growth Fund	EQUITY	COPART INC	342758		2600	0.060401	0
MML Blue Chip Growth Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	332699.24		2437	0.058628	0
MML Blue Chip Growth Fund	EQUITY	SNOWFLAKE INC CLASS A	271299.6		1122	0.047808	0
MML Blue Chip Growth Fund	EQUITY	ESTEE LAUDER COMPANIES CL A	222656		700	0.039237	0
MML Blue Chip Growth Fund	EQUITY	ROBLOX CORP CLASS A	215952		2400	0.038055	0
MML Blue Chip Growth Fund	EQUITY	CHUBB LTD	176423.4		1110	0.031089	0
MML Blue Chip Growth Fund	EQUITY	DATABRICKS SER G CVT PFD	172226.27		971	0.03035	0
MML Blue Chip Growth Fund	EQUITY	COUPANG INC	122741.7		2935	0.02163	0
MML Blue Chip Growth Fund	EQUITY	ELI LILLY + CO	112923.84		492	0.019899	0
MML Blue Chip Growth Fund	EQUITY	ZENDESK INC	97285.16		674	0.017144	0
MML Blue Chip Growth Fund	EQUITY	TAIWAN SEMICONDUCTOR SP ADR	96128		800	0.01694	0
MML Blue Chip Growth Fund	EQUITY	MONOLITHIC POWER SYSTEMS INC	93735.95		251	0.016518	0
MML Blue Chip Growth Fund	EQUITY	PINDUODUO INC ADR	83833.2		660	0.014773	0
MML Blue Chip Growth Fund	EQUITY	WAYFAIR INC CLASS A	63142		200	0.011127	0
MML Blue Chip Growth Fund	EQUITY	AUTOMATIC DATA PROCESSING	43497.78		219	0.007665	0
MML Blue Chip Growth Fund	EQUITY	EXACT SCIENCES CORP	33190.77		267	0.005849	0

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MML Blue Chip Growth Fund	EQUITY	UNION PACIFIC CORP	22872.72	104	0.004031	0	
MML Blue Chip Growth Fund	CASH EQUIVALENT	ROWE T PRICE GOV RES FD	100.03	100.03	0.000018	1	9/19/2034
MML Blue Chip Growth Fund	CASH	SOUTH KOREAN WON	0.09	96	0	0	
MML Conservative Allocation Fund	EQUITY	MML MANAGED BOND FUND	82871902.02	6065076.996	20.126814	0	
MML Conservative Allocation Fund	EQUITY	MML TOTAL RETURN BOND FUND	46577984.41	4177397.705	11.312235	0	
MML Conservative Allocation Fund	EQUITY	MML DYNAMIC BOND FUND	45518050.28	4364146.719	11.054812	0	
MML Conservative Allocation Fund	EQUITY	MML SHORT DURATION BOND FUND	21310140.14	2122523.918	5.17552	0	
MML Conservative Allocation Fund	EQUITY	MML FOCUSED EQUITY FUND	20196144.88	2540395.582	4.904968	0	
MML Conservative Allocation Fund	EQUITY	MML GLOBAL FD	19523545.15	1249906.86	4.741616	0	
MML Conservative Allocation Fund	EQUITY	MML INFLATION PROTECTED BD FD	19397413.61	1662160.549	4.710983	0	
MML Conservative Allocation Fund	EQUITY	MML FUNDAMENTAL VALUE FUND	16062559.28	1141617.575	3.901059	0	
MML Conservative Allocation Fund	EQUITY	MML EQUITY INCOME FD	15998740.61	1314604.816	3.885559	0	
MML Conservative Allocation Fund	EQUITY	MML BLUE CHIP GROWTH FD	14399703.01	624445.057	3.497206	0	
MML Conservative Allocation Fund	EQUITY	MML INCOME AND GROWTH FD	14351428.92	1199952.251	3.485482	0	
MML Conservative Allocation Fund	EQUITY	MML MID CAP GROWTH FD	13825890.09	698630.121	3.357846	0	
MML Conservative Allocation Fund	EQUITY	MML FUNDAMENTAL GROWTH FUND	12875710.02	1032534.885	3.127079	0	
MML Conservative Allocation Fund	EQUITY	MML MID CAP VALUE FD	11203139.44	913051.299	2.720868	0	
MML Conservative Allocation Fund	EQUITY	INVESCO VI GLOBAL STRATEGIC IN	11107830.78	2363368.25	2.697721	0	
MML Conservative Allocation Fund	EQUITY	MML HIGH YIELD FUND	10323572.77	965722.429	2.507251	0	
MML Conservative Allocation Fund	EQUITY	MML FOREIGN FD	9131973.86	821959.843	2.217851	0	
MML Conservative Allocation Fund	EQUITY	MML INTERNATIONAL EQUITY FUND	8299157.7	732494.06	2.015588	0	
MML Conservative Allocation Fund	EQUITY	MML LARGE CAP GROWTH FD	5159734.05	324715.799	1.253127	0	
MML Conservative Allocation Fund	EQUITY	MML SMALL COMPANY VALUE FUND	4154191.06	233775.524	1.008914	0	
MML Conservative Allocation Fund	EQUITY	MML SMALL/MID CAP VALUE	3673519.89	264853.633	0.892175	0	
MML Conservative Allocation Fund	EQUITY	MML STRG EMERGING MARKETS FUND	1313435.31	85011.994	0.31899	0	
MML Conservative Allocation Fund	EQUITY	MML SER INVT FD	1258254.46	37694.861	0.305588	0	
MML Conservative Allocation Fund	EQUITY	MML SMALL CAP GROWTH EQUITY FD	1126157.48	62010.827	0.273506	0	
MML Conservative Allocation Fund	EQUITY	INVESCO VI MAIN STREET FUND	1077684.83	31012.513	0.261734	0	
MML Conservative Allocation Fund	EQUITY	INVESCO VI DISCOVERY MID CAP G	601580.49	5148.314	0.146104	0	
MML Conservative Allocation Fund	EQUITY	INVESCO OPPENHEIMER VI INTERNA	275486.32	88580.81	0.066906	0	
MML Conservative Allocation Fund	EQUITY	INVESCO VI GLOBAL FUND	133808.64	2297.933	0.032498	0	
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	10655462.38	10720000	3.473417	0.25	6/15/2024
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	9436633.7	9440000	3.076109	0.125	10/31/2022
MML Dynamic Bond Fund	FIXED INCOME	GOVERNMENT NATIONAL MORTGAGE A	5981255.27	5637092.19	1.949741	3.5	6/20/2045
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	5316055.75	5320000	1.732903	0.125	12/31/2022
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	5220011.48	5220000	1.701595	0.875	6/30/2026
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	5027594.54	5040000	1.638872	0.125	6/30/2023
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4479029.64	4300000	1.460053	2.25	5/15/2041
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4450456.2	4440000	1.450739	1.25	6/30/2028
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4394644.64	4540000	1.432546	0.5	6/30/2027
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4323562.54	4190000	1.409375	1.5	11/30/2024
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4188660.34	3920000	1.3654	2.375	5/15/2051
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4135585.72	4210000	1.348099	0.375	11/30/2025
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	4075581.63	4100000	1.328539	0.125	1/15/2024
MML Dynamic Bond Fund	FIXED INCOME	FNMA POOL MA4281	3979404.01	3932661.96	1.297187	2	3/1/2051
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	3962951.98	4850000	1.291824	1.25	5/15/2050
MML Dynamic Bond Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	3910636.54	3910636.54	1.274771	0	7/1/2021
MML Dynamic Bond Fund	FIXED INCOME	BANC OF AMERICA FUNDING CORPOR	3776720.54	4566965.95	1.231118	7	10/25/2037
MML Dynamic Bond Fund	FIXED INCOME	FNMA POOL BL5484	3195693.6	3000000	1.041717	2.26	1/1/2030
MML Dynamic Bond Fund	FIXED INCOME	FANNIE MAE	3186805.88	2895827.88	1.03882	3.5	6/25/2048
MML Dynamic Bond Fund	FIXED INCOME	FREDDIE MAC	2899637.85	2782089.29	0.94521	3	6/15/2044
MML Dynamic Bond Fund	FIXED INCOME	FREDDIE MAC SCRT	2883887.9	2709640.41	0.940076	3	11/25/2057
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	2834645.38	2490000	0.924024	2.75	11/15/2047
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	2584863.55	1820000	0.842602	4.75	2/15/2037
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL INC	2472958.88	5589688.94	0.806123	0.2415	9/25/2036
MML Dynamic Bond Fund	FIXED INCOME	LEHMAN XS TRUST	2419170.89	2425453.3	0.78859	0.2915	7/25/2047
MML Dynamic Bond Fund	FIXED INCOME	GSAA HOME EQUITY TRUST	2279093.23	3558527.71	0.742928	6.5	11/25/2037
MML Dynamic Bond Fund	FIXED INCOME	FREDDIEMAC STRIP	2197604.25	2065924.88	0.716365	3	8/15/2047
MML Dynamic Bond Fund	FIXED INCOME	FREDDIE MAC	2161861.71	2123445.4	0.704714	3	12/15/2042
MML Dynamic Bond Fund	FIXED INCOME	FREDDIE MAC	2124611.71	2032927.3	0.692571	2.5	11/15/2040
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE ALTERNATIVE LOAN T	2075733.2	3285103.22	0.676638	6.25	12/25/2036
MML Dynamic Bond Fund	FIXED INCOME	INDYMAC INDX MORTGAGE LOAN TRU	2021843.92	2162704.31	0.659071	3.017228	5/25/2037
MML Dynamic Bond Fund	FIXED INCOME	LONG BEACH MORTGAGE LOAN TRUST	1885687.84	3004321.36	0.614688	0.2465	8/25/2036
MML Dynamic Bond Fund	FIXED INCOME	FREDDIEMAC STRIP	1825710.08	1735196.34	0.595136	3	10/15/2047
MML Dynamic Bond Fund	FIXED INCOME	NOMURA ASSET ACCEPTANCE CORPOR	1714376.65	1987278.93	0.558844	3.06968	2/25/2036

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	MERRILL LYNCH MORTGAGE INVESTO	1656142.68	1713279.52	0.539862	0.2415	8/25/2037
MML Dynamic Bond Fund	FIXED INCOME	VOYAGER OPTONE DELAWARE TRUST	1570973.14	2069348.65	0.512098	9.411392	2/25/2038
MML Dynamic Bond Fund	FIXED INCOME	FED HM LN PC POOL S80048	1533339.41	1446055.23	0.499831	3	8/1/2034
MML Dynamic Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	1511934.45	1500000	0.492853	2.338	10/25/2063
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE ALTERNATIVE LOAN T	1252262.9	1575144.13	0.408207	6	8/25/2036
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE HOME LOANS	1177196.64	1611268.07	0.383737	6	4/25/2037
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE ALTERNATIVE LOAN T	1156982.65	1814475.99	0.377148	6	5/25/2036
MML Dynamic Bond Fund	FIXED INCOME	INVITATION HOMES TRUST	1147497.93	1145000	0.374056	1.332	3/17/2037
MML Dynamic Bond Fund	FIXED INCOME	FED HM LN PC POOL G08632	1114457.23	1039736.95	0.363286	3.5	3/1/2045
MML Dynamic Bond Fund	FIXED INCOME	XCEL ENERGY INC	1078172.33	1000000	0.351458	3.3	6/1/2025
MML Dynamic Bond Fund	FIXED INCOME	SIERRA PACIFIC POWER CO	1063789.32	1000000	0.346769	2.6	5/1/2026
MML Dynamic Bond Fund	FIXED INCOME	FNMA POOL AX2501	1059606.48	973115.85	0.345406	4	10/1/2044
MML Dynamic Bond Fund	FIXED INCOME	FANNIE MAE	1055703.81	1137624.12	0.344133	0.01	4/25/2048
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE HOME LOANS	1015436.81	1062751.79	0.331007	2.845907	2/25/2047
MML Dynamic Bond Fund	FIXED INCOME	PRIMROSE SCHOOLS	1011565.45	985000	0.329745	4.475	7/30/2049
MML Dynamic Bond Fund	FIXED INCOME	COUNTRYWIDE HOME LOANS	1007013.8	1343345.99	0.328262	6	9/25/2037
MML Dynamic Bond Fund	FIXED INCOME	BLUEMOUNTAIN CLO LTD	1000387	1000000	0.326101	4.33825	1/20/2029
MML Dynamic Bond Fund	FIXED INCOME	GRIFFEN PARK CLO LTD	1000249	1000000	0.326056	3.48825	1/20/2030
MML Dynamic Bond Fund	FIXED INCOME	OCTAGON INVESTMENT PARTNERS 30	1000081	1000000	0.326002	3.48825	3/17/2030
MML Dynamic Bond Fund	FIXED INCOME	GILBERT PARK CLO LTD	999983	1000000	0.32597	6.58375	10/15/2030
MML Dynamic Bond Fund	FIXED INCOME	WIND RIVER CLO LTD	997615	1000000	0.325198	3.90975	4/18/2036
MML Dynamic Bond Fund	FIXED INCOME	USQ RAIL I LLC	988407.32	982895.34	0.322196	2.25	2/28/2051
MML Dynamic Bond Fund	FIXED INCOME	TACO BELL FUNDING, LLC	977217.83	975000	0.318549	4.318	11/25/2048
MML Dynamic Bond Fund	FIXED INCOME	TIF FUNDING II LLC	952639.56	967708.33	0.310537	1.65	2/20/2046
MML Dynamic Bond Fund	FIXED INCOME	BLUEMOUNTAIN CLO LTD	942064	1000000	0.30709	2.78825	4/20/2031
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	938779.68	994196.18	0.306019	3.09613	4/25/2037
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	935224.07	920000	0.30486	1.625	5/15/2031
MML Dynamic Bond Fund	FIXED INCOME	EMPRESA DE TRANSPORTE ME	866250	750000	0.282376	5	1/25/2047
MML Dynamic Bond Fund	FIXED INCOME	FREDDIE MAC	849343.13	828917.52	0.276865	3	7/15/2046
MML Dynamic Bond Fund	FIXED INCOME	THUNDERBOLT AIRCRAFT LEASE LIM	836045.99	836108.28	0.27253	4.212	5/17/2032
MML Dynamic Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	819439.31	750000	0.267117	3.9	7/15/2026
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	813665.6	815000	0.265235	0.25	11/15/2023
MML Dynamic Bond Fund	FIXED INCOME	HARBORVIEW MORTGAGE LOAN TRUST	808963.61	858063.37	0.263702	0.43338	12/19/2036
MML Dynamic Bond Fund	FIXED INCOME	WASHINGTON MUTUAL MORTGAGE PAS	792523.97	850234.58	0.258343	6.35	5/25/2036
MML Dynamic Bond Fund	FIXED INCOME	CROWN CASTLE INTL CORP	769979.06	700000	0.250994	3.7	6/15/2026
MML Dynamic Bond Fund	FIXED INCOME	SUNRUN CALLISTO ISSUER LLC	768885.79	721834.12	0.250638	3.61	2/1/2055
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	764595.88	1117000	0.249239	4.660009	11/10/2047
MML Dynamic Bond Fund	FIXED INCOME	NEXTERA ENERGY CAPITAL	756654.17	750000	0.246651	2.25	6/1/2030
MML Dynamic Bond Fund	FIXED INCOME	TRIUMPH RAIL LLC	751641	750000	0.245016	2.15	6/19/2051
MML Dynamic Bond Fund	FIXED INCOME	INVITATION HOMES TRUST	750399.61	749727.25	0.244612	1.532	3/17/2037
MML Dynamic Bond Fund	FIXED INCOME	PAGAYA AI DEBT SELECTION TRUST	750000	750000	0.244481	3	1/25/2029
MML Dynamic Bond Fund	FIXED INCOME	BLACKBIRD CAPITAL AIRCRAFT	749992.13	750000	0.244479	3.446	7/15/2046
MML Dynamic Bond Fund	FIXED INCOME	FED HM LN PC POOL G08520	748702.65	719233.7	0.244059	2.5	1/1/2043
MML Dynamic Bond Fund	FIXED INCOME	WILLIS ENGINE SECURITIZATION T	738596.38	743583.37	0.240764	4.75	9/15/2043
MML Dynamic Bond Fund	FIXED INCOME	DIVIDEND SOLAR LOANS LLC	730639.91	673892.07	0.238171	4.29	7/20/2038
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	726439.28	700000	0.236801	4.188525	6/10/2048
MML Dynamic Bond Fund	FIXED INCOME	BLACKBIRD CAPITAL AIRCRAFT	703378.73	723958.33	0.229284	5.682	12/16/2041
MML Dynamic Bond Fund	FIXED INCOME	AT+T INC	682741.55	679000	0.222557	3.5	9/15/2053
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY BAML TRUST	675549.75	650000	0.220213	4.282199	7/15/2050
MML Dynamic Bond Fund	FIXED INCOME	TSMC GLOBAL LTD	659524.34	665000	0.214989	1.25	4/23/2026
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	634298.51	704000	0.206766	3.943765	2/15/2048
MML Dynamic Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	583872.25	535000	0.190328	3.75	1/11/2028
MML Dynamic Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	580258.94	575000	0.18915	1.18425	1/5/2023
MML Dynamic Bond Fund	FIXED INCOME	RBSSP RESECURITIZATION TRUST	569725.42	839179.49	0.185716	6.5	10/26/2037
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	565060.99	527000	0.184196	4.765078	12/15/2048
MML Dynamic Bond Fund	FIXED INCOME	STRUCTURED ADJUSTABLE RATE MOR	563068.41	632667.39	0.183546	2.780398	10/25/2037
MML Dynamic Bond Fund	FIXED INCOME	DTE ENERGY CO	556036.21	500000	0.181254	3.8	3/15/2027
MML Dynamic Bond Fund	FIXED INCOME	SOUTHERN CO	551978.58	500000	0.179931	3.7	4/30/2030
MML Dynamic Bond Fund	FIXED INCOME	DBGS MORTGAGE TRUST	536356.98	550000	0.174839	2.673	6/15/2033
MML Dynamic Bond Fund	FIXED INCOME	FNMA POOL MA2248	531099.85	511928.04	0.173125	3	4/1/2045
MML Dynamic Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	526295.01	510000	0.171559	1.499	9/12/2026
MML Dynamic Bond Fund	FIXED INCOME	VB S1 ISSUER LLC	523382.15	500000	0.17061	3.031	6/15/2050
MML Dynamic Bond Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	520244.8	500000	0.169587	3.83	8/25/2047
MML Dynamic Bond Fund	FIXED INCOME	FANNIE MAE	516338.32	492411.27	0.168314	3	1/25/2045
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN TOWER CORP	514402.7	472000	0.167683	3.375	10/15/2026

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	COSAN OVERSEAS LTD	512500	500000	0.167062	8.25	11/29/2049
MML Dynamic Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	510814.66	470000	0.166513	4.770594	10/10/2048
MML Dynamic Bond Fund	FIXED INCOME	INTEROCEANICA IV FINANCE	505460.81	537112.87	0.164768	0.01	11/30/2025
MML Dynamic Bond Fund	FIXED INCOME	T MOBILE USA INC	505185	500000	0.164678	2.55	2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	503512.6	465000	0.164133	4.792365	2/10/2049
MML Dynamic Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	502656.76	490000	0.163854	1.32588	5/15/2026
MML Dynamic Bond Fund	FIXED INCOME	SUNNOVA SOL III ISSUER LLC	501752.5	500000	0.163559	2.58	4/28/2056
MML Dynamic Bond Fund	FIXED INCOME	SOUND POINT CLO LTD	500777	500000	0.163241	3.448306	7/15/2034
MML Dynamic Bond Fund	FIXED INCOME	DRYDEN SENIOR LOAN FUND	500298	500000	0.163085	3.25588	8/15/2031
MML Dynamic Bond Fund	FIXED INCOME	WELLFLEET CLO LTD	500131.5	500000	0.163031	1.34374	7/20/2032
MML Dynamic Bond Fund	FIXED INCOME	SYMPHONY CLO LTD	500047.5	500000	0.163003	3.23375	10/15/2031
MML Dynamic Bond Fund	FIXED INCOME	GILBERT PARK CLO LTD	500006	500000	0.16299	3.13375	10/15/2030
MML Dynamic Bond Fund	FIXED INCOME	OAK HILL CREDIT PARTNERS	500002.5	500000	0.162988	3.23825	10/20/2030
MML Dynamic Bond Fund	FIXED INCOME	MADISON PARK FUNDING LTD	499376	500000	0.162784	3.13375	10/22/2030
MML Dynamic Bond Fund	FIXED INCOME	CATAMARAN CLO LTD	497585	500000	0.1622	3.93975	1/18/2029
MML Dynamic Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	489725.3	500000	0.159638	1.305	2/2/2027
MML Dynamic Bond Fund	FIXED INCOME	HIGHBRIDGE LOAN MANAGEMENT LTD	488694.5	500000	0.159302	3.18375	10/15/2030
MML Dynamic Bond Fund	FIXED INCOME	GSCG TRUST	487853.26	497000	0.159028	4.117937	9/6/2034
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PHILIPPINES	486792.03	450000	0.158682	3.7	3/1/2041
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY BAML TRUST	484388.1	504000	0.157899	3.237	12/15/2047
MML Dynamic Bond Fund	FIXED INCOME	AASET 2018 1 TRUST	484207.1	504308.48	0.15784	3.844	1/16/2038
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF CHILE	478835	500000	0.156088	3.1	1/22/2061
MML Dynamic Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	472549.5	450000	0.154039	4.28	8/14/2041
MML Dynamic Bond Fund	FIXED INCOME	FNMA POOL AS7661	471256.66	454930.26	0.153618	3	8/1/2046
MML Dynamic Bond Fund	FIXED INCOME	TEXTAINER MARINE CONTAINERS LI	469236.98	464909.83	0.15296	2.1	9/20/2045
MML Dynamic Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	465190	500000	0.15164	3.771	5/24/2061
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	463760.56	427000	0.151174	4.713786	11/15/2048
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP INC	456917.22	450000	0.148944	1.25588	5/17/2024
MML Dynamic Bond Fund	FIXED INCOME	DELL INT LLC / EMC CORP	452895.93	375000	0.147633	5.3	10/1/2029
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	447639.41	421000	0.145919	4.84838	12/15/2048
MML Dynamic Bond Fund	FIXED INCOME	HELIOS ISSUER, LLC	446692.78	428408.27	0.145611	2.98	6/20/2047
MML Dynamic Bond Fund	FIXED INCOME	ABBVIE INC	443552.19	355000	0.144587	4.7	5/14/2045
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	442417.06	405000	0.144217	5.052823	11/15/2051
MML Dynamic Bond Fund	FIXED INCOME	THUNDERBOLT AIRCRAFT LEASE LIM	440605.22	442899.97	0.143626	4.147	9/15/2038
MML Dynamic Bond Fund	FIXED INCOME	ANGLO AMERICAN CAPITAL	440325.06	385000	0.143535	4.5	3/15/2028
MML Dynamic Bond Fund	FIXED INCOME	MITSUBISHI UFJ FIN GRP	439325.56	435000	0.143209	1.412	7/17/2025
MML Dynamic Bond Fund	FIXED INCOME	LLOYDS BANKING GROUP PLC	437749.93	400000	0.142696	3.574	11/7/2028
MML Dynamic Bond Fund	FIXED INCOME	ROPER TECHNOLOGIES INC	437746.6	455000	0.142695	1.75	2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	DISCOVER FINANCIAL SVS	436598.14	390000	0.14232	4.1	2/9/2027
MML Dynamic Bond Fund	FIXED INCOME	ANHEUSER BUSCH INBEV WOR	434191.24	355000	0.141536	4.6	4/15/2048
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	433185.89	409000	0.141208	4.345	5/15/2052
MML Dynamic Bond Fund	FIXED INCOME	BARCLAYS PLC	432731.45	425000	0.14106	1.53588	5/16/2048
MML Dynamic Bond Fund	FIXED INCOME	SG COMMERCIAL MORTGAGE SECURIT	430870.41	411000	0.140453	3.933	10/10/2048
MML Dynamic Bond Fund	FIXED INCOME	HYUNDAI CAPITAL AMERICA	428989.62	410000	0.13984	2.65	2/10/2025
MML Dynamic Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	428711.26	411000	0.139749	4.655783	11/10/2047
MML Dynamic Bond Fund	FIXED INCOME	BAT CAPITAL CORP	428117.38	405000	0.139556	3.462	9/6/2029
MML Dynamic Bond Fund	FIXED INCOME	JD.COM INC	427101.48	400000	0.139225	3.375	1/14/2030
MML Dynamic Bond Fund	FIXED INCOME	JOL AIR	426026.71	426710.81	0.138874	3.967	4/15/2044
MML Dynamic Bond Fund	FIXED INCOME	WESTERN UNION CO/THE	424137.63	425000	0.138258	2.975	3/15/2031
MML Dynamic Bond Fund	FIXED INCOME	MINEJESA CAPITAL BV	423400	400000	0.138018	4.625	8/10/2030
MML Dynamic Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	420875.41	419786.53	0.137195	2.21	8/20/2046
MML Dynamic Bond Fund	FIXED INCOME	PERUSAHAAN PENERBIT SBSN	418008	400000	0.13626	3.8	6/23/2050
MML Dynamic Bond Fund	FIXED INCOME	BNP PARIBAS	411599.09	390000	0.134171	3.052	1/13/2031
MML Dynamic Bond Fund	FIXED INCOME	MARVELL TECHNOLOGY INC	409252.59	385000	0.133406	4.2	6/22/2023
MML Dynamic Bond Fund	FIXED INCOME	ABU DHABI GOVT INT L	407560	400000	0.132854	3.125	9/30/2049
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN TOWER CORP	407234.88	370000	0.132749	3.6	1/15/2028
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	405294.99	376000	0.132116	4.633526	12/15/2049
MML Dynamic Bond Fund	FIXED INCOME	BRISTOL MYERS SQUIBB CO	404544.5	320000	0.131872	4.35	11/15/2047
MML Dynamic Bond Fund	FIXED INCOME	WRKCO INC	403795.59	370000	0.131627	3.75	3/15/2025
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	401857.61	377000	0.130996	3.1992	8/10/2056
MML Dynamic Bond Fund	FIXED INCOME	HOSPITALITY MORTGAGE TRUST	401025.19	409207.96	0.130724	3.22288	11/15/2036
MML Dynamic Bond Fund	FIXED INCOME	DBS GROUP HOLDINGS LTD	401000	400000	0.130716	3.6	12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	MACH I	400971.2	401002.92	0.130707	3.474	10/15/2039
MML Dynamic Bond Fund	FIXED INCOME	CSX CORP	400662.09	350000	0.130606	3.8	11/1/2046
MML Dynamic Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	399599.02	335000	0.130259	4.4	11/1/2034

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	SMITHFIELD FOODS INC	399164.57	399164.57	0.130118	4.25	2/1/2027
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	398954.81	378000	0.130049	5.100116	1/15/2049
MML Dynamic Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	397249.47	350000	0.129494	3.974	2/7/2030
MML Dynamic Bond Fund	FIXED INCOME	CROWN CASTLE INTL CORP	396667.76	360000	0.129304	3.65	9/1/2027
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL I TRUST	395878.65	388000	0.129047	3.57961	6/15/2054
MML Dynamic Bond Fund	FIXED INCOME	AUST + NZ BANKING GROUP	393850.35	405000	0.128385	2.57	11/25/2035
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	393671.55	391000	0.128327	4.133108	9/15/2047
MML Dynamic Bond Fund	FIXED INCOME	BX TRUST 2019 OC11	392472.68	374000	0.127936	4.075457	12/9/2041
MML Dynamic Bond Fund	FIXED INCOME	UBS BARCLAYS COMMERCIAL MORTGA	391529.67	393000	0.127629	4.218036	3/10/2046
MML Dynamic Bond Fund	FIXED INCOME	GREAT WOLF TRUST	389551.14	392000	0.126984	2.006	12/15/2036
MML Dynamic Bond Fund	FIXED INCOME	KINDER MORGAN ENER PART	386177.46	270000	0.125884	6.95	1/15/2038
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PHILIPPINES	386050.68	400000	0.125843	1.648	6/10/2031
MML Dynamic Bond Fund	FIXED INCOME	TTAN	385722.68	385000	0.125736	2.973	3/15/2038
MML Dynamic Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	382864.14	378000	0.124804	4.139	7/15/2053
MML Dynamic Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	380088.45	354000	0.123899	3.772009	7/15/2053
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	380060.94	395000	0.12389	0.5	10/31/2027
MML Dynamic Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	379405.07	380000	0.123677	2.148	9/15/2053
MML Dynamic Bond Fund	FIXED INCOME	BECTON DICKINSON AND CO	378128.2	370000	0.12326	2.894	6/6/2022
MML Dynamic Bond Fund	FIXED INCOME	BANK	377248.61	380000	0.122974	2.14	3/15/2063
MML Dynamic Bond Fund	FIXED INCOME	UBS COMMERCIAL MORTGAGE TRUST	375263.85	340000	0.122327	4.1539	12/15/2050
MML Dynamic Bond Fund	FIXED INCOME	CENTENE CORP	374775	380000	0.122167	2.5	3/1/2031
MML Dynamic Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	373995.13	367779.47	0.121913	2.1	4/20/2046
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	373817.94	334000	0.121855	3.8846	6/15/2052
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	373441.96	340000	0.121733	4.862914	5/10/2049
MML Dynamic Bond Fund	FIXED INCOME	VANTAGE DATA CENTERS LLC	373133.33	375000	0.121632	1.992	9/15/2045
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	370736.85	340000	0.120851	4.096	10/12/2050
MML Dynamic Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	368320.51	325000	0.120063	4.908	7/23/2025
MML Dynamic Bond Fund	FIXED INCOME	MARATHON PETROLEUM CORP	364669.78	310000	0.118873	5.125	12/15/2026
MML Dynamic Bond Fund	FIXED INCOME	ALLIED UNIVERSAL HOLDCO LLC	364283.44	363375	0.118747	0	5/12/2028
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY BAML TRUST	360285.99	351000	0.117444	4.657663	12/15/2047
MML Dynamic Bond Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	359554.79	350000	0.117206	3.61	9/25/2040
MML Dynamic Bond Fund	FIXED INCOME	COMMONWEALTH BANK AUST	359207.42	305000	0.117093	4.316	1/10/2048
MML Dynamic Bond Fund	FIXED INCOME	DOLLAR TREE INC	358870.04	325000	0.116983	4	5/15/2025
MML Dynamic Bond Fund	FIXED INCOME	UBS COMMERCIAL MORTGAGE TRUST	358638.45	328000	0.116907	4.036	6/15/2050
MML Dynamic Bond Fund	FIXED INCOME	GEORGIA POWER CO	358102.79	355000	0.116733	3.25	3/15/2051
MML Dynamic Bond Fund	FIXED INCOME	SYNCHRONY FINANCIAL	356192.31	320000	0.11611	3.95	12/1/2027
MML Dynamic Bond Fund	FIXED INCOME	UBS COMMERCIAL MORTGAGE TRUST	355136.12	332000	0.115766	3.993	8/15/2050
MML Dynamic Bond Fund	FIXED INCOME	GRAN TIERRA ENERGY INTL	355004	400000	0.115723	6.25	2/15/2025
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	354002.88	327000	0.115396	3.849744	5/13/2053
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	352531.18	340000	0.114916	3.986	10/15/2048
MML Dynamic Bond Fund	FIXED INCOME	EMPRESA ELECTRICA COCHRA	351339.45	340720	0.114528	5.5	5/14/2027
MML Dynamic Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	349741.09	320737.89	0.114007	4.45	6/20/2042
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	347949.03	2225312.85	0.113423	2.231057	8/15/2053
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	347644.94	328000	0.113324	3.438	7/15/2048
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	343637.33	332000	0.112017	3.734631	3/15/2053
MML Dynamic Bond Fund	FIXED INCOME	NATIXIS COMMERCIAL MORTGAGE SE	340041.02	368000	0.110845	2.27288	6/15/2035
MML Dynamic Bond Fund	FIXED INCOME	BOC AVIATION LTD	339445.04	340000	0.110651	1.271	9/26/2023
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	338480.45	325000	0.110336	4.603992	10/15/2049
MML Dynamic Bond Fund	FIXED INCOME	INTERPUBLIC GROUP COS	335629.98	250000	0.109407	5.4	10/1/2048
MML Dynamic Bond Fund	FIXED INCOME	WILLIS NORTH AMERICA INC	335263.52	290000	0.109288	4.5	9/15/2028
MML Dynamic Bond Fund	FIXED INCOME	ATHENE GLOBAL FUNDING	333193.9	325000	0.108613	3	7/1/2022
MML Dynamic Bond Fund	FIXED INCOME	BANK	331962.35	310000	0.108212	4.163	2/15/2061
MML Dynamic Bond Fund	FIXED INCOME	SYSCO CORPORATION	331137.05	330000	0.107942	3.3	2/15/2050
MML Dynamic Bond Fund	FIXED INCOME	TEMASEK FINANCIAL I LTD	329878.5	350000	0.107532	1	10/6/2030
MML Dynamic Bond Fund	FIXED INCOME	NORTHROP GRUMMAN CORP	328335.86	250000	0.107029	5.15	5/1/2040
MML Dynamic Bond Fund	FIXED INCOME	SYDNEY AIRPORT FINANCE	326188.88	300000	0.10633	3.625	4/28/2026
MML Dynamic Bond Fund	FIXED INCOME	FED REPUBLIC OF BRAZIL	325701	300000	0.10617	5.625	2/21/2047
MML Dynamic Bond Fund	FIXED INCOME	CALIFORNIA ST	323949.79	190000	0.1056	7.55	4/1/2039
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	323050.77	298000	0.105307	3.9239	1/15/2049
MML Dynamic Bond Fund	FIXED INCOME	MFI LTD	322569.72	318000	0.10515	2.97448	7/15/2035
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN ELECTRIC POWER	322074.95	313000	0.104988	2.95	12/15/2022
MML Dynamic Bond Fund	FIXED INCOME	BROADCOM INC	321717.47	306000	0.104872	3.419	4/15/2033
MML Dynamic Bond Fund	FIXED INCOME	SYDNEY AIRPORT FINANCE	321042	300000	0.104652	3.375	4/30/2025
MML Dynamic Bond Fund	FIXED INCOME	LLPL CAPITAL PTE LTD	318675.6	273600	0.10388	6.875	2/4/2039
MML Dynamic Bond Fund	FIXED INCOME	SPRITE LIMITED	314776.77	316784.26	0.102609	4.25	12/15/2037

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	TPG REAL ESTATE FINANCE	314000.22	314000	0.102356	1.53175	11/15/2037
MML Dynamic Bond Fund	FIXED INCOME	AES PANAMA GENERATION HL	313546.5	300000	0.102208	4.375	5/31/2030
MML Dynamic Bond Fund	FIXED INCOME	UNITED OVERSEAS BANK LTD	312525	300000	0.101875	3.875	12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	312435.7	318000	0.101846	1.947649	6/15/2036
MML Dynamic Bond Fund	FIXED INCOME	GLENCORE FUNDING LLC	311188.88	310000	0.10144	1.625	4/27/2026
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PERU	310833	300000	0.101324	3.55	3/10/2051
MML Dynamic Bond Fund	FIXED INCOME	POLARIS NEWCO, LLC	310737.8	310000	0.101293	0	6/2/2028
MML Dynamic Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	310591.69	308585.88	0.101245	1.2915	12/26/2047
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY MORTGAGE LOAN T	309054.5	323238.43	0.100744	2.792916	7/25/2035
MML Dynamic Bond Fund	FIXED INCOME	START LTD.	305382.29	302305.04	0.099547	4.089	3/15/2044
MML Dynamic Bond Fund	FIXED INCOME	NUTRIEN LTD	305054.7	265000	0.09944	4.2	4/1/2029
MML Dynamic Bond Fund	FIXED INCOME	CREDIT AGRICOLE LONDON	301535.7	285000	0.098293	3.75	4/24/2023
MML Dynamic Bond Fund	FIXED INCOME	BROOKLYN UNION GAS CO	300210.46	255000	0.097861	4.487	3/4/2049
MML Dynamic Bond Fund	FIXED INCOME	OVERSEA CHINESE BANKING	300084	300000	0.09782	1.832	9/10/2030
MML Dynamic Bond Fund	FIXED INCOME	DOMINICAN REPUBLIC	300003	300000	0.097794	5.875	1/30/2060
MML Dynamic Bond Fund	FIXED INCOME	BOSTON PROPERTIES LP	298754.95	275000	0.097387	3.4	6/21/2029
MML Dynamic Bond Fund	FIXED INCOME	CIGNA CORP	296416.73	230000	0.096625	4.9	12/15/2048
MML Dynamic Bond Fund	FIXED INCOME	MACQUARIE GROUP LTD	296375.6	280000	0.096611	4.15	3/27/2024
MML Dynamic Bond Fund	FIXED INCOME	FED REPUBLIC OF BRAZIL	295650	300000	0.096375	3.75	9/12/2031
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	294968.8	4336341.6	0.096153	1.149023	10/15/2052
MML Dynamic Bond Fund	FIXED INCOME	PIONEER NATURAL RESOURCE	289169.97	300000	0.094262	1.9	8/15/2030
MML Dynamic Bond Fund	FIXED INCOME	GENERAL ELECTRIC CO	285570.18	210000	0.093089	5.875	1/14/2038
MML Dynamic Bond Fund	FIXED INCOME	EMPRESA ELEC GUACOLDA	285470.21	400000	0.093056	4.56	4/30/2025
MML Dynamic Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	283175.43	275000	0.092308	2.522	4/22/2031
MML Dynamic Bond Fund	FIXED INCOME	PSEG POWER LLC	275995.12	260000	0.089968	3.85	6/1/2023
MML Dynamic Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	273349.12	265000	0.089105	3.25	2/15/2027
MML Dynamic Bond Fund	FIXED INCOME	GNL QUINTERO SA	272500	250000	0.088828	4.634	7/31/2029
MML Dynamic Bond Fund	FIXED INCOME	TRANSELEC SA	270920	250000	0.088313	3.875	1/12/2029
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	264176.37	248000	0.086115	3.811	11/15/2049
MML Dynamic Bond Fund	FIXED INCOME	DUKE ENERGY CORP	263803.46	240000	0.085993	3.95	8/15/2047
MML Dynamic Bond Fund	FIXED INCOME	FENIX POWER PERU SA	262409.94	258529.41	0.085539	4.317	9/20/2027
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF INDONESIA	262052.73	250000	0.085423	3.7	10/30/2049
MML Dynamic Bond Fund	FIXED INCOME	MALAYSIA WAKALA SUKUK	260735.1	250000	0.084993	3.075	4/28/2051
MML Dynamic Bond Fund	FIXED INCOME	SLG OFFICE TRUST	255331.54	260000	0.083232	2.85061	7/15/2041
MML Dynamic Bond Fund	FIXED INCOME	ORACLE CORP	255044.16	240000	0.083138	3.85	4/1/2060
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY	254687.36	230000	0.083022	3.591	7/22/2028
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	254362.34	248000	0.082916	4.229969	5/15/2048
MML Dynamic Bond Fund	FIXED INCOME	NATIONAL AUSTRALIA BANK	254116.18	250000	0.082836	2.99	5/21/2031
MML Dynamic Bond Fund	FIXED INCOME	CROWN CASTLE INTL CORP	251891.23	225000	0.08211	4	3/1/2027
MML Dynamic Bond Fund	FIXED INCOME	SG COMMERCIAL MORTGAGE SECURIT	250185.32	3730373.34	0.081554	2.096893	10/10/2048
MML Dynamic Bond Fund	FIXED INCOME	VERSCEND ESCROW CORP	249738.75	237000	0.081409	9.75	8/15/2026
MML Dynamic Bond Fund	FIXED INCOME	BANK OF MONTREAL	248290.97	225000	0.080937	3.803	12/15/2032
MML Dynamic Bond Fund	FIXED INCOME	GREENEDEN US HOLDINGS II LLC	248221.05	247777.53	0.080914	0	12/1/2027
MML Dynamic Bond Fund	FIXED INCOME	BPCE SA	246799.61	250000	0.080451	1	1/20/2026
MML Dynamic Bond Fund	FIXED INCOME	CARRIER GLOBAL CORP	246718.06	235000	0.080424	3.377	4/5/2040
MML Dynamic Bond Fund	FIXED INCOME	WEIR GROUP PLC (THE)	246107.83	245000	0.080225	2.2	5/13/2026
MML Dynamic Bond Fund	FIXED INCOME	CQP HOLDCO LP	243897.5	245000	0.079505	0	6/5/2028
MML Dynamic Bond Fund	FIXED INCOME	SLG OFFICE TRUST	242964.59	260000	0.0792	2.85061	7/15/2041
MML Dynamic Bond Fund	FIXED INCOME	EAST OHIO GAS CO/THE	242593.1	245000	0.079079	3	6/15/2050
MML Dynamic Bond Fund	FIXED INCOME	GAINWELL ACQUISITION CORP.	240226.8	239687.5	0.078308	0	10/1/2027
MML Dynamic Bond Fund	FIXED INCOME	PACIFIC GAS + ELECTRIC	240008.48	240000	0.078237	1.367	3/10/2023
MML Dynamic Bond Fund	FIXED INCOME	EVERSOURCE ENERGY	239535	250000	0.078082	1.65	8/15/2030
MML Dynamic Bond Fund	FIXED INCOME	ASSUREDPARTNERS INC	239257.35	240626.51	0.077992	0	2/12/2027
MML Dynamic Bond Fund	FIXED INCOME	VOLKSWAGEN GROUP AMERICA	237735.17	220000	0.077496	4.25	11/13/2023
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF COLOMBIA	236970	250000	0.077246	4.125	5/15/2051
MML Dynamic Bond Fund	FIXED INCOME	FERMACA ENTERPRISES S RL	236529.34	208394.06	0.077103	6.375	3/30/2038
MML Dynamic Bond Fund	FIXED INCOME	PACKAGING CORP OF AMERIC	236251.29	215000	0.077012	3.4	12/15/2027
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	233953.84	7794719.76	0.076263	0.907809	11/10/2048
MML Dynamic Bond Fund	FIXED INCOME	CVS HEALTH CORP	233869.5	180000	0.076236	5.05	3/25/2048
MML Dynamic Bond Fund	FIXED INCOME	AVIATION CAPITAL GROUP	231736.88	205000	0.07554	5.5	12/15/2024
MML Dynamic Bond Fund	FIXED INCOME	MCDONALD S CORP	231619.31	190000	0.075502	4.45	3/1/2047
MML Dynamic Bond Fund	FIXED INCOME	MCDONALD S CORP	230753.64	205000	0.07522	3.6	7/1/2030
MML Dynamic Bond Fund	FIXED INCOME	ION TRADING FINANCE LIMITED	230699.2	230000	0.075202	0	4/1/2028
MML Dynamic Bond Fund	FIXED INCOME	CLI FUNDING LLC	230323.86	228541.67	0.07508	2.07	10/18/2045
MML Dynamic Bond Fund	FIXED INCOME	PAREXEL INTL CORP	229333.13	230738.33	0.074757	0	9/27/2024

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	GEORGIA POWER CO	228956.42	228956.42	220000	0.074634	2.2 9/15/2024
MML Dynamic Bond Fund	FIXED INCOME	ESSENTIAL UTILITIES INC	228520.85	228520.85	220000	0.074492	2.704 4/15/2030
MML Dynamic Bond Fund	FIXED INCOME	BANCO MERCANTIL DE NORTE	227100	227100	200000	0.074029	7.625 12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	EXXON MOBIL CORPORATION	227055.09	227055.09	190000	0.074014	4.227 3/19/2040
MML Dynamic Bond Fund	FIXED INCOME	MSCG TRUST	226141.25	226141.25	226000	0.073716	3.123 10/15/2037
MML Dynamic Bond Fund	FIXED INCOME	JAZZ FINANCING LUX SARL	225632.25	225632.25	225000	0.073551	0 4/21/2028
MML Dynamic Bond Fund	FIXED INCOME	ORGANON AND CO.	225141.75	225141.75	225000	0.073391	0 6/2/2028
MML Dynamic Bond Fund	FIXED INCOME	MEGLOBAL CANADA ULC	224220	224220	200000	0.07309	5 5/18/2025
MML Dynamic Bond Fund	FIXED INCOME	UNIFIN FINANCIERA SA DE	222753	222753	300000	0.072612	8.875 12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	HYLAND SOFTWARE INC	221758.71	221758.71	221574.8	0.072288	0 7/1/2024
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PANAMA	221736	221736	200000	0.07228	4.3 4/29/2053
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	219965.65	219965.65	10067630.9	0.071703	0.804252 7/15/2058
MML Dynamic Bond Fund	FIXED INCOME	PETRONAS CAPITAL LTD	219073.76	219073.76	200000	0.071413	3.5 4/21/2030
MML Dynamic Bond Fund	FIXED INCOME	ARROW ELECTRONICS INC	218509.43	218509.43	195000	0.071229	3.875 1/12/2028
MML Dynamic Bond Fund	FIXED INCOME	EXPEDIA GROUP INC	217685.38	217685.38	200000	0.07096	3.8 2/15/2028
MML Dynamic Bond Fund	FIXED INCOME	BUNGE LTD FINANCE CORP	217606.1	217606.1	215000	0.070934	2.75 5/14/2031
MML Dynamic Bond Fund	FIXED INCOME	ABU DHABI GOVT INT L	217326	217326	200000	0.070843	3.125 4/16/2030
MML Dynamic Bond Fund	FIXED INCOME	WELLTOWER INC	217237.57	217237.57	210000	0.070814	2.8 6/1/2031
MML Dynamic Bond Fund	FIXED INCOME	RESIDENTIAL FUNDING MTG SEC I	216484.14	216484.14	217872.99	0.070568	6 4/25/2037
MML Dynamic Bond Fund	FIXED INCOME	INVEST ENERGY RES LTD	216250	216250	200000	0.070492	6.25 4/26/2029
MML Dynamic Bond Fund	FIXED INCOME	AIRCATTLE LTD	216238.84	216238.84	215000	0.070489	2.85 1/26/2028
MML Dynamic Bond Fund	FIXED INCOME	DUPONT DE NEMOURS INC	215972.1	215972.1	155000	0.070402	5.419 11/15/2048
MML Dynamic Bond Fund	FIXED INCOME	PACIFIC GAS + ELECTRIC	215804.44	215804.44	230000	0.070347	2.5 2/1/2031
MML Dynamic Bond Fund	FIXED INCOME	PERU LNG SRL	215625	215625	250000	0.070288	5.375 3/22/2030
MML Dynamic Bond Fund	FIXED INCOME	COMCAST CORP	215364.63	215364.63	195000	0.070204	3.4 4/1/2030
MML Dynamic Bond Fund	FIXED INCOME	ACTIVISION BLIZZARD	215307.69	215307.69	230000	0.070185	1.35 9/15/2030
MML Dynamic Bond Fund	FIXED INCOME	NEXTERA ENERGY CAPITAL	215305.27	215305.27	195000	0.070184	3.55 5/1/2027
MML Dynamic Bond Fund	FIXED INCOME	PRUDENTIAL FINANCIAL INC	215033.6	215033.6	185000	0.070096	3.905 12/7/2047
MML Dynamic Bond Fund	FIXED INCOME	SOUTHWEST AIRLINES CO	214638.07	214638.07	200000	0.069967	4.75 5/4/2023
MML Dynamic Bond Fund	FIXED INCOME	KEURIG DR PEPPER INC	214276.06	214276.06	190000	0.069849	3.8 5/1/2050
MML Dynamic Bond Fund	FIXED INCOME	AES GENER SA	214102	214102	200000	0.069792	7.125 3/26/2079
MML Dynamic Bond Fund	FIXED INCOME	FORTINET INC	213083.74	213083.74	215000	0.06946	1 3/15/2026
MML Dynamic Bond Fund	FIXED INCOME	CFRE COMMERCIAL MORTGAGE TRUS	212807.61	212807.61	5524543.11	0.06937	1.146425 1/10/2048
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF COLOMBIA	212582	212582	200000	0.069296	5 6/15/2045
MML Dynamic Bond Fund	FIXED INCOME	MARRIOTT INTERNATIONAL	212442.34	212442.34	200000	0.069251	3.125 6/15/2026
MML Dynamic Bond Fund	FIXED INCOME	VTR FINANCE BV	212000	212000	200000	0.069107	6.375 7/15/2028
MML Dynamic Bond Fund	FIXED INCOME	SAUDI INTERNATIONAL BOND	211100.8	211100.8	200000	0.068814	3.75 1/21/2055
MML Dynamic Bond Fund	FIXED INCOME	HUNT OIL CO OF PERU	211000	211000	200000	0.068781	6.375 6/1/2028
MML Dynamic Bond Fund	FIXED INCOME	BANGKOK BANK PCL/HK	210600	210600	200000	0.06865	5 12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	210541.3	210541.3	195000	0.068631	3.196 6/17/2027
MML Dynamic Bond Fund	FIXED INCOME	NXP BV/NXP FDG/NXP USA	210515.86	210515.86	190000	0.068623	3.875 6/18/2026
MML Dynamic Bond Fund	FIXED INCOME	BELL CANADA	210489.02	210489.02	210000	0.068614	0.75 3/17/2024
MML Dynamic Bond Fund	FIXED INCOME	POSCO	210142	210142	200000	0.068501	2.75 7/15/2024
MML Dynamic Bond Fund	FIXED INCOME	BOEING CO	210111.18	210111.18	205000	0.068491	2.95 2/1/2030
MML Dynamic Bond Fund	FIXED INCOME	KT CORP	209824.06	209824.06	200000	0.068397	2.5 7/18/2026
MML Dynamic Bond Fund	FIXED INCOME	BANCO DAVIVIENDA SA	209650	209650	200000	0.068341	6.65 12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	COSMOPOLITAN HOTEL TRUST	209391.83	209391.83	209000	0.068257	3.07288 11/15/2036
MML Dynamic Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	209212.5	209212.5	210000	0.068198	1.39088 2/15/2023
MML Dynamic Bond Fund	FIXED INCOME	BANK	209101.2	209101.2	200000	0.068162	4.396057 6/15/2060
MML Dynamic Bond Fund	FIXED INCOME	ARES CAPITAL CORP	208924.01	208924.01	210000	0.068104	2.15 7/15/2026
MML Dynamic Bond Fund	FIXED INCOME	TELEDYNE TECHNOLOGIES IN	208907.3	208907.3	205000	0.068099	2.25 4/1/2028
MML Dynamic Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	208305.19	208305.19	185000	0.067902	4.75 1/15/2026
MML Dynamic Bond Fund	FIXED INCOME	PENSKO TRUCK LEASING/PTL	208056.22	208056.22	185000	0.067821	4.2 4/1/2027
MML Dynamic Bond Fund	FIXED INCOME	ORAZUL ENERGY EGENOR SCA	207250	207250	200000	0.067558	5.625 4/28/2027
MML Dynamic Bond Fund	FIXED INCOME	ENABLE MIDSTREAM PARTNER	207210.96	207210.96	190000	0.067546	5 5/15/2044
MML Dynamic Bond Fund	FIXED INCOME	PTTTE TREASURY CENTER CO	207121.9	207121.9	200000	0.067517	2.587 6/10/2027
MML Dynamic Bond Fund	FIXED INCOME	OWENS CORNING	206783.46	206783.46	175000	0.067406	4.4 1/30/2048
MML Dynamic Bond Fund	FIXED INCOME	T MOBILE USA INC	206537.5	206537.5	205000	0.067326	2.25 2/15/2026
MML Dynamic Bond Fund	FIXED INCOME	MEDCO BELL PTE LTD	205850	205850	200000	0.067102	6.375 1/30/2027
MML Dynamic Bond Fund	FIXED INCOME	CK HUTCHISON INTL 20 LTD	204466	204466	200000	0.066651	2.5 5/8/2030
MML Dynamic Bond Fund	FIXED INCOME	BANCO EST RIO GRANDE SUL	204252	204252	200000	0.066581	5.375 1/28/2031
MML Dynamic Bond Fund	FIXED INCOME	KOREA EAST WEST POWER CO	204246	204246	200000	0.066579	1.75 5/6/2025
MML Dynamic Bond Fund	FIXED INCOME	KOREA EAST WEST POWER CO	204246	204246	200000	0.066579	1.75 5/6/2025
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PANAMA	204166	204166	200000	0.066553	3.87 7/23/2060
MML Dynamic Bond Fund	FIXED INCOME	ENN ENERGY HOLDINGS LTD	204144	204144	200000	0.066546	3.25 7/24/2022

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	PSA TREASURY PTE LTD	203862	203862	200000	0.066454	2.125 9/5/2029
MML Dynamic Bond Fund	FIXED INCOME	JSW HYDRO ENERGY LTD	202600	202600	200000	0.066043	4.125 5/18/2031
MML Dynamic Bond Fund	FIXED INCOME	HOME DEPOT INC	202529.67	170000	0.06602	0.06602	3.9 6/15/2047
MML Dynamic Bond Fund	FIXED INCOME	SA GLOBAL SUKUK LTD	202480	200000	0.066003	0.066003	2.694 6/17/2031
MML Dynamic Bond Fund	FIXED INCOME	ROYALTY PHARMA PLC	201580.13	200000	0.06571	0.06571	3.3 9/2/2040
MML Dynamic Bond Fund	FIXED INCOME	BOYNE USA INC	201187.35	195000	0.065582	0.065582	4.75 5/15/2029
MML Dynamic Bond Fund	FIXED INCOME	UEP PENONOME II SA	201139.98	197194.13	0.065567	0.065567	6.5 10/1/2038
MML Dynamic Bond Fund	FIXED INCOME	NBN CO LTD	200538.31	200000	0.065371	0.065371	1.45 5/5/2026
MML Dynamic Bond Fund	FIXED INCOME	NONGHYUP BANK	200029.52	200000	0.065205	0.065205	1.25 7/20/2025
MML Dynamic Bond Fund	FIXED INCOME	LG CHEM LTD	199802.39	200000	0.065131	0.065131	2.375 7/7/2031
MML Dynamic Bond Fund	FIXED INCOME	KOREA ELECTRIC POWER CO	199626	200000	0.065073	0.065073	1.125 6/15/2025
MML Dynamic Bond Fund	FIXED INCOME	FEDEX CORP	199377.62	160000	0.064992	0.064992	4.75 11/15/2045
MML Dynamic Bond Fund	FIXED INCOME	VERTICAL US NEWCO INC	199084.83	199001.25	0.064897	0.064897	0 7/30/2027
MML Dynamic Bond Fund	FIXED INCOME	NATWEST MARKETS PLC	199039.62	200000	0.064882	0.064882	0.8 8/12/2024
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL I TRUST	198874.76	6161367.02	0.064828	0.064828	1.025292 12/15/2048
MML Dynamic Bond Fund	FIXED INCOME	HELIOS SOFTWARE HOLDINGS INC	198795.49	198857.14	0.064802	0.064802	0 3/11/2028
MML Dynamic Bond Fund	FIXED INCOME	CSAIL COMMERCIAL MORTGAGE TRUS	197809.23	8077472.69	0.064481	0.064481	0.966883 4/15/2050
MML Dynamic Bond Fund	FIXED INCOME	USA COM PART/USA COM FIN	197631.8	185000	0.064423	0.064423	6.875 9/1/2027
MML Dynamic Bond Fund	FIXED INCOME	EMPRESAS PUBLIC MEDELLIN	197384	200000	0.064342	0.064342	4.375 2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	HCA INC	197241.11	175000	0.064296	0.064296	4.125 6/15/2029
MML Dynamic Bond Fund	FIXED INCOME	SABINE PASS LIQUEFACTION	196393.86	170000	0.06402	0.06402	5 3/15/2027
MML Dynamic Bond Fund	FIXED INCOME	GALAXY PIPELINE ASSETS	196184.23	200000	0.063951	0.063951	2.625 3/31/2036
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF COLOMBIA	196130	200000	0.063934	0.063934	3.25 4/22/2032
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	195699.02	200000	0.063793	0.063793	3.422162 11/10/2042
MML Dynamic Bond Fund	FIXED INCOME	SIMON PROPERTY GROUP LP	195681.21	190000	0.063787	0.063787	2.45 9/13/2029
MML Dynamic Bond Fund	FIXED INCOME	ADANI INTERNATIONAL CONT	193044.58	200000	0.062928	0.062928	3 2/16/2031
MML Dynamic Bond Fund	FIXED INCOME	ANTOFAGASTA PLC	192700	200000	0.062815	0.062815	2.375 10/14/2030
MML Dynamic Bond Fund	FIXED INCOME	NETAPP INC	190391.22	185000	0.062063	0.062063	1.875 6/22/2025
MML Dynamic Bond Fund	FIXED INCOME	MONONGAHELA POWER CO	189958.42	145000	0.061922	0.061922	5.4 12/15/2043
MML Dynamic Bond Fund	FIXED INCOME	CONSTELLATION BRANDS INC	187846.69	175000	0.061233	0.061233	3.15 8/1/2029
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	187486.16	6635785.5	0.061116	0.061116	1.105553 10/15/2048
MML Dynamic Bond Fund	FIXED INCOME	PROJECT ALPHA INTERMEDIATE HDG	187449.02	187316.03	0.061104	0.061104	0 4/26/2024
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	186697.9	200000	0.060859	0.060859	3.422162 11/10/2042
MML Dynamic Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	185101.12	180000	0.060338	0.060338	2.58 4/22/2032
MML Dynamic Bond Fund	FIXED INCOME	JP MORGAN CHASE COMMERCIAL MOR	183477.99	174000	0.059809	0.059809	3.4595 8/15/2049
MML Dynamic Bond Fund	FIXED INCOME	UFC HOLDINGS LLC	181902.36	182215.77	0.059296	0.059296	0 4/29/2026
MML Dynamic Bond Fund	FIXED INCOME	GRIFFON CORPORATION	180625	170000	0.058879	0.058879	5.75 3/1/2028
MML Dynamic Bond Fund	FIXED INCOME	FONTAINEBLEAU MIAMI BEACH TRUS	177204.54	176000	0.057764	0.057764	4.094969 12/10/2036
MML Dynamic Bond Fund	FIXED INCOME	GOLDEN NUGGET INC	176788.5	175000	0.057629	0.057629	6.75 10/15/2024
MML Dynamic Bond Fund	FIXED INCOME	FONTAINEBLEAU MIAMI BEACH TRUS	175375.83	169000	0.057168	0.057168	4.094969 12/10/2036
MML Dynamic Bond Fund	FIXED INCOME	HERO FUNDING TRUST	175018.23	168412.91	0.057052	0.057052	4.29 9/20/2047
MML Dynamic Bond Fund	FIXED INCOME	VEDANTA RESOURCES	175000	200000	0.057046	0.057046	9.25 4/23/2026
MML Dynamic Bond Fund	FIXED INCOME	GREAT OUTDOORS GROUP, LLC	174998.91	174562.5	0.057045	0.057045	0 3/6/2028
MML Dynamic Bond Fund	FIXED INCOME	EXXON MOBIL CORPORATION	174098.06	165000	0.056752	0.056752	2.61 10/15/2030
MML Dynamic Bond Fund	FIXED INCOME	CCL INDUSTRIES INC	173308	165000	0.056494	0.056494	3.05 6/1/2030
MML Dynamic Bond Fund	FIXED INCOME	MIDWEST GMNG BOR/MWG FIN	170212.5	170000	0.055485	0.055485	4.875 5/1/2029
MML Dynamic Bond Fund	FIXED INCOME	CENGAGE LEARNING INC	170107.1	170000	0.055451	0.055451	0 6/29/2026
MML Dynamic Bond Fund	FIXED INCOME	MACQUARIE GROUP LTD	169318.38	170000	0.055194	0.055194	1.629 9/23/2027
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	169217.47	7663557.13	0.055161	0.055161	0.790684 5/15/2048
MML Dynamic Bond Fund	FIXED INCOME	VEDANTA RESOURCES LTD	167100	200000	0.05447	0.05447	6.125 8/9/2024
MML Dynamic Bond Fund	FIXED INCOME	TRANSDIGM INC	166533.1	169161.88	0.054286	0.054286	0 12/9/2025
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	166522.06	9245267.33	0.054282	0.054282	0.645388 7/15/2048
MML Dynamic Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	166338.15	165000	0.054222	0.054222	2.069 6/1/2029
MML Dynamic Bond Fund	FIXED INCOME	BANCO MACRO SA	166002	200000	0.054113	0.054113	6.75 11/4/2026
MML Dynamic Bond Fund	FIXED INCOME	ENBRIDGE INC	165245.09	165000	0.053866	0.053866	2.5 8/1/2033
MML Dynamic Bond Fund	FIXED INCOME	ONEDIGITAL BORROWER LLC	165168.38	164687.49	0.053841	0.053841	0 11/16/2027
MML Dynamic Bond Fund	FIXED INCOME	GENERAL ELECTRIC CO	165027.75	110000	0.053795	0.053795	6.875 1/10/2039
MML Dynamic Bond Fund	FIXED INCOME	PRIMO WATER HOLDINGS INC	165000	165000	0.053786	0.053786	4.375 4/30/2029
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	163341.46	145000	0.053245	0.053245	2.75 11/15/2042
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	163242.68	167000	0.053213	0.053213	1.323 7/15/2035
MML Dynamic Bond Fund	FIXED INCOME	TENET HEALTHCARE CORP	162556.25	155000	0.052989	0.052989	5.125 11/1/2027
MML Dynamic Bond Fund	FIXED INCOME	SELECT MEDICAL CORP	159753	150000	0.052076	0.052076	6.25 8/15/2026
MML Dynamic Bond Fund	FIXED INCOME	EAB GLOBAL INC	159600	160000	0.052026	0.052026	0 6/28/2028
MML Dynamic Bond Fund	FIXED INCOME	HAYWARD INDUSTRIES INC	159550.4	160000	0.052009	0.052009	0 5/12/2028
MML Dynamic Bond Fund	FIXED INCOME	TRANSDIGM INC	158250	150000	0.051586	0.051586	6.25 3/15/2026

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	VIKING CRUISES LTD	158112	160000	0.051541	5.875	9/15/2027
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	157859.59	162000	0.051458	4.337343	5/15/2048
MML Dynamic Bond Fund	FIXED INCOME	INTELSAT JACKSON HLDGS S A	157196.35	155000	0.051242	0	11/27/2023
MML Dynamic Bond Fund	FIXED INCOME	ALPINE FIN MERGER SUB LLC	156855.3	157018.6	0.051131	0	7/12/2024
MML Dynamic Bond Fund	FIXED INCOME	CASTLE US HOLDING CORPORATION	156230.68	158333.35	0.050927	0	1/29/2027
MML Dynamic Bond Fund	FIXED INCOME	MORGAN STANLEY	154383.1	155000	0.050325	0.79	5/30/2025
MML Dynamic Bond Fund	FIXED INCOME	HC GROUP HOLDINGS II INC	153409.98	153442.2	0.050008	0	8/6/2026
MML Dynamic Bond Fund	FIXED INCOME	ALTICE FRANCE SA	152903.47	153314.35	0.049843	0	8/14/2026
MML Dynamic Bond Fund	FIXED INCOME	GILEX HOLDING SARL	152626.5	150000	0.049752	8.5	5/2/2023
MML Dynamic Bond Fund	FIXED INCOME	GILEX HOLDING SARL	152626.5	150000	0.049752	8.5	5/2/2023
MML Dynamic Bond Fund	FIXED INCOME	ASURION LLC	152394.35	154225	0.049677	0	12/23/2026
MML Dynamic Bond Fund	FIXED INCOME	MISSOURI ST HIGHWAYS TRANSIT	151557.35	135000	0.049404	5.063	5/1/2024
MML Dynamic Bond Fund	FIXED INCOME	TRANSOCEAN POSEIDON LTD	150000	150000	0.048896	6.875	2/1/2027
MML Dynamic Bond Fund	FIXED INCOME	SOPHIA LP	149281.34	149250	0.048662	0	10/7/2027
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAGE	149246.93	4148652.03	0.048651	1.072579	12/15/2048
MML Dynamic Bond Fund	FIXED INCOME	BANCO INTERNAC DEL PERU	148875	150000	0.04853	4	7/8/2030
MML Dynamic Bond Fund	FIXED INCOME	NRG ENERGY INC	147197.5	145000	0.047983	2	12/2/2025
MML Dynamic Bond Fund	FIXED INCOME	CITIGROUP COMMERCIAL MORTGAGE	147162.19	201000	0.047971	2.85	2/10/2049
MML Dynamic Bond Fund	FIXED INCOME	ANTHEM INC	146643.31	140000	0.047802	2.375	1/15/2025
MML Dynamic Bond Fund	FIXED INCOME	MITCHELL INTL INC	146195.89	147709.92	0.047656	0	11/29/2024
MML Dynamic Bond Fund	FIXED INCOME	BOYD GAMING CORP	145464.2	140000	0.047418	4.75	6/15/2031
MML Dynamic Bond Fund	FIXED INCOME	ILLUMINA INC	145214.04	145000	0.047336	0.55	3/23/2023
MML Dynamic Bond Fund	FIXED INCOME	MGM RESORTS INTL	144606.6	135000	0.047138	6.75	5/1/2025
MML Dynamic Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	144554.85	145000	0.047121	0.854348	9/10/2027
MML Dynamic Bond Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	144261.6	140000	0.047026	4.75	1/15/2031
MML Dynamic Bond Fund	FIXED INCOME	BALLY S CORP	143860.05	135000	0.046895	6.75	6/1/2027
MML Dynamic Bond Fund	FIXED INCOME	ALLIED UNIVERSAL	143162.5	130000	0.046667	9.75	7/15/2027
MML Dynamic Bond Fund	FIXED INCOME	KRAFT HEINZ FOODS CO	142609.77	115000	0.046487	5.2	7/15/2045
MML Dynamic Bond Fund	FIXED INCOME	NRG ENERGY INC	142491.5	145000	0.046449	3.625	2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	NGL ENRGY OP/FIN CORP	141750	135000	0.046207	7.5	2/1/2026
MML Dynamic Bond Fund	FIXED INCOME	CREDITO REAL SAB DE CV	141000	200000	0.045963	9.125	12/31/2099
MML Dynamic Bond Fund	FIXED INCOME	AVAYA, INC.	140284.2	140000	0.045729	0	12/15/2027
MML Dynamic Bond Fund	FIXED INCOME	AIR LEASE CORP	140172.66	140000	0.045693	1.875	8/15/2026
MML Dynamic Bond Fund	FIXED INCOME	BERKSHIRE HATHAWAY FIN	139868.89	140000	0.045594	2.85	10/15/2050
MML Dynamic Bond Fund	FIXED INCOME	ARCONIC CORP	139453.6	130000	0.045458	6.125	2/15/2028
MML Dynamic Bond Fund	FIXED INCOME	ENDURE DIGITAL INC	139241.2	140000	0.045389	0	2/10/2028
MML Dynamic Bond Fund	FIXED INCOME	EMPRESA ELECTRICA ANGAMO	139100	139100	0.045343	4.875	5/25/2029
MML Dynamic Bond Fund	FIXED INCOME	TENET HEALTHCARE CORP	138684	130000	0.045208	6.125	10/1/2028
MML Dynamic Bond Fund	FIXED INCOME	GFL ENVIRONMENTAL INC	138299	140000	0.045082	4	8/1/2028
MML Dynamic Bond Fund	FIXED INCOME	CLARIOS GLOBAL LP	137770.66	139162.28	0.04491	0	4/30/2026
MML Dynamic Bond Fund	FIXED INCOME	ONEMAIN FINANCE CORP	137563.2	120000	0.044842	6.625	1/15/2028
MML Dynamic Bond Fund	FIXED INCOME	JP MORGAN CHASE COMMERCIAL MOR	137171.78	3920358.51	0.044715	1.068012	1/15/2049
MML Dynamic Bond Fund	FIXED INCOME	PAMPA ENERGIA SA	136851	150000	0.04461	9.125	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	VIATRIS INC	136763.36	135000	0.044581	1.65	6/22/2025
MML Dynamic Bond Fund	FIXED INCOME	SOUTHERN CO	136053	135000	0.04435	3.75	9/15/2051
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN AIRLINES/AADVAN	134948.75	125000	0.04399	5.75	4/20/2029
MML Dynamic Bond Fund	FIXED INCOME	BP CAP MARKETS AMERICA	134623.22	140000	0.043884	2.939	6/4/2051
MML Dynamic Bond Fund	FIXED INCOME	RADIATE HOLDCO, LLC	134374.7	134325	0.043803	0	9/25/2026
MML Dynamic Bond Fund	FIXED INCOME	ENABLE MIDSTREAM PARTNER	132359.15	120000	0.043146	4.4	3/15/2027
MML Dynamic Bond Fund	FIXED INCOME	CAESARS RESORT / FINCO	131845.35	130000	0.042978	5.25	10/15/2025
MML Dynamic Bond Fund	FIXED INCOME	EQUINIX INC	131699.77	130000	0.042931	1.8	7/15/2027
MML Dynamic Bond Fund	FIXED INCOME	DIAMONDBACK ENERGY INC	130968.8	124000	0.042693	2.875	12/1/2024
MML Dynamic Bond Fund	FIXED INCOME	MONDELEZ INTERNATIONAL	130805.31	135000	0.042639	1.875	10/15/2032
MML Dynamic Bond Fund	FIXED INCOME	HALLIBURTON CO	130024.55	125000	0.042385	2.92	3/1/2030
MML Dynamic Bond Fund	FIXED INCOME	AVANTOR INC	129295.67	129350	0.042147	0	11/8/2027
MML Dynamic Bond Fund	FIXED INCOME	PROOFPPOINT INC	129204.4	130000	0.042117	0	6/9/2028
MML Dynamic Bond Fund	FIXED INCOME	TIBCO SOFTWARE INC	128212.45	128662.77	0.041794	0	6/30/2026
MML Dynamic Bond Fund	FIXED INCOME	SURF HOLDINGS, LLC	127784.05	128700.4	0.041654	0	3/5/2027
MML Dynamic Bond Fund	FIXED INCOME	AES ARGENTINA GENERACION	127500	150000	0.041562	7.75	2/2/2024
MML Dynamic Bond Fund	FIXED INCOME	ALEXANDRIA REAL ESTATE E	127284.54	130000	0.041492	3	5/18/2051
MML Dynamic Bond Fund	FIXED INCOME	AADVANTAGE LOYALTY IP LTD	125010	120000	0.04075	0	4/20/2028
MML Dynamic Bond Fund	FIXED INCOME	SUNCOKE ENGY PART FIN CO	124626	120000	0.040625	7.5	6/15/2025
MML Dynamic Bond Fund	FIXED INCOME	PETCO HEALTH AND WELLNESS CO.	124398.23	124687.5	0.040551	0	3/3/2028
MML Dynamic Bond Fund	FIXED INCOME	IRB HOLDING CORP	124200	120000	0.040486	6.75	2/15/2026
MML Dynamic Bond Fund	FIXED INCOME	SUPERIOR PLUS/GEN PRNTR	123602.4	120000	0.040291	4.5	3/15/2029

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	ACRISURE LLC / FIN INC	123437.5	125000	0.040238	4.25	2/15/2029
MML Dynamic Bond Fund	FIXED INCOME	ULTIMATE SOFTWARE GROUP INC	123118.04	123105.73	0.040133	0	5/4/2026
MML Dynamic Bond Fund	FIXED INCOME	MATTAMY GROUP CORP	122580	120000	0.039958	4.625	3/1/2030
MML Dynamic Bond Fund	FIXED INCOME	GRACECHURCH MORTGAGE FINANCE P	121957.86	125000	0.039755	2.76923	12/10/2040
MML Dynamic Bond Fund	FIXED INCOME	NISOURCE INC	121915.35	110000	0.039741	3.6	5/1/2030
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	121903.45	115000	0.039738	2.879	10/30/2030
MML Dynamic Bond Fund	FIXED INCOME	ACRISURE, LLC	121376.14	122809.32	0.039566	0	2/15/2027
MML Dynamic Bond Fund	FIXED INCOME	PERFORMANCE FOOD GROUP I	121037.5	115000	0.039455	5.5	10/15/2027
MML Dynamic Bond Fund	FIXED INCOME	MPH ACQUISITION HOLDINGS	120589.2	120000	0.039309	5.75	11/1/2028
MML Dynamic Bond Fund	FIXED INCOME	BRIGHTHSE FIN GL	120192.24	120000	0.03918	2	6/28/2028
MML Dynamic Bond Fund	FIXED INCOME	PERATON CORP	119948.98	119700	0.0391	0	2/1/2028
MML Dynamic Bond Fund	FIXED INCOME	RADIOLOGY PARTNERS INC	119900.4	120000	0.039085	0	7/9/2025
MML Dynamic Bond Fund	FIXED INCOME	CI FINANCIAL CORP	119677.03	115000	0.039012	4.1	6/15/2051
MML Dynamic Bond Fund	FIXED INCOME	CAMELOT US ACQUISITION 1 CO.	119400	119400	0.038921	0	10/30/2026
MML Dynamic Bond Fund	FIXED INCOME	CP ATLAS BUYER INC	119313.37	119700	0.038893	0	11/23/2027
MML Dynamic Bond Fund	FIXED INCOME	DEERFIELD DAKOTA HOLDING LLC	119270.41	118824.82	0.038879	0	4/9/2027
MML Dynamic Bond Fund	FIXED INCOME	BERRY GLOBAL INC	118960.8	120000	0.038778	1.65	1/15/2027
MML Dynamic Bond Fund	FIXED INCOME	KRONOS ACQUISITION HLDGS INC	118454.35	119400	0.038613	0	12/22/2026
MML Dynamic Bond Fund	FIXED INCOME	NATIONAL RETAIL PROP INC	117008.22	115000	0.038142	2.5	4/15/2030
MML Dynamic Bond Fund	FIXED INCOME	CAMPBELL SOUP CO	115857.73	115000	0.037767	2.375	4/24/2030
MML Dynamic Bond Fund	FIXED INCOME	PENNYMAC FIN SVCS INC	115609.2	120000	0.037686	4.25	2/15/2029
MML Dynamic Bond Fund	FIXED INCOME	HESS MIDSTREAM OPERATION	115362.5	110000	0.037605	5.125	6/15/2028
MML Dynamic Bond Fund	FIXED INCOME	ENTERGY CORP	114651.39	110000	0.037374	2.8	6/15/2030
MML Dynamic Bond Fund	FIXED INCOME	EW SCRIPPS COMPANY THE	114626.05	115106.04	0.037365	0	5/1/2026
MML Dynamic Bond Fund	FIXED INCOME	VONTIER CORP	114298.5	115000	0.037258	2.4	4/1/2028
MML Dynamic Bond Fund	FIXED INCOME	GARDA WORLD SECURITY	114137.5	115000	0.037206	6	6/1/2029
MML Dynamic Bond Fund	FIXED INCOME	BAUSCH HEALTH COS INC	113740.75	115000	0.037077	6.25	2/15/2029
MML Dynamic Bond Fund	FIXED INCOME	ALDEVRON LLC	113589.33	113624.55	0.037027	0	10/12/2026
MML Dynamic Bond Fund	FIXED INCOME	GLOBAL AIR LEASE CO LTD	113357.16	112750	0.036952	6.5	9/15/2024
MML Dynamic Bond Fund	FIXED INCOME	BLACKHAWK NETWORK HLDGS INC	113129.96	114545.75	0.036878	0	6/15/2025
MML Dynamic Bond Fund	FIXED INCOME	ENERGIZER HOLDINGS INC	112722.5	110000	0.036745	4.75	6/15/2028
MML Dynamic Bond Fund	FIXED INCOME	MEG ENERGY CORP	111859.13	105000	0.036463	7.125	2/1/2027
MML Dynamic Bond Fund	FIXED INCOME	POST HOLDINGS INC	111650	110000	0.036395	4.625	4/15/2030
MML Dynamic Bond Fund	FIXED INCOME	CAESARS ENTERTAIN INC	111348.3	105000	0.036297	6.25	7/1/2025
MML Dynamic Bond Fund	FIXED INCOME	CO HLDGS LLC/CAP CORP	110906.25	105000	0.036153	4.75	3/1/2030
MML Dynamic Bond Fund	FIXED INCOME	TARGA RESOURCES PARTNERS	109966	100000	0.035846	5.5	3/1/2030
MML Dynamic Bond Fund	FIXED INCOME	GOODYEAR TIRE + RUBBER	109725	105000	0.035768	5.25	7/15/2031
MML Dynamic Bond Fund	FIXED INCOME	HALLIBURTON CO	109723.27	90000	0.035767	5	11/15/2045
MML Dynamic Bond Fund	FIXED INCOME	CLARIOS GLOBAL LP/US FIN	109695	103000	0.035758	6.25	5/15/2026
MML Dynamic Bond Fund	FIXED INCOME	RP ESCROW ISSUER LLC	109593.75	105000	0.035725	5.25	12/15/2025
MML Dynamic Bond Fund	FIXED INCOME	LUMEN TECHNOLOGIES INC	109068.75	105000	0.035554	5.125	12/15/2026
MML Dynamic Bond Fund	FIXED INCOME	FILTRATION GROUP CORP	109029.92	110015.66	0.035541	0	3/29/2025
MML Dynamic Bond Fund	FIXED INCOME	CHESAPEAKE ENERGY CORP	108245.5	100000	0.035285	5.875	2/1/2029
MML Dynamic Bond Fund	FIXED INCOME	HILCORP ENERGY I/HILCORP	106250	100000	0.034635	6.25	11/1/2028
MML Dynamic Bond Fund	FIXED INCOME	ZEBRA BUYER LLC	105243.6	105000	0.034307	0	4/21/2028
MML Dynamic Bond Fund	FIXED INCOME	BUILDERS FIRSTSOURCE INC	104982.5	98000	0.034222	6.75	6/1/2027
MML Dynamic Bond Fund	FIXED INCOME	RADIOLOGY PARTNERS INC	104975	95000	0.034219	9.25	2/1/2028
MML Dynamic Bond Fund	FIXED INCOME	TEXAS INSTRUMENTS INC	104588.1	105000	0.034093	1.75	5/4/2030
MML Dynamic Bond Fund	FIXED INCOME	TECH DATA CORPORATION	104305.25	104212.5	0.034001	0	6/30/2025
MML Dynamic Bond Fund	FIXED INCOME	ULTIMATE SOFTWARE GROUP INC THE	104274.26	104213.82	0.033991	0	5/4/2026
MML Dynamic Bond Fund	FIXED INCOME	TRANSDIGM INC	104250	100000	0.033983	5.5	11/15/2027
MML Dynamic Bond Fund	FIXED INCOME	AT+T INC	104017.9	100000	0.033907	2.75	6/1/2031
MML Dynamic Bond Fund	FIXED INCOME	SUBURBAN PROPANE PARTNRS	102375	100000	0.033372	5	6/1/2031
MML Dynamic Bond Fund	FIXED INCOME	SRS DISTRIBUTION INC	102250	100000	0.033331	4.625	7/1/2028
MML Dynamic Bond Fund	FIXED INCOME	CALPINE CORP	101875	100000	0.033209	5.125	3/15/2028
MML Dynamic Bond Fund	FIXED INCOME	CHS/COMMUNITY HEALTH SYS	101650	95000	0.033135	6	1/15/2029
MML Dynamic Bond Fund	FIXED INCOME	KRONOS ACQ / KIK CUSTOM	101500	100000	0.033086	5	12/31/2026
MML Dynamic Bond Fund	FIXED INCOME	GTGR AP FINANCE INC	101175	95000	0.032981	8	5/15/2027
MML Dynamic Bond Fund	FIXED INCOME	FLOWERS FOODS INC	100304.91	100000	0.032697	2.4	3/15/2031
MML Dynamic Bond Fund	FIXED INCOME	SRS DISTRIBUTION INC.	99889	100000	0.032561	0	6/2/2028
MML Dynamic Bond Fund	FIXED INCOME	LIVE NATION ENTERTAINMEN	99882	90000	0.032559	6.5	5/15/2027
MML Dynamic Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	99768.75	85000	0.032522	6.125	1/1/2031
MML Dynamic Bond Fund	FIXED INCOME	CARNIVAL CORP	99512.5	95000	0.032439	5.75	3/1/2027
MML Dynamic Bond Fund	FIXED INCOME	NUSTAR LOGISTICS LP	99441	90000	0.032415	6.375	10/1/2030
MML Dynamic Bond Fund	FIXED INCOME	HARBOR FREIGHT TOOLS USA INC	99433.34	99500	0.032413	0	10/19/2027

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date	
MML Dynamic Bond Fund	FIXED INCOME	SUZANO AUSTRIA G	98915	98915	100000	0.032244	3.125	1/15/2032
MML Dynamic Bond Fund	FIXED INCOME	UBER TECHNOLOGIES INC	98908.2	98908.2	90000	0.032242	7.5	9/15/2027
MML Dynamic Bond Fund	FIXED INCOME	SPARC EM SPC PANAMA METR	98544.82	98544.82	100819.26	0.032123	0.01	12/5/2022
MML Dynamic Bond Fund	FIXED INCOME	SCRIPPS ESCROW INC	98087.5	98087.5	95000	0.031974	5.875	7/15/2027
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	97664.35	97664.35	4011119.76	0.031836	0.986868	11/15/2047
MML Dynamic Bond Fund	FIXED INCOME	CVT INC	97045.44	97045.44	98473.3	0.031634	0	11/29/2024
MML Dynamic Bond Fund	FIXED INCOME	OMNICO GROUP INC	96690.46	96690.46	95000	0.031519	2.6	8/1/2031
MML Dynamic Bond Fund	FIXED INCOME	ONEOK INC	95892.19	95892.19	90000	0.031258	3.4	9/1/2029
MML Dynamic Bond Fund	FIXED INCOME	MADISON IAQ LLC	95000	95000	95000	0.030968	0	6/16/2028
MML Dynamic Bond Fund	FIXED INCOME	REGIONALCARE HOSPITAL PARTNERS	94919	94919	95193.16	0.030941	0	11/16/2025
MML Dynamic Bond Fund	FIXED INCOME	ENDURE DIGITAL INC	94050	94050	95000	0.030658	6	2/15/2029
MML Dynamic Bond Fund	FIXED INCOME	SUNOCO LP/FINANCE CORP	93892.5	93892.5	90000	0.030607	6	4/15/2027
MML Dynamic Bond Fund	FIXED INCOME	GCI LLC	92115	92115	90000	0.030027	4.75	10/15/2028
MML Dynamic Bond Fund	FIXED INCOME	ORTHO CLINICAL INC/SA	91749	91749	84000	0.029908	7.25	2/1/2028
MML Dynamic Bond Fund	FIXED INCOME	PARKLAND CORP/CANADA	91457.1	91457.1	90000	0.029813	4.5	10/1/2029
MML Dynamic Bond Fund	FIXED INCOME	LEGACY LIFEPOINT HEALTH	90787.5	90787.5	90000	0.029594	4.375	2/15/2027
MML Dynamic Bond Fund	FIXED INCOME	BOMBARDIER INC	90112.5	90112.5	90000	0.029374	6	10/15/2022
MML Dynamic Bond Fund	FIXED INCOME	SUNCOKE ENERGY INC	89887.5	89887.5	90000	0.029301	4.875	6/30/2029
MML Dynamic Bond Fund	FIXED INCOME	TRITON CONTAINER	89828.89	89828.89	90000	0.029282	1.15	6/7/2024
MML Dynamic Bond Fund	FIXED INCOME	ZAYO GROUP HOLDINGS INC	89380.8	89380.8	90000	0.029136	4	3/1/2027
MML Dynamic Bond Fund	FIXED INCOME	WASH MULTIFAM ACQ INC	88748.5	88748.5	85000	0.02893	5.75	4/15/2026
MML Dynamic Bond Fund	FIXED INCOME	PIKE CORP	88400	88400	85000	0.028816	5.5	9/1/2028
MML Dynamic Bond Fund	FIXED INCOME	CENGAGE LEARNING INC	87018.75	87018.75	85000	0.028366	9.5	6/15/2024
MML Dynamic Bond Fund	FIXED INCOME	LUMEN TECHNOLOGIES INC	86700	86700	85000	0.028262	4	2/15/2027
MML Dynamic Bond Fund	FIXED INCOME	EXPEDIA GROUP INC	86288.5	86288.5	85000	0.028128	2.95	3/15/2031
MML Dynamic Bond Fund	FIXED INCOME	UNITED AIRLINES, INC.	86038.7	86038.7	85000	0.028046	0	4/21/2028
MML Dynamic Bond Fund	FIXED INCOME	MADISON IAQ LLC	85850	85850	85000	0.027985	4.125	6/30/2028
MML Dynamic Bond Fund	FIXED INCOME	AVAYA INC	85624	85624	80000	0.027911	6.125	9/15/2028
MML Dynamic Bond Fund	FIXED INCOME	BRIGHTSE FIN GBLB FUND	85169.96	85169.96	85000	0.027763	1	4/12/2024
MML Dynamic Bond Fund	FIXED INCOME	SPIN HOLDCO INC	85011.05	85011.05	85000	0.027712	0	3/1/2028
MML Dynamic Bond Fund	FIXED INCOME	AGREE LP	84803.29	84803.29	85000	0.027644	2.6	6/15/2033
MML Dynamic Bond Fund	FIXED INCOME	SCIENTIFIC GAMES INTERNA	84600	84600	75000	0.027578	7.25	11/15/2029
MML Dynamic Bond Fund	FIXED INCOME	LIONS GATE CAPITAL HOLD	84100	84100	80000	0.027415	5.5	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	ALLIANT HOLD / CO ISSUER	84076.8	84076.8	80000	0.027407	6.75	10/15/2027
MML Dynamic Bond Fund	FIXED INCOME	ILLUMINATE BUYER LLC	84016.49	84016.49	84575.53	0.027387	0	6/30/2027
MML Dynamic Bond Fund	FIXED INCOME	EMPR ELEC ITABO SA	83580.66	83580.66	81000	0.027245	7.95	5/11/2026
MML Dynamic Bond Fund	FIXED INCOME	CALRIV SCI HLD CORP	82100	82100	80000	0.026763	4.875	6/30/2029
MML Dynamic Bond Fund	FIXED INCOME	PATTERSON UTI ENERGY INC	81023.98	81023.98	80000	0.026412	3.95	2/1/2028
MML Dynamic Bond Fund	FIXED INCOME	UNITED NATURAL FOODS INC	80712	80712	75000	0.02631	6.75	10/15/2028
MML Dynamic Bond Fund	FIXED INCOME	WESTERN MIDSTREAM OPERAT	79244.25	79244.25	75000	0.025832	4.35	2/1/2025
MML Dynamic Bond Fund	FIXED INCOME	INDIGO NATURAL RES LLC	78375	78375	75000	0.025548	5.375	2/1/2029
MML Dynamic Bond Fund	FIXED INCOME	GRAHAM PACKAGING COMPANY, INC.	78061.25	78061.25	78176.95	0.025446	0	8/4/2027
MML Dynamic Bond Fund	FIXED INCOME	RADIATE HOLDCO / FINANCE	77625	77625	75000	0.025304	4.5	9/15/2026
MML Dynamic Bond Fund	FIXED INCOME	PARK INTERMED HOLDINGS	77583.75	77583.75	75000	0.02529	4.875	5/15/2029
MML Dynamic Bond Fund	CASH	US DOLLAR	-77393.45	-77393.45	-77393.45	0.025228	0	
MML Dynamic Bond Fund	FIXED INCOME	CEDAR FAIR LP	77250	77250	75000	0.025182	5.25	7/15/2029
MML Dynamic Bond Fund	FIXED INCOME	GS MORTGAGE SECURITIES TRUST	77159.89	77159.89	4309645.39	0.025152	1.628713	2/10/2046
MML Dynamic Bond Fund	FIXED INCOME	ICON LUXEMBOURG SARL	76158.91	76158.91	76051.68	0.024826	0	6/16/2028
MML Dynamic Bond Fund	FIXED INCOME	NATIONSTAR MTG HLD INC	75697.5	75697.5	75000	0.024676	5.5	8/15/2028
MML Dynamic Bond Fund	FIXED INCOME	DCERT BUYER INC	74653.5	74653.5	74622.16	0.024335	0	10/16/2026
MML Dynamic Bond Fund	FIXED INCOME	ALLIED UNIVERSAL	74216.1	74216.1	70000	0.024193	6.625	7/15/2026
MML Dynamic Bond Fund	FIXED INCOME	CENGAGE LEARNING ACQUISITIONS	73759.53	73759.53	73719.72	0.024044	0	6/7/2023
MML Dynamic Bond Fund	FIXED INCOME	NFP CORP	73689.7	73689.7	70000	0.024021	6.875	8/15/2028
MML Dynamic Bond Fund	FIXED INCOME	DIAMOND (BC) B V	73508.75	73508.75	73955.44	0.023962	0	9/6/2024
MML Dynamic Bond Fund	FIXED INCOME	SOLENIS INTL L P	73335.15	73335.15	73413.7	0.023905	0	6/26/2025
MML Dynamic Bond Fund	FIXED INCOME	CHS/COMMUNITY HEALTH SYS	73252.9	73252.9	70000	0.023879	6.875	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	PACIFIC GAS + ELECTRIC COMPANY	73183.03	73183.03	74250	0.023856	0	6/23/2025
MML Dynamic Bond Fund	FIXED INCOME	REALOGY GROUP/CO ISSUER	73177.3	73177.3	70000	0.023854	5.75	1/15/2029
MML Dynamic Bond Fund	FIXED INCOME	OVINTIV INC	73117.87	73117.87	55000	0.023835	7.375	11/1/2031
MML Dynamic Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	72513.6	72513.6	60000	0.023638	6.625	9/1/2030
MML Dynamic Bond Fund	FIXED INCOME	CLEAR CHANNEL OUTDOOR HO	72473.56	72473.56	70000	0.023625	7.5	6/1/2029
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN AIRLS INC	72229.39	72229.39	74081.43	0.023545	0	12/15/2023
MML Dynamic Bond Fund	FIXED INCOME	NGPL PIPECO LLC	72225.7	72225.7	70000	0.023544	3.25	7/15/2031
MML Dynamic Bond Fund	FIXED INCOME	JPMBB COMMERCIAL MORTGAGE SECU	71322.91	71322.91	87000	0.02325	4.798983	11/15/2048
MML Dynamic Bond Fund	FIXED INCOME	MADISON IAQ LLC	71225	71225	70000	0.023218	5.875	6/30/2029

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	VORNADO REALTY LP	70971.49	70000	0.023135	2.15	6/1/2026
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	70347.45	65000	0.022932	2.625	1/31/2026
MML Dynamic Bond Fund	FIXED INCOME	CNX RESOURCES CORP	70281.25	65000	0.02291	6	1/15/2029
MML Dynamic Bond Fund	FIXED INCOME	UNITI GROUP/CSL CAPITAL	70175	70000	0.022875	6.5	2/15/2029
MML Dynamic Bond Fund	FIXED INCOME	VERSCEND HOLDING CORP	70112.7	70000	0.022855	0	8/27/2025
MML Dynamic Bond Fund	FIXED INCOME	PETSMART INC	70017.5	70000	0.022824	0	2/12/2028
MML Dynamic Bond Fund	FIXED INCOME	ASURION LLC	69877.88	70272.81	0.022778	0	11/3/2023
MML Dynamic Bond Fund	FIXED INCOME	NEXSTAR BROADCASTING INC	68900	65000	0.02246	5.625	7/15/2027
MML Dynamic Bond Fund	FIXED INCOME	WESTJET AIRLINES LTD	67681.88	69063.14	0.022063	0	12/11/2026
MML Dynamic Bond Fund	FIXED INCOME	STAPLES INC	67437.5	65000	0.021983	7.5	4/15/2026
MML Dynamic Bond Fund	FIXED INCOME	UNITED AIRLINES INC	67275	65000	0.02193	4.625	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	COTY INC	65908.7	65000	0.021485	5	4/15/2026
MML Dynamic Bond Fund	FIXED INCOME	UNIVISION COMMUNICATIONS	65487.5	65000	0.021347	4.5	5/1/2029
MML Dynamic Bond Fund	FIXED INCOME	KRONOS ACQ / KIK CUSTOM	65248.95	65000	0.02127	7	12/31/2027
MML Dynamic Bond Fund	FIXED INCOME	TRITON WATER HOLDINGS IN	65162.5	65000	0.021241	6.25	4/1/2029
MML Dynamic Bond Fund	FIXED INCOME	EQT CORP	65145.5	50000	0.021236	8.5	2/1/2030
MML Dynamic Bond Fund	FIXED INCOME	ADMI CORP	64878.45	65000	0.021149	0	12/23/2027
MML Dynamic Bond Fund	FIXED INCOME	CORELOGIC INC	64772.5	65000	0.021114	0	6/2/2028
MML Dynamic Bond Fund	FIXED INCOME	DISH DBS CORP	64241.13	65000	0.020941	5.125	6/1/2029
MML Dynamic Bond Fund	FIXED INCOME	APACHE CORP	63870	60000	0.02082	4.375	10/15/2028
MML Dynamic Bond Fund	FIXED INCOME	BRAND ENERGY AND INFRASTRUCTUR	63009.61	64101.25	0.02054	0	6/21/2024
MML Dynamic Bond Fund	FIXED INCOME	MISTER CAR WASH HLDNGS INC	62623.83	62923.98	0.020414	0	5/14/2026
MML Dynamic Bond Fund	FIXED INCOME	FINASTRA USA, INC.	62459.03	63497.21	0.02036	0	6/13/2024
MML Dynamic Bond Fund	FIXED INCOME	DIGICEL GROUP HOLDINGS	62403.67	80771	0.020342	7	12/31/2029
MML Dynamic Bond Fund	FIXED INCOME	MACQUARIE GROUP LTD	62142.57	60000	0.020257	3.189	11/28/2023
MML Dynamic Bond Fund	FIXED INCOME	NAVIENT CORP	62100	60000	0.020243	5	3/15/2027
MML Dynamic Bond Fund	FIXED INCOME	FRONTIER COMMUNICATIONS	62029.8	60000	0.02022	5	5/1/2028
MML Dynamic Bond Fund	FIXED INCOME	CENTENE CORP	61636.8	60000	0.020092	3	10/15/2030
MML Dynamic Bond Fund	FIXED INCOME	IRON MOUNTAIN INC	60750	60000	0.019803	4.5	2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	TEMPUR SEALY INTL INC	60747	60000	0.019802	4	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	59875	50000	0.019518	8	7/15/2025
MML Dynamic Bond Fund	FIXED INCOME	GOGO INTERMEDIATE HOLDINGS LLC	59850	60000	0.01951	0	4/30/2028
MML Dynamic Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	59780	50000	0.019487	6.45	9/15/2036
MML Dynamic Bond Fund	FIXED INCOME	CAESARS RESORT COLLECTION LLC	59698.88	59550	0.01946	0	7/21/2025
MML Dynamic Bond Fund	FIXED INCOME	ZAYO GROUP HOLDINGS INC	59212.7	59881.58	0.019302	0	3/9/2027
MML Dynamic Bond Fund	FIXED INCOME	ENDO LUX FIN CO I SARL	58800	60000	0.019167	6.125	4/1/2029
MML Dynamic Bond Fund	FIXED INCOME	TERRIER MEDIA BUYER INC	58774.39	59103	0.019159	0	12/17/2026
MML Dynamic Bond Fund	FIXED INCOME	LEGACY LIFEPOINT HEALTH	58506.25	55000	0.019072	6.75	4/15/2025
MML Dynamic Bond Fund	FIXED INCOME	TRICORBRAUN HOLDINGS INC	56696.4	57146.14	0.018482	0	3/3/2028
MML Dynamic Bond Fund	FIXED INCOME	TRIUMPH GROUP INC	56579.05	55000	0.018443	7.75	8/15/2025
MML Dynamic Bond Fund	FIXED INCOME	ANTERO MIDSTREAM PART/FI	56160	54000	0.018307	5.75	3/1/2027
MML Dynamic Bond Fund	FIXED INCOME	TRANSIDGM INC	55550	55000	0.018108	4.875	5/1/2029
MML Dynamic Bond Fund	FIXED INCOME	TRAVERSE MIDSTREAM PARTNERS LL	55172.15	55000	0.017985	0	9/27/2024
MML Dynamic Bond Fund	FIXED INCOME	FERRELLGAS LP/FERRELLGAS	54518.75	55000	0.017772	5.375	4/1/2026
MML Dynamic Bond Fund	FIXED INCOME	REALOGY GROUP/CO ISSUER	54235	50000	0.017679	7.625	6/15/2025
MML Dynamic Bond Fund	FIXED INCOME	AIR METHODS CORP	53310.65	54153.82	0.017378	0	4/22/2024
MML Dynamic Bond Fund	FIXED INCOME	NOVELIS CORP	52500	50000	0.017114	4.75	1/30/2030
MML Dynamic Bond Fund	FIXED INCOME	B+G FOODS INC	52077	50000	0.016976	5.25	9/15/2027
MML Dynamic Bond Fund	FIXED INCOME	HEALTH CARE SERVICE CORP	51536.11	50000	0.016799	3.2	6/1/2050
MML Dynamic Bond Fund	FIXED INCOME	COMPASS PWR GENERATION L L C	51495.51	52114.1	0.016786	0	12/20/2024
MML Dynamic Bond Fund	FIXED INCOME	ZAYO GROUP HOLDINGS INC	51062.5	50000	0.016645	6.125	3/1/2028
MML Dynamic Bond Fund	FIXED INCOME	REPUBLIC OF PERU	50473	50000	0.016453	3.3	3/11/2041
MML Dynamic Bond Fund	FIXED INCOME	OMEGA HLTHCARE INVESTORS	49959.22	50000	0.016285	3.25	4/15/2033
MML Dynamic Bond Fund	FIXED INCOME	KRAFT HEINZ FOODS CO	49064.99	40000	0.015994	5	7/15/2035
MML Dynamic Bond Fund	FIXED INCOME	H FOOD HOLDINGS LLC	48838.43	49176.27	0.01592	0	5/23/2025
MML Dynamic Bond Fund	FIXED INCOME	US TREASURY N/B	47602.13	50000	0.015517	0.875	11/15/2030
MML Dynamic Bond Fund	FIXED INCOME	HILCORP ENERGY I/HILCORP	46898.55	45000	0.015288	5.75	2/1/2029
MML Dynamic Bond Fund	FIXED INCOME	REDSTONE BUYER LLC	46560.57	46716.13	0.015178	0	4/27/2028
MML Dynamic Bond Fund	FIXED INCOME	CVR PARTNERS/CVR NITROGE	46125	45000	0.015036	6.125	6/15/2028
MML Dynamic Bond Fund	FIXED INCOME	DIGICEL GROUP HOLDINGS	45721.2	54430	0.014904	8	4/1/2025
MML Dynamic Bond Fund	FIXED INCOME	PG+E CORP	45500.4	45000	0.014832	5	7/1/2028
MML Dynamic Bond Fund	FIXED INCOME	APACHE CORP	43200	40000	0.014082	4.625	11/15/2025
MML Dynamic Bond Fund	FIXED INCOME	DISH DBS CORP	42950	40000	0.014001	5.875	11/15/2024
MML Dynamic Bond Fund	FIXED INCOME	OFFICE PPTY INCOME TRST	40602.37	40000	0.013235	2.65	6/15/2026
MML Dynamic Bond Fund	FIXED INCOME	AMBIENCE MERGER	40350	40000	0.013153	7.125	7/15/2029

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Dynamic Bond Fund	FIXED INCOME	PETROBRAS GLOBAL FINANCE	40080	40000	0.013065	5.5	6/10/2051
MML Dynamic Bond Fund	FIXED INCOME	VICTORIA S SECRET + CO	40000	40000	0.013039	4.625	7/15/2029
MML Dynamic Bond Fund	FIXED INCOME	SCRIPPS ESCROW II INC	39681.2	40000	0.012935	3.875	1/15/2029
MML Dynamic Bond Fund	FIXED INCOME	ENTERPRISE MERGER SUB INC	39592.85	46380.66	0.012906	0	10/10/2025
MML Dynamic Bond Fund	FIXED INCOME	CALPINE CORP	39325.6	40000	0.012819	4.625	2/1/2029
MML Dynamic Bond Fund	FIXED INCOME	AVAYA INC	38886.29	38781.19	0.012676	0	12/15/2027
MML Dynamic Bond Fund	FIXED INCOME	TITAN ACQUISITION LIMITED	38671.93	39389.21	0.012606	0	3/28/2025
MML Dynamic Bond Fund	FIXED INCOME	TRANSOCEAN INC	38473.02	36000	0.012541	11.5	1/30/2027
MML Dynamic Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	37263.03	169000	0.012147	3.938	8/15/2050
MML Dynamic Bond Fund	FIXED INCOME	T MOBILE USA INC	36119.78	35000	0.011774	3.375	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	SUNOCO LP/FINANCE CORP	35612.5	35000	0.011609	4.5	5/15/2029
MML Dynamic Bond Fund	FIXED INCOME	VIKING CRUISES LTD	35293.2	30000	0.011505	13	5/15/2025
MML Dynamic Bond Fund	FIXED INCOME	SEDGWICK CLAIMS MGMT SVCS INC	34223.85	34300	0.011156	0	9/3/2026
MML Dynamic Bond Fund	FIXED INCOME	GETTY IMAGES, INC.	34113.06	34184.16	0.01112	0	2/19/2026
MML Dynamic Bond Fund	FIXED INCOME	PEABODY ENERGY CORP	34103.25	45471	0.011117	8.5	12/31/2024
MML Dynamic Bond Fund	FIXED INCOME	WASHINGTON MUTUAL ASSET BACKED	32948.27	62008.77	0.01074	0.2715	10/25/2036
MML Dynamic Bond Fund	FIXED INCOME	DIAMOND SPORTS GR/DIAMON	32435	50000	0.010573	5.375	8/15/2026
MML Dynamic Bond Fund	FIXED INCOME	FRONTIER COMMUNICATIONS	32137.5	30000	0.010476	5.875	10/15/2027
MML Dynamic Bond Fund	FIXED INCOME	FRONTIER COMMUNICATIONS	31898.1	30000	0.010398	6.75	5/1/2029
MML Dynamic Bond Fund	FIXED INCOME	T MOBILE USA INC	29775	30000	0.009706	2.875	2/15/2031
MML Dynamic Bond Fund	FIXED INCOME	AMERICAN TIRE DISTRIBUTORS H.	29458.58	29473.32	0.009603	0	9/2/2024
MML Dynamic Bond Fund	FIXED INCOME	PEAK 10 HLDG CORP	27039.39	29539.62	0.008814	0	8/1/2024
MML Dynamic Bond Fund	FIXED INCOME	IHEARTCOMMUNICATIONS INC	26781.25	25000	0.00873	8.375	5/1/2027
MML Dynamic Bond Fund	FIXED INCOME	CONSTELLATION BRANDS INC	26243.31	25000	0.008555	2.875	5/1/2030
MML Dynamic Bond Fund	FIXED INCOME	SCIH SALT HOLDINGS INC	25062.5	25000	0.00817	6.625	5/1/2029
MML Dynamic Bond Fund	FIXED INCOME	FLEX ACQUISITION CO INC	24451.89	24707.36	0.007971	0	6/29/2025
MML Dynamic Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	24081.5	25000	0.00785	2.65	11/20/2040
MML Dynamic Bond Fund	FIXED INCOME	TEAM HEALTH INC DEL	23845.18	24614.38	0.007773	0	2/6/2024
MML Dynamic Bond Fund	FIXED INCOME	INTELSAT JACKSON HOLDINGS SA	23437.21	23306	0.00764	0	7/13/2022
MML Dynamic Bond Fund	FIXED INCOME	NESSCO HOLDINGS II INC	20875	20000	0.006805	5.5	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	FINASTRA USA, INC.	20192.6	20000	0.006582	0	6/13/2025
MML Dynamic Bond Fund	FIXED INCOME	ICON LUXEMBOURG SARL	18975.04	18948.32	0.006185	0	6/16/2028
MML Dynamic Bond Fund	FIXED INCOME	CLUBCORP HLDGS INC	18637.71	19437.36	0.006075	0	9/18/2024
MML Dynamic Bond Fund	FIXED INCOME	REDSTONE BUYER LLC	18222.98	18283.87	0.00594	0	4/27/2028
MML Dynamic Bond Fund	FIXED INCOME	UNITED NATURAL FOODS INC	16881.33	16877.79	0.005503	0	10/22/2025
MML Dynamic Bond Fund	FIXED INCOME	ASBURY AUTOMOTIVE GROUP	16720	16000	0.00545	4.75	3/1/2030
MML Dynamic Bond Fund	FIXED INCOME	ASBURY AUTOMOTIVE GROUP	16440	16000	0.005359	4.5	3/1/2028
MML Dynamic Bond Fund	FIXED INCOME	TRANSDIGM INC	16207.5	15000	0.005283	8	12/15/2025
MML Dynamic Bond Fund	FIXED INCOME	US FOODS INC	15918.75	15000	0.005189	6.25	4/15/2025
MML Dynamic Bond Fund	FIXED INCOME	MEG ENERGY CORP	15637.5	15000	0.005097	5.875	2/1/2029
MML Dynamic Bond Fund	FIXED INCOME	T MOBILE USA INC	15479.9	15000	0.005046	3.375	4/15/2029
MML Dynamic Bond Fund	FIXED INCOME	TRICORBRAUN HOLDINGS INC	12752.7	12853.86	0.004157	0	3/3/2028
MML Dynamic Bond Fund	FIXED INCOME	ONEDIGITAL BORROWER LLC	5328.01	5312.5	0.001737	0	11/16/2027
MML Dynamic Bond Fund	FIXED INCOME	HYUNDAI CAPITAL AMERICA	5075.11	5000	0.001654	1.8	10/15/2025
MML Dynamic Bond Fund	FIXED INCOME	GTT COMMUNICATIONS INC	4500	50000	0.001467	7.875	12/31/2024
MML Dynamic Bond Fund	FIXED INCOME	DUN + BRADSTREET CORP	0	0	0	0	2/6/2026
MML Equity Fund	EQUITY	ALPHABET INC CL C	22509259.92	8981	6.741295	0	
MML Equity Fund	EQUITY	JPMORGAN CHASE + CO	26877312	172800	4.727638	0	
MML Equity Fund	EQUITY	MICROSOFT CORP	14348760.3	52967	4.297308	0	
MML Equity Fund	EQUITY	UNITEDHEALTH GROUP INC	23553880.8	58820	4.143056	0	
MML Equity Fund	EQUITY	BANK OF AMERICA CORP	22140510	537000	3.894449	0	
MML Equity Fund	EQUITY	MORGAN STANLEY	12428671.19	135551	3.722261	0	
MML Equity Fund	EQUITY	GENERAL ELECTRIC CO	11576959.46	860101	3.467182	0	
MML Equity Fund	EQUITY	JOHNSON + JOHNSON	18601781.84	112916	3.271997	0	
MML Equity Fund	EQUITY	ORACLE CORP	18385808	236200	3.234008	0	
MML Equity Fund	EQUITY	BANK OF AMERICA CORP	10419604.37	252719	3.120566	0	
MML Equity Fund	EQUITY	EXXON MOBIL CORP	16634196	263700	2.925905	0	
MML Equity Fund	EQUITY	COMCAST CORP CLASS A	16290614	285700	2.86547	0	
MML Equity Fund	EQUITY	WELLS FARGO + CO	8602880.79	189951	2.576475	0	
MML Equity Fund	EQUITY	APPLIED MATERIALS INC	8090740.8	56817	2.423095	0	
MML Equity Fund	EQUITY	CISCO SYSTEMS INC	12651100	238700	2.22529	0	
MML Equity Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	6757105.6	141956	2.023684	0	
MML Equity Fund	EQUITY	DANAHER CORP	6723223.08	25053	2.013537	0	
MML Equity Fund	EQUITY	LOWE S COS INC	11405436	58800	2.006182	0	
MML Equity Fund	EQUITY	WELLS FARGO + CO	11263623	248700	1.981237	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Fund	EQUITY	SCHWAB (CHARLES) CORP	6563311.83		90143	1.965645	0
MML Equity Fund	EQUITY	WESTROCK CO	6374159.4		119770	1.908996	0
MML Equity Fund	EQUITY	PROLOGIS INC	6253451.01		52317	1.872845	0
MML Equity Fund	EQUITY	BROADCOM INC	10585848		22200	1.862019	0
MML Equity Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	6112158.52		12116	1.830529	0
MML Equity Fund	EQUITY	INTERNATIONAL PAPER CO	6033210.55		98405	1.806885	0
MML Equity Fund	EQUITY	TARGET CORP	9717948		40200	1.709358	0
MML Equity Fund	EQUITY	INTEL CORP	9650466		171900	1.697488	0
MML Equity Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	9623581		97100	1.692759	0
MML Equity Fund	EQUITY	SEMPRA ENERGY	5457778.56		41197	1.634549	0
MML Equity Fund	EQUITY	LINDE PLC	5418312.2		18742	1.622729	0
MML Equity Fund	EQUITY	3M CO	9208486.8		46360	1.619745	0
MML Equity Fund	EQUITY	UNITED PARCEL SERVICE CL B	8048439		38700	1.415696	0
MML Equity Fund	EQUITY	GOLDMAN SACHS GROUP INC	8046036		21200	1.415273	0
MML Equity Fund	EQUITY	ISHARES RUSSELL 1000 VALUE ETF	8016496.18		50539	1.410077	0
MML Equity Fund	EQUITY	ANTHEM INC	7636000		20000	1.343149	0
MML Equity Fund	EQUITY	WALT DISNEY CO/THE	4473698.04		25452	1.339827	0
MML Equity Fund	EQUITY	CATERPILLAR INC	4362828.61		20047	1.306623	0
MML Equity Fund	EQUITY	INTL BUSINESS MACHINES CORP	7417454		50600	1.304708	0
MML Equity Fund	EQUITY	HOME DEPOT INC	7398248		23200	1.301329	0
MML Equity Fund	EQUITY	YUM BRANDS INC	4291194.15		37305	1.285169	0
MML Equity Fund	EQUITY	MEDTRONIC PLC	4232584.74		34098	1.267616	0
MML Equity Fund	EQUITY	METLIFE INC	4185729.45		69937	1.253583	0
MML Equity Fund	EQUITY	T MOBILE US INC	4165021.14		28758	1.247382	0
MML Equity Fund	EQUITY	ELI LILLY + CO	4132737.12		18006	1.237713	0
MML Equity Fund	EQUITY	NORFOLK SOUTHERN CORP	3879497.97		14617	1.16187	0
MML Equity Fund	EQUITY	HONEYWELL INTERNATIONAL INC	3859682.6		17596	1.155936	0
MML Equity Fund	EQUITY	CVS HEALTH CORP	6532100.4		78285	1.148977	0
MML Equity Fund	EQUITY	BROADCOM INC	3605387.24		7561	1.079777	0
MML Equity Fund	EQUITY	HCA HEALTHCARE INC	3587559.22		17353	1.074438	0
MML Equity Fund	EQUITY	ANTHEM INC	3557994.2		9319	1.065583	0
MML Equity Fund	EQUITY	GOLDMAN SACHS GROUP INC	3542912.55		9335	1.061066	0
MML Equity Fund	EQUITY	ANALOG DEVICES INC	3460416		20100	1.036359	0
MML Equity Fund	EQUITY	AGILENT TECHNOLOGIES INC	3440721.18		23278	1.030461	0
MML Equity Fund	EQUITY	EQUITABLE HOLDINGS INC	3392404.05		111409	1.015991	0
MML Equity Fund	EQUITY	UNITED PARCEL SERVICE CL B	3386583.48		16284	1.014247	0
MML Equity Fund	EQUITY	JACOBS ENGINEERING GROUP INC	3345639.92		25076	1.001985	0
MML Equity Fund	EQUITY	HCA HEALTHCARE INC	5623328		27200	0.989126	0
MML Equity Fund	EQUITY	PACKAGING CORP OF AMERICA	3280684.92		24226	0.982532	0
MML Equity Fund	EQUITY	NXP SEMICONDUCTORS NV	3276502.44		15927	0.981279	0
MML Equity Fund	EQUITY	US BANCORP	5330853.81		93573	0.937681	0
MML Equity Fund	EQUITY	JPMORGAN CHASE + CO	3126354		20100	0.936311	0
MML Equity Fund	EQUITY	GENERAL MOTORS CO	5295715		89500	0.9315	0
MML Equity Fund	EQUITY	WELLTOWER INC	3029659.8		36458	0.907352	0
MML Equity Fund	EQUITY	CIGNA CORP	5144419		21700	0.904888	0
MML Equity Fund	EQUITY	MICRON TECHNOLOGY INC	5132792		60400	0.902843	0
MML Equity Fund	EQUITY	VISA INC CLASS A SHARES	2969514		12700	0.889339	0
MML Equity Fund	EQUITY	PNC FINANCIAL SERVICES GROUP	5055140		26500	0.889184	0
MML Equity Fund	EQUITY	UNITEDHEALTH GROUP INC	2962455.12		7398	0.887225	0
MML Equity Fund	EQUITY	STARBUCKS CORP	2918241		26100	0.873984	0
MML Equity Fund	EQUITY	NEXTERA ENERGY INC	2806697.28		38301	0.840577	0
MML Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	4739346.66		4739346.66	0.833637	0
MML Equity Fund	EQUITY	FORD MOTOR CO	4654152		313200	0.818651	0
MML Equity Fund	EQUITY	TRUIST FINANCIAL CORP	4645350		83700	0.817103	0
MML Equity Fund	EQUITY	PPG INDUSTRIES INC	2725827.12		16056	0.816358	0
MML Equity Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	2679149.01		43233	0.802378	0
MML Equity Fund	EQUITY	CHUBB LTD	4482108		28200	0.788389	0
MML Equity Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	4424134		28600	0.778192	0
MML Equity Fund	EQUITY	TRAVELERS COS INC/THE	4371532		29200	0.768939	0
MML Equity Fund	EQUITY	GENERAL DYNAMICS CORP	4348806		23100	0.764942	0
MML Equity Fund	EQUITY	QUALCOMM INC	2546012.09		17813	0.762505	0
MML Equity Fund	EQUITY	FDEX CORP	2522081.82		8454	0.755338	0
MML Equity Fund	EQUITY	ELANCO ANIMAL HEALTH INC	2488244.32		71728	0.745204	0
MML Equity Fund	EQUITY	HOME DEPOT INC	2407300.61		7549	0.720962	0
MML Equity Fund	EQUITY	TJX COMPANIES INC	2378173.08		35274	0.712239	0

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Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Fund	EQUITY	DEVON ENERGY CORP	2377642.26	81454	0.71208	0	
MML Equity Fund	EQUITY	HILTON WORLDWIDE HOLDINGS IN	2372957.26	19673	0.710677	0	
MML Equity Fund	EQUITY	SOUTHERN CO/THE	3993660	66000	0.702473	0	
MML Equity Fund	EQUITY	EOG RESOURCES INC	3913336	46900	0.688344	0	
MML Equity Fund	EQUITY	EBAY INC	3889634	55400	0.684175	0	
MML Equity Fund	EQUITY	ASML HOLDING NV NY REG SHS	2259046.8	3270	0.676562	0	
MML Equity Fund	EQUITY	GENERAL MOTORS CO	2227928.01	37653	0.667242	0	
MML Equity Fund	EQUITY	SOUTHERN CO/THE	2185984.26	36126	0.65468	0	
MML Equity Fund	EQUITY	ABBOTT LABORATORIES	2179831.79	18803	0.652837	0	
MML Equity Fund	EQUITY	EQUINIX INC	2167020	2700	0.649	0	
MML Equity Fund	EQUITY	CHUBB LTD	2159994.6	13590	0.646896	0	
MML Equity Fund	EQUITY	STRYKER CORP	2153421.43	8291	0.644928	0	
MML Equity Fund	EQUITY	KLA CORP	2149188.09	6629	0.64366	0	
MML Equity Fund	EQUITY	PROGRESSIVE CORP	3604307	36700	0.633987	0	
MML Equity Fund	EQUITY	ASTRAZENECA PLC SPONS ADR	2096500	35000	0.62788	0	
MML Equity Fund	EQUITY	EXELON CORP	3473904	78400	0.611049	0	
MML Equity Fund	EQUITY	HUBBELL INC	2032445.52	10878	0.608697	0	
MML Equity Fund	EQUITY	METLIFE INC	3369555	56300	0.592695	0	
MML Equity Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	1970939.24	14437	0.590276	0	
MML Equity Fund	EQUITY	FISERV INC	1962393.51	18359	0.587717	0	
MML Equity Fund	EQUITY	O REILLY AUTOMOTIVE INC	3227397	5700	0.567689	0	
MML Equity Fund	EQUITY	ABBVIE INC	1873991.68	16637	0.561241	0	
MML Equity Fund	EQUITY	CAMDEN PROPERTY TRUST	1870647	14100	0.56024	0	
MML Equity Fund	EQUITY	EMERSON ELECTRIC CO	3137424	32600	0.551863	0	
MML Equity Fund	EQUITY	HP INC	3124665	103500	0.549619	0	
MML Equity Fund	EQUITY	KRAFT HEINZ CO/THE	3119670	76500	0.548741	0	
MML Equity Fund	EQUITY	ALTRIA GROUP INC	2932320	61500	0.515786	0	
MML Equity Fund	EQUITY	CUMMINS INC	2901339	11900	0.510337	0	
MML Equity Fund	EQUITY	WALMART INC	1692240	12000	0.506809	0	
MML Equity Fund	EQUITY	BANK OF NEW YORK MELLON CORP	2848388	55600	0.501023	0	
MML Equity Fund	EQUITY	WALGREENS BOOTS ALLIANCE INC	2835679	53900	0.498787	0	
MML Equity Fund	EQUITY	T ROWE PRICE GROUP INC	2830971	14300	0.497959	0	
MML Equity Fund	EQUITY	LYONDELLBASELL INDU CL A	2756916	26800	0.484933	0	
MML Equity Fund	EQUITY	ARCHER DANIELS MIDLAND CO	2702760	44600	0.475407	0	
MML Equity Fund	EQUITY	COMCAST CORP CLASS A	1579454	27700	0.47303	0	
MML Equity Fund	EQUITY	DR HORTON INC	2647841	29300	0.465747	0	
MML Equity Fund	EQUITY	WILLIAMS COS INC	2588625	97500	0.455331	0	
MML Equity Fund	EQUITY	SHERWIN WILLIAMS CO/THE	1512097.5	5550	0.452858	0	
MML Equity Fund	EQUITY	KINDER MORGAN INC	2574076	141200	0.452772	0	
MML Equity Fund	EQUITY	CENTENE CORP	1502358	20600	0.449941	0	
MML Equity Fund	EQUITY	PUBLIC SERVICE ENTERPRISE GP	2532976	42400	0.445543	0	
MML Equity Fund	EQUITY	PRUDENTIAL FINANCIAL INC	2531009	24700	0.445197	0	
MML Equity Fund	EQUITY	SIEMENS AG REG	1475010.24	9309	0.441751	0	
MML Equity Fund	EQUITY	L3HARRIS TECHNOLOGIES INC	2507340	11600	0.441034	0	
MML Equity Fund	EQUITY	ALLSTATE CORP	2478360	19000	0.435936	0	
MML Equity Fund	EQUITY	MCKESSON CORP	2466996	12900	0.433937	0	
MML Equity Fund	EQUITY	MARSH + MCLENNAN COS	1427057.92	10144	0.427389	0	
MML Equity Fund	EQUITY	CENTENE CORP	2406690	33000	0.423329	0	
MML Equity Fund	EQUITY	AFLAC INC	2355674	43900	0.414356	0	
MML Equity Fund	EQUITY	PHILLIPS 66	2342886	27300	0.412107	0	
MML Equity Fund	EQUITY	INTL FLAVORS + FRAGRANCES	1372239	9185	0.410972	0	
MML Equity Fund	EQUITY	DUPONT DE NEMOURS INC	2330041	30100	0.409847	0	
MML Equity Fund	EQUITY	NUCOR CORP	2321506	24200	0.408346	0	
MML Equity Fund	EQUITY	TRAVELERS COS INC/THE	1362361	9100	0.408013	0	
MML Equity Fund	EQUITY	CBRE GROUP INC A	2306137	26900	0.405643	0	
MML Equity Fund	EQUITY	SALESFORCE.COM INC	1319058	5400	0.395044	0	
MML Equity Fund	EQUITY	AUTOZONE INC	2238330	1500	0.393715	0	
MML Equity Fund	EQUITY	AVERY DENNISON CORP	1298862.72	6178	0.388996	0	
MML Equity Fund	EQUITY	LENNAR CORP A	2205570	22200	0.387953	0	
MML Equity Fund	EQUITY	PARKER HANNIFIN CORP	2180481	7100	0.38354	0	
MML Equity Fund	EQUITY	LABORATORY CRP OF AMER HLDGS	2151630	7800	0.378465	0	
MML Equity Fund	EQUITY	SOUTHWEST AIRLINES CO	1222981.24	23036	0.36627	0	
MML Equity Fund	EQUITY	DEERE + CO	1204151.94	3414	0.360631	0	
MML Equity Fund	EQUITY	DISCOVER FINANCIAL SERVICES	2034588	17200	0.357878	0	
MML Equity Fund	EQUITY	TEXAS INSTRUMENTS INC	1184760.3	6161	0.354824	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Fund	EQUITY	CDW CORP/DE		2008475	11500	0.353285	0
MML Equity Fund	EQUITY	AUTOZONE INC		1178853.8	790	0.353055	0
MML Equity Fund	EQUITY	CSX CORP		1170567.12	36489	0.350573	0
MML Equity Fund	EQUITY	VALERO ENERGY CORP		1991040	25500	0.350218	0
MML Equity Fund	EQUITY	MICROCHIP TECHNOLOGY INC		1167972	7800	0.349796	0
MML Equity Fund	EQUITY	APOLLO GLOBAL MANAGEMENT INC		1163140	18700	0.348349	0
MML Equity Fund	EQUITY	PACCAR INC		1945650	21800	0.342234	0
MML Equity Fund	EQUITY	INTERNATIONAL PAPER CO		1937396	31600	0.340782	0
MML Equity Fund	EQUITY	AMERISOURCEBERGEN CORP		1877636	16400	0.33027	0
MML Equity Fund	EQUITY	DOLLAR TREE INC		1870600	18800	0.329033	0
MML Equity Fund	EQUITY	STATE STREET CORP		1826616	22200	0.321296	0
MML Equity Fund	EQUITY	BAUSCH HEALTH COS INC		1052822.56	35908	0.31531	0
MML Equity Fund	EQUITY	SYNCHRONY FINANCIAL		1775832	36600	0.312363	0
MML Equity Fund	EQUITY	CHENIERE ENERGY INC		1760822	20300	0.309723	0
MML Equity Fund	EQUITY	DOVER CORP		1746960	11600	0.307285	0
MML Equity Fund	EQUITY	FIFTH THIRD BANCORP		1701235	44500	0.299242	0
MML Equity Fund	EQUITY	TELEFLEX INC		926929.53	2307	0.277606	0
MML Equity Fund	EQUITY	UNION PACIFIC CORP		912049.71	4147	0.27315	0
MML Equity Fund	EQUITY	UNITED RENTALS INC		901522.26	2826	0.269997	0
MML Equity Fund	EQUITY	CITIGROUP INC		898525	12700	0.269099	0
MML Equity Fund	EQUITY	HEWLETT PACKARD ENTERPRISE		1513404	103800	0.266203	0
MML Equity Fund	CASH EQUIVALENT	ROWE T PRICE GOV RES FD		888188.93	888188.93	0.266004	1
MML Equity Fund	EQUITY	NORTHERN TRUST CORP		1503060	13000	0.264384	0
MML Equity Fund	EQUITY	FORTIVE CORP		864776	12400	0.258992	0
MML Equity Fund	EQUITY	GENUINE PARTS CO		1467052	11600	0.25805	0
MML Equity Fund	EQUITY	NETAPP INC		1456396	17800	0.256176	0
MML Equity Fund	EQUITY	AMCOR PLC		1443960	126000	0.253988	0
MML Equity Fund	EQUITY	UNITED RENTALS INC		1435545	4500	0.252508	0
MML Equity Fund	EQUITY	DOMINION ENERGY INC		841346.52	11436	0.251975	0
MML Equity Fund	EQUITY	QUEST DIAGNOSTICS INC		1425276	10800	0.250702	0
MML Equity Fund	EQUITY	CELANESE CORP		1425040	9400	0.250666	0
MML Equity Fund	EQUITY	PUBLIC SERVICE ENTERPRISE GP		829191.2	13880	0.248334	0
MML Equity Fund	EQUITY	SCHNEIDER ELECTRIC SE		828944.92	5266	0.248261	0
MML Equity Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP		1400522	22600	0.246348	0
MML Equity Fund	EQUITY	AES CORP		1392138	53400	0.244873	0
MML Equity Fund	EQUITY	MCDONALD S CORP		810543.91	3509	0.24275	0
MML Equity Fund	EQUITY	OMNICOM GROUP		1375828	17200	0.242004	0
MML Equity Fund	EQUITY	BIO RAD LABORATORIES A		1353009	2100	0.23799	0
MML Equity Fund	EQUITY	TYSON FOODS INC CL A		1349808	18300	0.237427	0
MML Equity Fund	EQUITY	SKYWORKS SOLUTIONS INC		1342250	7000	0.236098	0
MML Equity Fund	EQUITY	MGM RESORTS INTERNATIONAL		780495	18300	0.23375	0
MML Equity Fund	EQUITY	AES CORP		747557.25	28675	0.223886	0
MML Equity Fund	EQUITY	EASTMAN CHEMICAL CO		1272575	10900	0.223842	0
MML Equity Fund	EQUITY	KEYCORP		1263780	61200	0.222295	0
MML Equity Fund	EQUITY	FIRSTENERGY CORP		1261419	33900	0.22188	0
MML Equity Fund	EQUITY	WABTEC CORP		1259190	15300	0.221488	0
MML Equity Fund	EQUITY	TEXTRON INC		1258491	18300	0.221365	0
MML Equity Fund	EQUITY	MASCO CORP		1243001	21100	0.21864	0
MML Equity Fund	EQUITY	CITRIX SYSTEMS INC		727074	6200	0.217751	0
MML Equity Fund	EQUITY	QORVO INC		1232595	6300	0.21681	0
MML Equity Fund	EQUITY	CITIZENS FINANCIAL GROUP		1224729	26700	0.215426	0
MML Equity Fund	EQUITY	MOLINA HEALTHCARE INC		1214688	4800	0.21366	0
MML Equity Fund	EQUITY	REGIONS FINANCIAL CORP		1212818	60100	0.213331	0
MML Equity Fund	EQUITY	LQX CORP		1200968	24400	0.211247	0
MML Equity Fund	EQUITY	PULTEGROUP INC		1178712	21600	0.207332	0
MML Equity Fund	EQUITY	ALLY FINANCIAL INC		1166256	23400	0.205141	0
MML Equity Fund	EQUITY	CINCINNATI FINANCIAL CORP		1166200	10000	0.205131	0
MML Equity Fund	EQUITY	TRACTOR SUPPLY COMPANY		1153572	6200	0.20291	0
MML Equity Fund	EQUITY	EVERGY INC		676816	11200	0.2027	0
MML Equity Fund	EQUITY	AES CORP/THE		671882.22	6246	0.201222	0
MML Equity Fund	EQUITY	FMC CORP		1125280	10400	0.197933	0
MML Equity Fund	EQUITY	ALEXANDRIA REAL ESTATE EQUIT		658440.86	3619	0.197196	0
MML Equity Fund	EQUITY	M + T BANK CORP		1118887	7700	0.196809	0
MML Equity Fund	EQUITY	FORTUNE BRANDS HOME + SECURI		1115632	11200	0.196236	0
MML Equity Fund	EQUITY	CONTINENTAL RESOURCES INC/OK		1114279	29300	0.195998	0

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Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Fund	EQUITY	BRUNSWICK CORP	617644	617644	6200	0.108642	0
MML Equity Fund	EQUITY	MARATHON OIL CORP	617190.3	45315	0.108562	0	0
MML Equity Fund	EQUITY	ALLEGHANY CORP	600363	900	0.105602	0	0
MML Equity Fund	EQUITY	LOWE S COS INC	349146	1800	0.104566	0	0
MML Equity Fund	EQUITY	HENRY SCHEIN INC	593520	8000	0.104398	0	0
MML Equity Fund	EQUITY	CASEY S GENERAL STORES INC	583920	3000	0.10271	0	0
MML Equity Fund	EQUITY	INTERPUBLIC GROUP OF COS INC	581571	17900	0.102297	0	0
MML Equity Fund	EQUITY	ASSURANT INC	577866	3700	0.101645	0	0
MML Equity Fund	EQUITY	LOEWS CORP	338064.9	6186	0.101247	0	0
MML Equity Fund	EQUITY	MKS INSTRUMENTS INC	569440	3200	0.100163	0	0
MML Equity Fund	EQUITY	SEI INVESTMENTS COMPANY	557730	9000	0.098103	0	0
MML Equity Fund	EQUITY	WESTERN ALLIANCE BANCORP	557100	6000	0.097992	0	0
MML Equity Fund	EQUITY	GLOBE LIFE INC	552450	5800	0.097174	0	0
MML Equity Fund	EQUITY	COMMERCE BANCSHARES INC	542200.32	7272	0.095371	0	0
MML Equity Fund	EQUITY	ZIONS BANCORP NA	539172	10200	0.094839	0	0
MML Equity Fund	EQUITY	POLARIS INC	520448	3800	0.091545	0	0
MML Equity Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	305558	1900	0.091512	0	0
MML Equity Fund	EQUITY	VOYA FINANCIAL INC	510450	8300	0.089787	0	0
MML Equity Fund	EQUITY	SENSATA TECHNOLOGIES HOLDING	510136	8800	0.089731	0	0
MML Equity Fund	EQUITY	JUNIPER NETWORKS INC	503240	18400	0.088518	0	0
MML Equity Fund	EQUITY	GENTEX CORP	502968	15200	0.088471	0	0
MML Equity Fund	EQUITY	WEC ENERGY GROUP INC	289265.4	3252	0.086632	0	0
MML Equity Fund	EQUITY	OSHKOSH CORP	486096	3900	0.085503	0	0
MML Equity Fund	EQUITY	HUNTINGTON INGALLS INDUSTRIE	484725	2300	0.085262	0	0
MML Equity Fund	EQUITY	BECTON DICKINSON AND CO	283316.35	1165	0.08485	0	0
MML Equity Fund	EQUITY	CIGNA CORP	276897.76	1168	0.082928	0	0
MML Equity Fund	EQUITY	EXPEDITORS INTL WASH INC	468420	3700	0.082394	0	0
MML Equity Fund	EQUITY	BERRY GLOBAL GROUP INC	463062	7100	0.081451	0	0
MML Equity Fund	EQUITY	ONEMAIN HOLDINGS INC	455316	7600	0.080089	0	0
MML Equity Fund	EQUITY	VULCAN MATERIALS CO	244220.21	1403	0.073141	0	0
MML Equity Fund	EQUITY	PINNACLE WEST CAPITAL	393456	4800	0.069208	0	0
MML Equity Fund	EQUITY	TOLL BROTHERS INC	393108	6800	0.069147	0	0
MML Equity Fund	EQUITY	DICK S SPORTING GOODS INC	370703	3700	0.065206	0	0
MML Equity Fund	EQUITY	CULLEN/FROST BANKERS INC	369600	3300	0.065012	0	0
MML Equity Fund	EQUITY	SKECHERS USA INC CL A	368742	7400	0.064861	0	0
MML Equity Fund	EQUITY	FIRST AMERICAN FINANCIAL	355395	5700	0.062513	0	0
MML Equity Fund	EQUITY	SONOCO PRODUCTS CO	354570	5300	0.062368	0	0
MML Equity Fund	EQUITY	OLD REPUBLIC INTL CORP	323830	13000	0.056961	0	0
MML Equity Fund	EQUITY	ROSS STORES INC	184760	1490	0.055334	0	0
MML Equity Fund	EQUITY	DISCOVERY INC A	309868	10100	0.054505	0	0
MML Equity Fund	EQUITY	WEYERHAEUSER CO	180842.68	5254	0.054161	0	0
MML Equity Fund	EQUITY	AMEREN CORPORATION	176168.04	2201	0.052761	0	0
MML Equity Fund	EQUITY	TEMPUR SEALY INTERNATIONAL I	258654	6600	0.045496	0	0
MML Equity Fund	EQUITY	HYATT HOTELS CORP CL A	248448	3200	0.043701	0	0
MML Equity Fund	EQUITY	CMS ENERGY CORP	144509.68	2446	0.043279	0	0
MML Equity Fund	EQUITY	HANESBRANDS INC	242710	13000	0.042692	0	0
MML Equity Fund	EQUITY	REPUBLIC SERVICES INC	18041.64	164	0.005403	0	0
MML Equity Fund	CASH	EURO CURRENCY	11788.6	9941.89	0.003531	0	0
MML Equity Fund	CASH	US DOLLAR	2185	2185	0.000384	0	0
MML Equity Income Fund	EQUITY	WELLS FARGO + CO	17480083.11	385959	3.783727	0	0
MML Equity Income Fund	EQUITY	GENERAL ELECTRIC CO	13419781.52	997012	2.904837	0	0
MML Equity Income Fund	EQUITY	UNITED PARCEL SERVICE CL B	11839940.07	56931	2.562865	0	0
MML Equity Income Fund	EQUITY	QUALCOMM INC	11683955.78	81746	2.529101	0	0
MML Equity Income Fund	EQUITY	SOUTHERN CO/THE	10611215.13	175363	2.296896	0	0
MML Equity Income Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	9768281.6	205216	2.114435	0	0
MML Equity Income Fund	EQUITY	METLIFE INC	9573785.55	159963	2.072335	0	0
MML Equity Income Fund	EQUITY	ANTHEM INC	9103639.2	23844	1.970567	0	0
MML Equity Income Fund	EQUITY	INTERNATIONAL PAPER CO	8513935.77	138867	1.842921	0	0
MML Equity Income Fund	EQUITY	CHUBB LTD	8273621.7	52055	1.790902	0	0
MML Equity Income Fund	EQUITY	CF INDUSTRIES HOLDINGS INC	8150914.8	158424	1.764341	0	0
MML Equity Income Fund	EQUITY	COMCAST CORP CLASS A	7928174.84	139042	1.716127	0	0
MML Equity Income Fund	EQUITY	TOTALENERGIES SE	7909252.27	174338	1.712031	0	0
MML Equity Income Fund	EQUITY	TYSON FOODS INC CL A	7704232	104450	1.667653	0	0
MML Equity Income Fund	EQUITY	ABBVIE INC	7468707.84	66306	1.616671	0	0
MML Equity Income Fund	EQUITY	FIFTH THIRD BANCORP	7282815	190500	1.576433	0	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Income Fund	EQUITY	WEYERHAEUSER CO	7164867.2		208160	1.550902	0
MML Equity Income Fund	EQUITY	LEWIS CORP	7142153.85		130689	1.545986	0
MML Equity Income Fund	EQUITY	MEDTRONIC PLC	7093284.72		57144	1.535407	0
MML Equity Income Fund	EQUITY	L3HARRIS TECHNOLOGIES INC	7084532.4		32776	1.533513	0
MML Equity Income Fund	EQUITY	MORGAN STANLEY	6957620.58		75882	1.506042	0
MML Equity Income Fund	EQUITY	SEMPRA ENERGY	6901545.6		52095	1.493904	0
MML Equity Income Fund	EQUITY	BECTON DICKINSON AND CO	6828045.63		28077	1.477994	0
MML Equity Income Fund	EQUITY	MICROSOFT CORP	6613481.7		24413	1.43155	0
MML Equity Income Fund	EQUITY	EQUITY RESIDENTIAL	6357043		82559	1.376041	0
MML Equity Income Fund	EQUITY	APPLIED MATERIALS INC	6022808		42295	1.303693	0
MML Equity Income Fund	EQUITY	CVS HEALTH CORP	5922571.2		70980	1.281996	0
MML Equity Income Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	5872564.83		59253	1.271171	0
MML Equity Income Fund	EQUITY	NEWS CORP CLASS A	5757249.93		223409	1.24621	0
MML Equity Income Fund	EQUITY	JOHNSON + JOHNSON	5598688.9		33985	1.211888	0
MML Equity Income Fund	EQUITY	NISOURCE INC	5586245		228010	1.209195	0
MML Equity Income Fund	EQUITY	KIMBERLY CLARK CORP	5583575.86		41737	1.208617	0
MML Equity Income Fund	EQUITY	CONAGRA BRANDS INC	5438009.64		149478	1.177108	0
MML Equity Income Fund	EQUITY	VOLKSWAGEN AG UNSP ADR PREF	5378041.12		214778	1.164127	0
MML Equity Income Fund	EQUITY	EQUITABLE HOLDINGS INC	5152474.95		169211	1.115301	0
MML Equity Income Fund	EQUITY	EOG RESOURCES INC	5151418.72		61738	1.115073	0
MML Equity Income Fund	EQUITY	BOEING CO/THE	5142634.52		21467	1.113171	0
MML Equity Income Fund	EQUITY	TEXAS INSTRUMENTS INC	5096719.2		26504	1.103232	0
MML Equity Income Fund	EQUITY	INTL FLAVORS + FRAGRANCES	5051512.8		33812	1.093447	0
MML Equity Income Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	4823424.22	4823424.22		1.044075	7/1/2021
MML Equity Income Fund	EQUITY	EXXON MOBIL CORP	4311076.44		68343	0.933173	0
MML Equity Income Fund	EQUITY	CISCO SYSTEMS INC	4295279		81043	0.929753	0
MML Equity Income Fund	EQUITY	LAS VEGAS SANDS CORP	4245391.37		80573	0.918954	0
MML Equity Income Fund	EQUITY	JPMORGAN CHASE + CO	4137830.62		26603	0.895672	0
MML Equity Income Fund	EQUITY	PFIZER INC	4137254		105650	0.895547	0
MML Equity Income Fund	EQUITY	PNC FINANCIAL SERVICES GROUP	4011492.04		21029	0.868325	0
MML Equity Income Fund	EQUITY	CITRIX SYSTEMS INC	3987180		34000	0.863062	0
MML Equity Income Fund	EQUITY	WALT DISNEY CO/THE	3903851.7		22210	0.845025	0
MML Equity Income Fund	EQUITY	GOLDMAN SACHS GROUP INC	3884489.55		10235	0.840834	0
MML Equity Income Fund	EQUITY	RAYONIER INC	3622318.88		100816	0.784085	0
MML Equity Income Fund	EQUITY	TC ENERGY CORP	3563706.8		71965	0.771398	0
MML Equity Income Fund	EQUITY	HUNTINGTON BANCSHARES INC	3558938		249400	0.770365	0
MML Equity Income Fund	EQUITY	NIELSEN HOLDINGS PLC	3499044.78		141834	0.757401	0
MML Equity Income Fund	EQUITY	KOHL'S CORP	3498933.9		63490	0.757377	0
MML Equity Income Fund	EQUITY	FOX CORP CLASS B	3161171.2		89806	0.684265	0
MML Equity Income Fund	EQUITY	STERICYCLE INC	3111208.65		43483	0.67345	0
MML Equity Income Fund	EQUITY	MATTEL INC	3025130.4		150504	0.654818	0
MML Equity Income Fund	EQUITY	SNAP ON INC	2855435.4		12780	0.618086	0
MML Equity Income Fund	EQUITY	RAYMOND JAMES FINANCIAL INC	2743747.8		21122	0.59391	0
MML Equity Income Fund	EQUITY	AMEREN CORPORATION	2677097.88		33447	0.579483	0
MML Equity Income Fund	EQUITY	SANOFI	2656316.55		25350	0.574984	0
MML Equity Income Fund	EQUITY	BANK OF NEW YORK MELLON CORP	2637679.01		51487	0.57095	0
MML Equity Income Fund	EQUITY	TJX COMPANIES INC	2622638		38900	0.567694	0
MML Equity Income Fund	EQUITY	COCA COLA CO/THE	2580073.02		47682	0.558481	0
MML Equity Income Fund	EQUITY	DUPONT DE NEMOURS INC	2549188.71		32931	0.551796	0
MML Equity Income Fund	EQUITY	NEXTERA ENERGY INC	2540324.48		34666	0.549877	0
MML Equity Income Fund	EQUITY	STATE STREET CORP	2496375.2		30340	0.540364	0
MML Equity Income Fund	EQUITY	CIGNA CORP	2417876.93		10199	0.523372	0
MML Equity Income Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	2347007.08		14594	0.508032	0
MML Equity Income Fund	EQUITY	SCHWAB (CHARLES) CORP	2344482		32200	0.507485	0
MML Equity Income Fund	EQUITY	MERCK + CO. INC.	2194047.24		28212	0.474922	0
MML Equity Income Fund	EQUITY	CITIZENS FINANCIAL GROUP	2018280		44000	0.436875	0
MML Equity Income Fund	EQUITY	WALMART INC	1999240.54		14177	0.432754	0
MML Equity Income Fund	EQUITY	EDISON INTERNATIONAL	1953506.52		33786	0.422855	0
MML Equity Income Fund	EQUITY	NXP SEMICONDUCTORS NV	1944671.16		9453	0.420942	0
MML Equity Income Fund	EQUITY	HALLIBURTON CO	1898845.6		82130	0.411023	0
MML Equity Income Fund	EQUITY	BANK OF AMERICA CORP	1871965.69		45403	0.405204	0
MML Equity Income Fund	EQUITY	UNITEDHEALTH GROUP INC	1842024		4600	0.398723	0
MML Equity Income Fund	EQUITY	SOUTHERN CO	1807288.48		35696	0.391204	0
MML Equity Income Fund	EQUITY	GILEAD SCIENCES INC	1709931.52		24832	0.370131	0
MML Equity Income Fund	EQUITY	BECTON DICKINSON AND CO	1705577.74		31874	0.369188	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Income Fund	EQUITY	AKZO NOBEL N.V.	1690885.93	13683	0.366008	0	
MML Equity Income Fund	EQUITY	WELLTOWER INC	1645130.7	19797	0.356104	0	
MML Equity Income Fund	EQUITY	PACCAR INC	1609445.25	18033	0.348379	0	
MML Equity Income Fund	EQUITY	ALTRIA GROUP INC	1608103.36	33727	0.348089	0	
MML Equity Income Fund	EQUITY	BIODEN INC	1558215	4500	0.33729	0	
MML Equity Income Fund	EQUITY	TOTALENERGIES SE SPON ADR	1547892	34200	0.335056	0	
MML Equity Income Fund	EQUITY	AT+T INC	1481795.86	51487	0.320749	0	
MML Equity Income Fund	EQUITY	CARDINAL HEALTH INC	1472922	25800	0.318828	0	
MML Equity Income Fund	EQUITY	NEXTERA ENERGY INC	1438248.96	29376	0.311322	0	
MML Equity Income Fund	EQUITY	DOMINION ENERGY INC	1434615	19500	0.310536	0	
MML Equity Income Fund	EQUITY	TARGA RESOURCES CORP	1363770.45	30681	0.295201	0	
MML Equity Income Fund	EQUITY	NISOURCE INC	1338017.43	13017	0.289626	0	
MML Equity Income Fund	EQUITY	TE CONNECTIVITY LTD	1306263.81	9661	0.282753	0	
MML Equity Income Fund	EQUITY	ENTERGY CORP	1301882.6	13058	0.281805	0	
MML Equity Income Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	1282779	20700	0.277669	0	
MML Equity Income Fund	EQUITY	CENTENE CORP	1261689	17300	0.273104	0	
MML Equity Income Fund	EQUITY	MARSH + MCLENNAN COS	1221946.48	8686	0.264502	0	
MML Equity Income Fund	EQUITY	ASTRAZENECA PLC SPONS ADR	1195723.8	19962	0.258826	0	
MML Equity Income Fund	EQUITY	FRANKLIN RESOURCES INC	1168146.84	36516	0.252856	0	
MML Equity Income Fund	EQUITY	SIEMENS AG SPONS ADR	1160419.87	14571	0.251184	0	
MML Equity Income Fund	EQUITY	CATERPILLAR INC	1142775.13	5251	0.247364	0	
MML Equity Income Fund	EQUITY	3M CO	1010430.81	5087	0.218717	0	
MML Equity Income Fund	EQUITY	CHEVRON CORP	1004037.64	9586	0.217333	0	
MML Equity Income Fund	EQUITY	SOUTHWEST AIRLINES CO	992783	18700	0.214897	0	
MML Equity Income Fund	EQUITY	VERIZON COMMUNICATIONS INC	980132.79	17493	0.212159	0	
MML Equity Income Fund	EQUITY	OCCIDENTAL PETROLEUM CORP	934816.65	29895	0.20235	0	
MML Equity Income Fund	EQUITY	BUNGE LTD	899350.2	11508	0.194673	0	
MML Equity Income Fund	EQUITY	MCDONALD S CORP	861592.7	3730	0.1865	0	
MML Equity Income Fund	EQUITY	GLAXOSMITHKLINE PLC	819772.09	41730	0.177447	0	
MML Equity Income Fund	EQUITY	PPG INDUSTRIES INC	792656.13	4669	0.171578	0	
MML Equity Income Fund	EQUITY	SANOFI ADR	720388.8	13680	0.155935	0	
MML Equity Income Fund	EQUITY	GENERAL MOTORS CO	689567.18	11654	0.149263	0	
MML Equity Income Fund	EQUITY	SEMPRA ENERGY	605163.79	6127	0.130993	0	
MML Equity Income Fund	EQUITY	ALASKA AIR GROUP INC	582413.67	9657	0.126069	0	
MML Equity Income Fund	EQUITY	CUMMINS INC	512001	2100	0.110827	0	
MML Equity Income Fund	EQUITY	FLOWSERVE CORP	506943.36	12573	0.109733	0	
MML Equity Income Fund	EQUITY	HESS CORP	506456	5800	0.109627	0	
MML Equity Income Fund	EQUITY	CYRUSONE INC	493488	6900	0.10682	0	
MML Equity Income Fund	EQUITY	CONOCOPHILLIPS	475020	7800	0.102822	0	
MML Equity Income Fund	EQUITY	AIRBUS SE	256401.98	1991	0.055501	0	
MML Equity Income Fund	EQUITY	MONDELEZ INTERNATIONAL INC A	243516	3900	0.052711	0	
MML Equity Income Fund	EQUITY	ORGANON + CO	61155.46	2021	0.013238	0	
MML Equity Income Fund	CASH EQUIVALENT	ROWE T PRICE GOV RES FD	1074.96	1074.96	0.000233	1	9/19/2034
MML Equity Income Fund	CASH	EURO CURRENCY	0.01	0.01	0	0	
MML Equity Income Fund	CASH	US DOLLAR	0.04	0.04	0	0	
MML Equity Index Fund	EQUITY	APPLE INC	42177927.68	307958	5.864622	0	
MML Equity Index Fund	EQUITY	MICROSOFT CORP	40054461.3	147857	5.569365	0	
MML Equity Index Fund	EQUITY	AMAZON.COM INC	28952386.56	8416	4.025679	0	
MML Equity Index Fund	EQUITY	FACEBOOK INC CLASS A	16357669.24	47044	2.274449	0	
MML Equity Index Fund	EQUITY	ALPHABET INC CL A	14391910.26	5894	2.00112	0	
MML Equity Index Fund	EQUITY	ALPHABET INC CL C	14012835.12	5591	1.948412	0	
MML Equity Index Fund	EQUITY	BERKSHIRE HATHAWAY INC CL B	10339179.84	37202	1.437609	0	
MML Equity Index Fund	EQUITY	TESLA INC	10283181.3	15129	1.429823	0	
MML Equity Index Fund	EQUITY	NVIDIA CORP	9785223	12230	1.360584	0	
MML Equity Index Fund	EQUITY	JPMORGAN CHASE + CO	9244053.28	59432	1.285338	0	
MML Equity Index Fund	EQUITY	JOHNSON + JOHNSON	8515740.08	51692	1.184069	0	
MML Equity Index Fund	EQUITY	VISA INC CLASS A SHARES	7766331.3	33215	1.079868	0	
MML Equity Index Fund	EQUITY	UNITEDHEALTH GROUP INC	7417750.56	18524	1.0314	0	
MML Equity Index Fund	EQUITY	PAYPAL HOLDINGS INC	6722986.2	23065	0.934796	0	
MML Equity Index Fund	EQUITY	HOME DEPOT INC	6656190.97	20873	0.925509	0	
MML Equity Index Fund	EQUITY	PROCTER + GAMBLE CO/THE	6484600.87	48059	0.90165	0	
MML Equity Index Fund	EQUITY	WALT DISNEY CO/THE	6270594.75	35675	0.871894	0	
MML Equity Index Fund	EQUITY	MASTERCARD INC A	6267865.12	17168	0.871514	0	
MML Equity Index Fund	EQUITY	BANK OF AMERICA CORP	6105791.93	148091	0.848979	0	
MML Equity Index Fund	EQUITY	ADOBE INC	5496231.4	9385	0.764222	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	EXXON MOBIL CORP	5241884.92		83099	0.728857	0
MML Equity Index Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	5147254.04	5147254.04		0.715699	7/1/2021
MML Equity Index Fund	EQUITY	COMCAST CORP CLASS A	5134308.88		90044	0.713899	0
MML Equity Index Fund	EQUITY	NETFLIX INC	4598596.26		8706	0.639411	0
MML Equity Index Fund	EQUITY	VERIZON COMMUNICATIONS INC	4553726.19		81273	0.633172	0
MML Equity Index Fund	EQUITY	INTEL CORP	4450386.22		79273	0.618803	0
MML Equity Index Fund	EQUITY	SALESFORCE.COM INC	4440828.6		18180	0.617474	0
MML Equity Index Fund	EQUITY	CISCO SYSTEMS INC	4384425		82725	0.609632	0
MML Equity Index Fund	EQUITY	PFIZER INC	4303409.88		109893	0.598367	0
MML Equity Index Fund	EQUITY	COCA COLA CO/THE	4122208.02		76182	0.573172	0
MML Equity Index Fund	EQUITY	ABBOTT LABORATORIES	4043870.26		34882	0.562279	0
MML Equity Index Fund	EQUITY	AT+T INC	4033574.56		140152	0.560848	0
MML Equity Index Fund	EQUITY	PEPSICO INC	4020444.78		27134	0.559022	0
MML Equity Index Fund	EQUITY	CHEVRON CORP	3973416.64		37936	0.552483	0
MML Equity Index Fund	EQUITY	ABBVIE INC	3905679.36		34674	0.543064	0
MML Equity Index Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	3893499.46		7718	0.541371	0
MML Equity Index Fund	EQUITY	NIKE INC CL B	3868893.07		25043	0.537949	0
MML Equity Index Fund	EQUITY	MERCK + CO. INC.	3866413.32		49716	0.537605	0
MML Equity Index Fund	EQUITY	BROADCOM INC	3822349.44		8016	0.531478	0
MML Equity Index Fund	EQUITY	WALMART INC	3801617.16		26958	0.528595	0
MML Equity Index Fund	EQUITY	ACCENTURE PLC CL A	3680747.94		12486	0.511789	0
MML Equity Index Fund	EQUITY	WELLS FARGO + CO	3675419.37		81153	0.511048	0
MML Equity Index Fund	EQUITY	ELI LILLY + CO	3586709.04		15627	0.498713	0
MML Equity Index Fund	EQUITY	TEXAS INSTRUMENTS INC	3486783.6		18132	0.484819	0
MML Equity Index Fund	EQUITY	COSTCO WHOLESALE CORP	3432041.58		8674	0.477208	0
MML Equity Index Fund	EQUITY	MCDONALD S CORP	3384927.46		14654	0.470657	0
MML Equity Index Fund	EQUITY	DANAHER CORP	3345375.76		12466	0.465157	0
MML Equity Index Fund	EQUITY	MEDTRONIC PLC	3279018.08		26416	0.455593	0
MML Equity Index Fund	EQUITY	QUALCOMM INC	3165184.85		22145	0.440103	0
MML Equity Index Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	3033856.21		30611	0.421842	0
MML Equity Index Fund	EQUITY	HONEYWELL INTERNATIONAL INC	2989521.15		13629	0.415677	0
MML Equity Index Fund	EQUITY	UNITED PARCEL SERVICE CL B	2952966.03		14199	0.410595	0
MML Equity Index Fund	EQUITY	LINDE PLC	2950265.5		10205	0.410219	0
MML Equity Index Fund	EQUITY	BRISTOL MYERS SQUIBB CO	2928520.14		43827	0.407196	0
MML Equity Index Fund	EQUITY	CITIGROUP INC	2871388.75		40585	0.399252	0
MML Equity Index Fund	EQUITY	UNION PACIFIC CORP	2866787.55		13035	0.398612	0
MML Equity Index Fund	EQUITY	NEXTERA ENERGY INC	2820327.36		38487	0.392152	0
MML Equity Index Fund	EQUITY	ORACLE CORP	2776552.8		35670	0.386065	0
MML Equity Index Fund	EQUITY	AMGEN INC	2749012.5		11278	0.382236	0
MML Equity Index Fund	EQUITY	LOWE S COS INC	2692691.54		13882	0.374405	0
MML Equity Index Fund	EQUITY	MORGAN STANLEY	2680098.7		29230	0.372654	0
MML Equity Index Fund	EQUITY	INTUIT INC	2630252.22		5366	0.365723	0
MML Equity Index Fund	EQUITY	STARBUCKS CORP	2587954.26		23146	0.359842	0
MML Equity Index Fund	EQUITY	BOEING CO/THE	2584852.4		10790	0.35941	0
MML Equity Index Fund	EQUITY	INTL BUSINESS MACHINES CORP	2572214.73		17547	0.357653	0
MML Equity Index Fund	EQUITY	APPLIED MATERIALS INC	2565905.6		18019	0.356776	0
MML Equity Index Fund	EQUITY	GOLDMAN SACHS GROUP INC	2535639.93		6681	0.352568	0
MML Equity Index Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	2535327.89		29719	0.352524	0
MML Equity Index Fund	EQUITY	BLACKROCK INC	2438541.39		2787	0.339067	0
MML Equity Index Fund	EQUITY	AMERICAN TOWER CORP	2411809.92		8928	0.33535	0
MML Equity Index Fund	EQUITY	TARGET CORP	2348504.1		9715	0.326547	0
MML Equity Index Fund	EQUITY	CATERPILLAR INC	2340828.28		10756	0.32548	0
MML Equity Index Fund	EQUITY	GENERAL ELECTRIC CO	2320059.82		172367	0.322592	0
MML Equity Index Fund	EQUITY	3M CO	2260409.4		11380	0.314298	0
MML Equity Index Fund	EQUITY	ADVANCED MICRO DEVICES	2240794.08		23856	0.311571	0
MML Equity Index Fund	EQUITY	DEERE + CO	2161054.17		6127	0.300483	0
MML Equity Index Fund	EQUITY	CVS HEALTH CORP	2156506.8		25845	0.299851	0
MML Equity Index Fund	EQUITY	SCHWAB (CHARLES) CORP	2144327.31		29451	0.298158	0
MML Equity Index Fund	EQUITY	INTUITIVE SURGICAL INC	2138163		2325	0.2973	0
MML Equity Index Fund	EQUITY	SENTINEL BANCORP INC	2131704.45		3879	0.296402	0
MML Equity Index Fund	EQUITY	AMERICAN EXPRESS CO	2108334.8		12760	0.293153	0
MML Equity Index Fund	EQUITY	CHARTER COMMUNICATIONS INC A	1950079.35		2703	0.271148	0
MML Equity Index Fund	EQUITY	S+P GLOBAL INC	1941838.95		4731	0.270003	0
MML Equity Index Fund	EQUITY	MICRON TECHNOLOGY INC	1871514.54		22023	0.260224	0
MML Equity Index Fund	EQUITY	ANTHEM INC	1837221.6		4812	0.255456	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	LAM RESEARCH CORP	1821960	1821960	2800	0.253334	0
MML Equity Index Fund	EQUITY	LOCKHEED MARTIN CORP	1816080	1816080	4800	0.252516	0
MML Equity Index Fund	EQUITY	BOOKING HOLDINGS INC	1763600.54	1763600.54	806	0.245219	0
MML Equity Index Fund	EQUITY	PROLOGIS INC	1737009.96	1737009.96	14532	0.241522	0
MML Equity Index Fund	EQUITY	ZOETIS INC	1735011.6	1735011.6	9310	0.241244	0
MML Equity Index Fund	EQUITY	ALTRIA GROUP INC	1731928.32	1731928.32	36324	0.240816	0
MML Equity Index Fund	EQUITY	FIDELITY NATIONAL INFO SERV	1723982.23	1723982.23	12169	0.239711	0
MML Equity Index Fund	EQUITY	MONDELEZ INTERNATIONAL INC A	1722157.64	1722157.64	27581	0.239457	0
MML Equity Index Fund	EQUITY	GILEAD SCIENCES INC	1695815.22	1695815.22	24627	0.235794	0
MML Equity Index Fund	EQUITY	STRYKER CORP	1671362.55	1671362.55	6435	0.232394	0
MML Equity Index Fund	EQUITY	T MOBILE US INC	1666413.98	1666413.98	11506	0.231706	0
MML Equity Index Fund	EQUITY	AUTOMATIC DATA PROCESSING	1660264.58	1660264.58	8359	0.230851	0
MML Equity Index Fund	EQUITY	CROWN CASTLE INTL CORP	1656008.8	1656008.8	8488	0.230259	0
MML Equity Index Fund	EQUITY	CONOCOPHILLIPS	1611109.5	1611109.5	26455	0.224016	0
MML Equity Index Fund	EQUITY	TJX COMPANIES INC	1596842.7	1596842.7	23685	0.222033	0
MML Equity Index Fund	EQUITY	CIGNA CORP	1594769.89	1594769.89	6727	0.221744	0
MML Equity Index Fund	EQUITY	PNC FINANCIAL SERVICES GROUP	1593227.52	1593227.52	8352	0.22153	0
MML Equity Index Fund	EQUITY	US BANCORP	1517338.98	1517338.98	26634	0.210978	0
MML Equity Index Fund	EQUITY	CME GROUP INC	1500882.76	1500882.76	7057	0.20869	0
MML Equity Index Fund	EQUITY	DUKE ENERGY CORP	1491757.92	1491757.92	15111	0.207421	0
MML Equity Index Fund	EQUITY	GENERAL MOTORS CO	1483096.05	1483096.05	25065	0.206217	0
MML Equity Index Fund	EQUITY	TRUIST FINANCIAL CORP	1465089	1465089	26398	0.203713	0
MML Equity Index Fund	EQUITY	ACTIVISION BLIZZARD INC	1457464.24	1457464.24	15271	0.202653	0
MML Equity Index Fund	EQUITY	ESTEY LAUDER COMPANIES CL A	1448536.32	1448536.32	4554	0.201411	0
MML Equity Index Fund	EQUITY	FEDEX CORP	1431089.01	1431089.01	4797	0.198985	0
MML Equity Index Fund	EQUITY	CSX CORP	1430607.6	1430607.6	44595	0.198919	0
MML Equity Index Fund	EQUITY	EQUINIX INC	1411773.4	1411773.4	1759	0.1963	0
MML Equity Index Fund	EQUITY	MARSH + MCLENNAN COS	1405252.52	1405252.52	9989	0.195393	0
MML Equity Index Fund	EQUITY	CHUBB LTD	1402168.68	1402168.68	8822	0.194964	0
MML Equity Index Fund	EQUITY	BECTON DICKINSON AND CO	1389830.85	1389830.85	5715	0.193249	0
MML Equity Index Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	1372100.3	1372100.3	8870	0.190783	0
MML Equity Index Fund	EQUITY	ILLUMINA INC	1358112.7	1358112.7	2870	0.188839	0
MML Equity Index Fund	EQUITY	COLGATE PALMOLIVE CO	1353094.55	1353094.55	16633	0.188141	0
MML Equity Index Fund	EQUITY	INTERCONTINENTAL EXCHANGE INC	1311991.1	1311991.1	11053	0.182426	0
MML Equity Index Fund	EQUITY	NORFOLK SOUTHERN CORP	1303693.92	1303693.92	4912	0.181272	0
MML Equity Index Fund	EQUITY	SHERWIN WILLIAMS CO/THE	1278062.95	1278062.95	4691	0.177708	0
MML Equity Index Fund	EQUITY	AUTODESK INC	1263051.3	1263051.3	4327	0.175621	0
MML Equity Index Fund	EQUITY	EDWARDS LIFESCIENCES CORP	1262000.45	1262000.45	12185	0.175475	0
MML Equity Index Fund	EQUITY	ILLINOIS TOOL WORKS	1261996.2	1261996.2	5645	0.175474	0
MML Equity Index Fund	EQUITY	SOUTHERN CO/THE	1257337.29	1257337.29	20779	0.174826	0
MML Equity Index Fund	EQUITY	AIR PRODUCTS + CHEMICALS INC	1251983.36	1251983.36	4352	0.174082	0
MML Equity Index Fund	EQUITY	FISERV INC	1251895.68	1251895.68	11712	0.17407	0
MML Equity Index Fund	EQUITY	ANALOG DEVICES INC	1248848.64	1248848.64	7254	0.173646	0
MML Equity Index Fund	EQUITY	BOSTON SCIENTIFIC CORP	1192832.96	1192832.96	27896	0.165857	0
MML Equity Index Fund	EQUITY	DOMINION ENERGY INC	1166231.64	1166231.64	15852	0.162158	0
MML Equity Index Fund	EQUITY	EATON CORP PLC	1161434.84	1161434.84	7838	0.161491	0
MML Equity Index Fund	EQUITY	MOODY S CORP	1147625.79	1147625.79	3167	0.159571	0
MML Equity Index Fund	EQUITY	REGENERON PHARMACEUTICALS	1147241.16	1147241.16	2054	0.159518	0
MML Equity Index Fund	EQUITY	FORD MOTOR CO	1143818.78	1143818.78	76973	0.159042	0
MML Equity Index Fund	EQUITY	EMERSON ELECTRIC CO	1131782.4	1131782.4	11760	0.157368	0
MML Equity Index Fund	EQUITY	PROGRESSIVE CORP	1127352.59	1127352.59	11479	0.156753	0
MML Equity Index Fund	EQUITY	HUMANA INC	1123180.64	1123180.64	2537	0.156172	0
MML Equity Index Fund	EQUITY	NXP SEMICONDUCTORS NV	1111505.16	1111505.16	5403	0.154549	0
MML Equity Index Fund	EQUITY	GLOBAL PAYMENTS INC	1084918.9	1084918.9	5785	0.150852	0
MML Equity Index Fund	EQUITY	TWITTER INC	1076326.02	1076326.02	15642	0.149658	0
MML Equity Index Fund	EQUITY	NORTHROP GRUMMAN CORP	1068484.2	1068484.2	2940	0.148567	0
MML Equity Index Fund	EQUITY	WASTE MANAGEMENT INC	1068478.86	1068478.86	7626	0.148566	0
MML Equity Index Fund	EQUITY	FREPORT MCMORAN INC	1066986.72	1066986.72	28752	0.148359	0
MML Equity Index Fund	EQUITY	HCA HEALTHCARE INC	1066778.4	1066778.4	5160	0.14833	0
MML Equity Index Fund	EQUITY	IDEXX LABORATORIES INC	1057846.25	1057846.25	1675	0.147088	0
MML Equity Index Fund	EQUITY	AON PLC CLASS A	1056990.52	1056990.52	4427	0.146969	0
MML Equity Index Fund	EQUITY	BIODEN INC	1023574.12	1023574.12	2956	0.142323	0
MML Equity Index Fund	EQUITY	VERTEX PHARMACEUTICALS INC	1022264.1	1022264.1	5070	0.142141	0
MML Equity Index Fund	EQUITY	ECOLAB INC	1008017.18	1008017.18	4894	0.14016	0
MML Equity Index Fund	EQUITY	DOLLAR GENERAL CORP	1004482.38	1004482.38	4642	0.139668	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	NEWMONT CORP	998678.66	15757	0.138861	0	
MML Equity Index Fund	EQUITY	KLA CORP	973602.63	3003	0.135374	0	
MML Equity Index Fund	EQUITY	ROPER TECHNOLOGIES INC	972373.6	2068	0.135203	0	
MML Equity Index Fund	EQUITY	JOHNSON CONTROLS INTERNATION	963702.46	14042	0.133998	0	
MML Equity Index Fund	EQUITY	EOG RESOURCES INC	956389.28	11462	0.132981	0	
MML Equity Index Fund	EQUITY	DOW INC	928823.84	14678	0.129148	0	
MML Equity Index Fund	EQUITY	IQVIA HOLDINGS INC	913304.08	3769	0.12699	0	
MML Equity Index Fund	EQUITY	PUBLIC STORAGE	900566.55	2995	0.125219	0	
MML Equity Index Fund	EQUITY	EBAY INC	894334.98	12738	0.124353	0	
MML Equity Index Fund	EQUITY	KIMBERLY CLARK CORP	886827.62	6629	0.123309	0	
MML Equity Index Fund	EQUITY	T ROWE PRICE GROUP INC	879382.74	4442	0.122274	0	
MML Equity Index Fund	EQUITY	SCHLUMBERGER LTD	879250.68	27468	0.122255	0	
MML Equity Index Fund	EQUITY	AGILENT TECHNOLOGIES INC	878287.02	5942	0.122121	0	
MML Equity Index Fund	EQUITY	TE CONNECTIVITY LTD	876025.59	6479	0.121807	0	
MML Equity Index Fund	EQUITY	METLIFE INC	875665.35	14631	0.121757	0	
MML Equity Index Fund	EQUITY	L3HARRIS TECHNOLOGIES INC	870868.35	4029	0.12109	0	
MML Equity Index Fund	EQUITY	ROSS STORES INC	869860	7015	0.12095	0	
MML Equity Index Fund	EQUITY	TRANE TECHNOLOGIES PLC	865826.28	4702	0.120389	0	
MML Equity Index Fund	EQUITY	MSCI INC	863056.52	1619	0.120004	0	
MML Equity Index Fund	EQUITY	ALIGN TECHNOLOGY INC	862121	1411	0.119873	0	
MML Equity Index Fund	CASH EQUIVALENT	TREASURY BILL	859985.78	860000	0.119577	0	7/15/2021
MML Equity Index Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	855787.68	552	0.118993	0	
MML Equity Index Fund	EQUITY	EXELON CORP	852036.99	19229	0.118471	0	
MML Equity Index Fund	EQUITY	GENERAL DYNAMICS CORP	846981.74	4499	0.117768	0	
MML Equity Index Fund	EQUITY	SIMON PROPERTY GROUP INC	839769.28	6436	0.116766	0	
MML Equity Index Fund	EQUITY	APTIV PLC	836838.27	5319	0.116358	0	
MML Equity Index Fund	EQUITY	CENTENE CORP	836215.38	11466	0.116271	0	
MML Equity Index Fund	EQUITY	DIGITAL REALTY TRUST INC	833247.48	5538	0.115859	0	
MML Equity Index Fund	EQUITY	IHS MARKIT LTD	829740.9	7365	0.115371	0	
MML Equity Index Fund	EQUITY	AMERICAN ELECTRIC POWER	828728.23	9797	0.11523	0	
MML Equity Index Fund	EQUITY	SYNOPSIS INC	828197.37	3003	0.115157	0	
MML Equity Index Fund	EQUITY	SEMPRA ENERGY	817534.08	6171	0.113674	0	
MML Equity Index Fund	EQUITY	DEXCOM INC	810873	1899	0.112748	0	
MML Equity Index Fund	EQUITY	BANK OF NEW YORK MELLON CORP	809690.15	15805	0.112583	0	
MML Equity Index Fund	EQUITY	DUPONT DE NEMOURS INC	808082.99	10439	0.11236	0	
MML Equity Index Fund	EQUITY	ELECTRONIC ARTS INC	805879.49	5603	0.112053	0	
MML Equity Index Fund	EQUITY	MICROCHIP TECHNOLOGY INC	804852.5	5375	0.111911	0	
MML Equity Index Fund	EQUITY	AMPHENOL CORP CL A	802244.07	11727	0.111548	0	
MML Equity Index Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	802012.4	16849	0.111516	0	
MML Equity Index Fund	EQUITY	ALEXION PHARMACEUTICALS INC	797485.11	4341	0.110886	0	
MML Equity Index Fund	EQUITY	BAXTER INTERNATIONAL INC	796708.5	9897	0.110778	0	
MML Equity Index Fund	EQUITY	PRUDENTIAL FINANCIAL INC	790760.99	7717	0.109951	0	
MML Equity Index Fund	EQUITY	PPG INDUSTRIES INC	788242.11	4643	0.109601	0	
MML Equity Index Fund	EQUITY	SYSCO CORP	782553.75	10065	0.10881	0	
MML Equity Index Fund	EQUITY	CARRIER GLOBAL CORP	778426.2	16017	0.108236	0	
MML Equity Index Fund	EQUITY	PARKER HANNIFIN CORP	776988.3	2530	0.108036	0	
MML Equity Index Fund	EQUITY	CONSTELLATION BRANDS INC A	774175.9	3310	0.107645	0	
MML Equity Index Fund	EQUITY	O REILLY AUTOMOTIVE INC	773442.86	1366	0.107543	0	
MML Equity Index Fund	EQUITY	ALLSTATE CORP	768030.72	5888	0.106791	0	
MML Equity Index Fund	EQUITY	MARATHON PETROLEUM CORP	755672.94	12507	0.105072	0	
MML Equity Index Fund	EQUITY	CADENCE DESIGN SYS INC	748131.76	5468	0.104024	0	
MML Equity Index Fund	EQUITY	TRAVELERS COS INC/THE	740016.53	4943	0.102895	0	
MML Equity Index Fund	EQUITY	PHILLIPS 66	739682.58	8619	0.102849	0	
MML Equity Index Fund	EQUITY	WALGREENS BOOTS ALLIANCE INC	739433.55	14055	0.102814	0	
MML Equity Index Fund	EQUITY	PIONEER NATURAL RESOURCES CO	738003.32	4541	0.102616	0	
MML Equity Index Fund	EQUITY	GENERAL MILLS INC	729880.47	11979	0.101486	0	
MML Equity Index Fund	EQUITY	INTL FLAVORS + FRAGRANCES	728026.2	4873	0.101228	0	
MML Equity Index Fund	EQUITY	MOTOROLA SOLUTIONS INC	723411.6	3336	0.100587	0	
MML Equity Index Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	716047.4	5245	0.099563	0	
MML Equity Index Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	715386.54	10329	0.099471	0	
MML Equity Index Fund	EQUITY	HP INC	714084.07	23653	0.09929	0	
MML Equity Index Fund	EQUITY	DISCOVER FINANCIAL SERVICES	706073.01	5969	0.098176	0	
MML Equity Index Fund	EQUITY	RESMED INC	702088.96	2848	0.097622	0	
MML Equity Index Fund	EQUITY	CUMMINS INC	701197.56	2876	0.097498	0	
MML Equity Index Fund	EQUITY	TRANSIDGM GROUP INC	698425.91	1079	0.097112	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	XCEL ENERGY INC	698130.36		10597	0.097071	0
MML Equity Index Fund	EQUITY	XILINX INC	696152.32		4813	0.096796	0
MML Equity Index Fund	EQUITY	KINDER MORGAN INC	696021.4		38180	0.096778	0
MML Equity Index Fund	EQUITY	SBA COMMUNICATIONS CORP	682018		2140	0.094831	0
MML Equity Index Fund	EQUITY	WELLTOWER INC	679259.4		8174	0.094447	0
MML Equity Index Fund	EQUITY	PAYCHEX INC	674702.4		6288	0.093814	0
MML Equity Index Fund	EQUITY	YUM BRANDS INC	671200.05		5835	0.093327	0
MML Equity Index Fund	EQUITY	AFLAC INC	667047.46		12431	0.092749	0
MML Equity Index Fund	EQUITY	ARCHER DANIELS MIDLAND CO	663388.2		10947	0.092241	0
MML Equity Index Fund	EQUITY	MONSTER BEVERAGE CORP	661830.75		7245	0.092024	0
MML Equity Index Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	660166.1		4105	0.091793	0
MML Equity Index Fund	EQUITY	HILTON WORLDWIDE HOLDINGS INC	660153.26		5473	0.091791	0
MML Equity Index Fund	EQUITY	CINTAS CORP	660096		1728	0.091783	0
MML Equity Index Fund	EQUITY	STANLEY BLACK + DECKER INC	651253.23		3177	0.090553	0
MML Equity Index Fund	EQUITY	ROCKWELL AUTOMATION INC	650695.5		2275	0.090476	0
MML Equity Index Fund	EQUITY	OTIS WORLDWIDE CORP	647618.4		7920	0.090048	0
MML Equity Index Fund	EQUITY	FIRST REPUBLIC BANK/CA	645362.16		3448	0.089734	0
MML Equity Index Fund	EQUITY	CORTEVA INC	641921.9		14474	0.089256	0
MML Equity Index Fund	EQUITY	AUTOZONE INC	635685.72		426	0.088389	0
MML Equity Index Fund	EQUITY	METTLER TOLEDO INTERNATIONAL	634485.72		458	0.088222	0
MML Equity Index Fund	EQUITY	FORTINET INC	632156.26		2654	0.087898	0
MML Equity Index Fund	EQUITY	WILLIAMS COS INC	631120.05		23771	0.087754	0
MML Equity Index Fund	EQUITY	VALERO ENERGY CORP	624640		8000	0.086853	0
MML Equity Index Fund	EQUITY	CORNING INC	623275.1		15239	0.086663	0
MML Equity Index Fund	EQUITY	SKYWORKS SOLUTIONS INC	619544.25		3231	0.086144	0
MML Equity Index Fund	EQUITY	SOUTHWEST AIRLINES CO	618392.32		11648	0.085984	0
MML Equity Index Fund	EQUITY	AMETEK INC	607291.5		4549	0.084441	0
MML Equity Index Fund	EQUITY	PACCAR INC	606632.25		6797	0.084349	0
MML Equity Index Fund	EQUITY	MCKESSON CORP	595712.6		3115	0.082831	0
MML Equity Index Fund	EQUITY	ANSYS INC	595207.9		1715	0.082761	0
MML Equity Index Fund	EQUITY	SVB FINANCIAL GROUP	594823.67		1069	0.082707	0
MML Equity Index Fund	EQUITY	PUBLIC SERVICE ENTERPRISE GP	591007.82		9893	0.082177	0
MML Equity Index Fund	EQUITY	FASTENAL CO	584636		11243	0.081291	0
MML Equity Index Fund	EQUITY	WILLIS TOWERS WATSON PLC	581030.52		2526	0.080789	0
MML Equity Index Fund	EQUITY	DR HORTON INC	580356.14		6422	0.080696	0
MML Equity Index Fund	EQUITY	AVALONBAY COMMUNITIES INC	574106.19		2751	0.079826	0
MML Equity Index Fund	EQUITY	KROGER CO	570512.52		14892	0.079327	0
MML Equity Index Fund	EQUITY	EQUIFAX INC	570273.31		2381	0.079294	0
MML Equity Index Fund	EQUITY	NUCOR CORP	565603.28		5896	0.078644	0
MML Equity Index Fund	EQUITY	AMERIPRISE FINANCIAL INC	564459.84		2268	0.078485	0
MML Equity Index Fund	EQUITY	CBRE GROUP INC A	562988.91		6567	0.078281	0
MML Equity Index Fund	EQUITY	STATE STREET CORP	562466.08		6836	0.078208	0
MML Equity Index Fund	EQUITY	ARTHUR J GALLAGHER + CO	562000.96		4012	0.078143	0
MML Equity Index Fund	EQUITY	ZEBRA TECHNOLOGIES CORP CL A	558611.95		1055	0.077672	0
MML Equity Index Fund	EQUITY	KEYSIGHT TECHNOLOGIES IN	557265.69		3609	0.077485	0
MML Equity Index Fund	EQUITY	MAXIM INTEGRATED PRODUCTS	556932.96		5286	0.077439	0
MML Equity Index Fund	EQUITY	VERISK ANALYTICS INC	556483.2		3185	0.077376	0
MML Equity Index Fund	EQUITY	WEC ENERGY GROUP INC	549266.25		6175	0.076373	0
MML Equity Index Fund	EQUITY	AMERICAN WATER WORKS CO INC	547007.37		3549	0.076059	0
MML Equity Index Fund	EQUITY	DELTA AIR LINES INC	544946.22		12597	0.075772	0
MML Equity Index Fund	EQUITY	EVERSOURCE ENERGY	543144.56		6769	0.075521	0
MML Equity Index Fund	EQUITY	COPART INC	540898.49		4103	0.075209	0
MML Equity Index Fund	EQUITY	LENNAR CORP A	540165.95		5437	0.075107	0
MML Equity Index Fund	EQUITY	VIACOMCBS INC CLASS B	537744.4		11897	0.074771	0
MML Equity Index Fund	EQUITY	LABORATORY CRP OF AMER HLDGS	531011.25		1925	0.073834	0
MML Equity Index Fund	EQUITY	FIFTH THIRD BANCORP	527191.7		13790	0.073303	0
MML Equity Index Fund	EQUITY	BALL CORP	524280.42		6471	0.072898	0
MML Equity Index Fund	EQUITY	LYONDELLBASELL INDU CL A	521962.38		5074	0.072576	0
MML Equity Index Fund	EQUITY	EQUITY RESIDENTIAL	521444		6772	0.072504	0
MML Equity Index Fund	EQUITY	WEST PHARMACEUTICAL SERVICES	521413.2		1452	0.0725	0
MML Equity Index Fund	EQUITY	KRAFT HEINZ CO/THE	517049.62		12679	0.071893	0
MML Equity Index Fund	EQUITY	OCCIDENTAL PETROLEUM CORP	516736.75		16525	0.07185	0
MML Equity Index Fund	EQUITY	VF CORP	515785.48		6287	0.071717	0
MML Equity Index Fund	EQUITY	SYNCHRON FINANCIAL	514506.08		10604	0.071539	0
MML Equity Index Fund	EQUITY	ETSY INC	514394.16		2499	0.071524	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	GENERAC HOLDINGS INC	514370.85		1239	0.071521	0
MML Equity Index Fund	EQUITY	WEYERHAEUSER CO	508348.98		14769	0.070683	0
MML Equity Index Fund	EQUITY	KANSAS CITY SOUTHERN	507799.04		1792	0.070607	0
MML Equity Index Fund	EQUITY	BEST BUY CO INC	504302.28		4386	0.070121	0
MML Equity Index Fund	EQUITY	HERSHEY CO/THE	499896.6		2870	0.069508	0
MML Equity Index Fund	EQUITY	ALEXANDRIA REAL ESTATE EQUIT	491783.82		2703	0.06838	0
MML Equity Index Fund	EQUITY	REALTY INCOME CORP	491406.62		7363	0.068328	0
MML Equity Index Fund	EQUITY	DTE ENERGY COMPANY	490924.8		3788	0.068261	0
MML Equity Index Fund	EQUITY	ENPHASE ENERGY INC	489557.58		2666	0.06807	0
MML Equity Index Fund	EQUITY	ONEOK INC	488074.08		8772	0.067864	0
MML Equity Index Fund	EQUITY	CONSOLIDATED EDISON INC	484612.04		6757	0.067383	0
MML Equity Index Fund	EQUITY	CDW CORP/DE	482732.6		2764	0.067121	0
MML Equity Index Fund	EQUITY	NORTHERN TRUST CORP	474620.1		4105	0.065993	0
MML Equity Index Fund	EQUITY	OLD DOMINION FREIGHT LINE	472321.8		1861	0.065674	0
MML Equity Index Fund	EQUITY	INTERNATIONAL PAPER CO	470309.01		7671	0.065394	0
MML Equity Index Fund	EQUITY	HESS CORP	470218.2		5385	0.065381	0
MML Equity Index Fund	EQUITY	CERNER CORP	462238.24		5914	0.064272	0
MML Equity Index Fund	EQUITY	FORTIVE CORP	461539.32		6618	0.064175	0
MML Equity Index Fund	EQUITY	REPUBLIC SERVICES INC	456541.5		4150	0.06348	0
MML Equity Index Fund	EQUITY	VULCAN MATERIALS CO	455367.12		2616	0.063316	0
MML Equity Index Fund	EQUITY	EXPEDIA GROUP INC	454950.09		2779	0.063258	0
MML Equity Index Fund	EQUITY	UNITED RENTALS INC	454270.24		1424	0.063164	0
MML Equity Index Fund	EQUITY	DOLLAR TREE INC	452327		4546	0.062894	0
MML Equity Index Fund	EQUITY	VERISIGN INC	443767.81		1949	0.061704	0
MML Equity Index Fund	EQUITY	CLOROX COMPANY	441319.23		2453	0.061363	0
MML Equity Index Fund	EQUITY	TERADYNE INC	437513.36		3266	0.060834	0
MML Equity Index Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	436640.62		7046	0.060713	0
MML Equity Index Fund	EQUITY	QORVO INC	434147.35		2219	0.060366	0
MML Equity Index Fund	EQUITY	MCCORMICK + CO NON VTG SHRS	433562.88		4909	0.060285	0
MML Equity Index Fund	EQUITY	EDISON INTERNATIONAL	432493.6		7480	0.060136	0
MML Equity Index Fund	EQUITY	MARTIN MARIETTA MATERIALS	432022.68		1228	0.060071	0
MML Equity Index Fund	EQUITY	EXTRA SPACE STORAGE INC	431665.7		2635	0.060021	0
MML Equity Index Fund	EQUITY	GARMIN LTD	427700.48		2957	0.05947	0
MML Equity Index Fund	EQUITY	WESTERN DIGITAL CORP	426664.15		5995	0.059325	0
MML Equity Index Fund	EQUITY	DOVER CORP	426348.6		2831	0.059282	0
MML Equity Index Fund	EQUITY	TYSON FOODS INC CL A	426185.28		5778	0.059259	0
MML Equity Index Fund	EQUITY	CAESARS ENTERTAINMENT INC	425790		4104	0.059204	0
MML Equity Index Fund	EQUITY	PPL CORP	424109.11		15163	0.05897	0
MML Equity Index Fund	EQUITY	XYLEM INC	423578.76		3531	0.058896	0
MML Equity Index Fund	EQUITY	VENTAS INC	421683.5		7385	0.058633	0
MML Equity Index Fund	EQUITY	TRACTOR SUPPLY COMPANY	421425.9		2265	0.058597	0
MML Equity Index Fund	EQUITY	EXPEDITORS INTL WASH INC	420312		3320	0.058442	0
MML Equity Index Fund	EQUITY	FLEETCOR TECHNOLOGIES INC	416865.68		1628	0.057963	0
MML Equity Index Fund	EQUITY	WATERS CORP	416460.05		1205	0.057907	0
MML Equity Index Fund	EQUITY	CARNIVAL CORP	414695.52		15732	0.057661	0
MML Equity Index Fund	EQUITY	HUNTINGTON BANCSHARES INC	412517.16		28908	0.057358	0
MML Equity Index Fund	EQUITY	CARMAX INC	411471.9		3186	0.057213	0
MML Equity Index Fund	EQUITY	GARTNER INC	410044.6		1693	0.057015	0
MML Equity Index Fund	EQUITY	CHURCH + DWIGHT CO INC	409141.22		4801	0.056889	0
MML Equity Index Fund	EQUITY	HALLIBURTON CO	403536.48		17454	0.05611	0
MML Equity Index Fund	EQUITY	TRIMBLE INC	402194.45		4915	0.055923	0
MML Equity Index Fund	EQUITY	TAKE TWO INTERACTIVE SOFTWARE	402012.42		2271	0.055898	0
MML Equity Index Fund	EQUITY	AMEREN CORPORATION	399719.76		4994	0.055579	0
MML Equity Index Fund	EQUITY	NASDAQ INC	397483.8		2261	0.055268	0
MML Equity Index Fund	EQUITY	FIRSTENERGY CORP	395988.82		10642	0.05506	0
MML Equity Index Fund	EQUITY	STERIS PLC	394651.9		1913	0.054874	0
MML Equity Index Fund	EQUITY	ARISTA NETWORKS INC	392019.42		1082	0.054508	0
MML Equity Index Fund	EQUITY	KEYCORP	391895.7		18978	0.054491	0
MML Equity Index Fund	EQUITY	ENTERGY CORP	391521.9		3927	0.054439	0
MML Equity Index Fund	EQUITY	ALBEMARLE CORP	386952.62		2297	0.053804	0
MML Equity Index Fund	EQUITY	CITIZENS FINANCIAL GROUP	384252.99		8377	0.053428	0
MML Equity Index Fund	EQUITY	ESSEX PROPERTY TRUST INC	384012.8		1280	0.053395	0
MML Equity Index Fund	EQUITY	COOPER COS INC/THE	381608.01		963	0.053061	0
MML Equity Index Fund	EQUITY	TELEDYNE TECHNOLOGIES INC	381135.3		910	0.052995	0
MML Equity Index Fund	EQUITY	REGIONS FINANCIAL CORP	379949.04		18828	0.05283	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	VW GRAINGER INC		377556	862	0.052497	0
MML Equity Index Fund	EQUITY	MID AMERICA APARTMENT COMM		376418.7	2235	0.052339	0
MML Equity Index Fund	EQUITY	HEWLETT PACKARD ENTERPRISE		373933.26	25647	0.051993	0
MML Equity Index Fund	EQUITY	AKAMAI TECHNOLOGIES INC		372770.2	3197	0.051832	0
MML Equity Index Fund	EQUITY	DARDEN RESTAURANTS INC		372712.47	2553	0.051824	0
MML Equity Index Fund	EQUITY	ULTA BEAUTY INC		372394.29	1077	0.051779	0
MML Equity Index Fund	EQUITY	ROYAL CARIBBEAN CRUISES LTD		367812.64	4313	0.051142	0
MML Equity Index Fund	EQUITY	TELEFLEX INC		367637.85	915	0.051118	0
MML Equity Index Fund	EQUITY	M + T BANK CORP		366471.82	2522	0.050956	0
MML Equity Index Fund	EQUITY	BROADRIDGE FINANCIAL SOLUTIO		366350.04	2268	0.050939	0
MML Equity Index Fund	EQUITY	CHARLES RIVER LABORATORIES		365850.88	989	0.05087	0
MML Equity Index Fund	EQUITY	CATALENT INC		362634.48	3354	0.050422	0
MML Equity Index Fund	EQUITY	POOL CORP		360965.42	787	0.05019	0
MML Equity Index Fund	EQUITY	TYLER TECHNOLOGIES INC		359634.15	795	0.050005	0
MML Equity Index Fund	EQUITY	GENUINE PARTS CO		357530.69	2827	0.049713	0
MML Equity Index Fund	EQUITY	NETAPP INC		356489.74	4357	0.049568	0
MML Equity Index Fund	EQUITY	INGERSOLL RAND INC		356410.62	7302	0.049557	0
MML Equity Index Fund	EQUITY	DOMINO S PIZZA INC		354065.91	759	0.049231	0
MML Equity Index Fund	EQUITY	HEALTHPEAK PROPERTIES INC		350277.38	10522	0.048704	0
MML Equity Index Fund	EQUITY	PAYCOM SOFTWARE INC		349658.14	962	0.048618	0
MML Equity Index Fund	EQUITY	DUKE REALTY CORP		348353.95	7357	0.048437	0
MML Equity Index Fund	EQUITY	MARKETAXESS HOLDINGS INC		347228.91	749	0.04828	0
MML Equity Index Fund	EQUITY	AMCOR PLC		347111.94	30289	0.048264	0
MML Equity Index Fund	EQUITY	CINCINNATI FINANCIAL CORP		344145.62	2951	0.047852	0
MML Equity Index Fund	EQUITY	CONAGRA BRANDS INC		343536.34	9443	0.047767	0
MML Equity Index Fund	EQUITY	AVERY DENNISON CORP		343532.16	1634	0.047766	0
MML Equity Index Fund	EQUITY	MGM RESORTS INTERNATIONAL		341711.8	8012	0.047513	0
MML Equity Index Fund	EQUITY	SEAGATE TECHNOLOGY HOLDINGS		341695.98	3886	0.047511	0
MML Equity Index Fund	EQUITY	AES CORP		341595.21	13103	0.047497	0
MML Equity Index Fund	EQUITY	LAS VEGAS SANDS CORP		341115.06	6474	0.04743	0
MML Equity Index Fund	EQUITY	DEVON ENERGY CORP		340151.07	11653	0.047296	0
MML Equity Index Fund	EQUITY	JACOBS ENGINEERING GROUP INC		340087.58	2549	0.047287	0
MML Equity Index Fund	EQUITY	PERKINELMER INC		339084.36	2196	0.047148	0
MML Equity Index Fund	EQUITY	QUEST DIAGNOSTICS INC		338898.96	2568	0.047122	0
MML Equity Index Fund	EQUITY	OMNICOM GROUP		338677.66	4234	0.047091	0
MML Equity Index Fund	EQUITY	VIATRIS INC		337901.34	23646	0.046983	0
MML Equity Index Fund	EQUITY	HOLOGIC INC		337069.44	5052	0.046868	0
MML Equity Index Fund	EQUITY	CMS ENERGY CORP		336165.2	5690	0.046742	0
MML Equity Index Fund	EQUITY	CELANESE CORP		334126.4	2204	0.046459	0
MML Equity Index Fund	EQUITY	NVR INC		333211.1	67	0.046331	0
MML Equity Index Fund	EQUITY	DIAMONDBACK ENERGY INC		333121.72	3548	0.046319	0
MML Equity Index Fund	EQUITY	UNITED AIRLINES HOLDINGS INC		331414.02	6338	0.046081	0
MML Equity Index Fund	EQUITY	AMERISOURCEBERGEN CORP		330761.61	2889	0.045991	0
MML Equity Index Fund	EQUITY	L BRANDS INC		329962.74	4579	0.04588	0
MML Equity Index Fund	EQUITY	BAKER HUGHES CO		327658.49	14327	0.045559	0
MML Equity Index Fund	EQUITY	IDEX CORP		326774.25	1485	0.045436	0
MML Equity Index Fund	EQUITY	CARDINAL HEALTH INC		323814.48	5672	0.045025	0
MML Equity Index Fund	EQUITY	BOSTON PROPERTIES INC		317872.66	2774	0.044199	0
MML Equity Index Fund	EQUITY	KELLOGG CO		316053.29	4913	0.043946	0
MML Equity Index Fund	EQUITY	MONOLITHIC POWER SYSTEMS INC		315191.8	844	0.043826	0
MML Equity Index Fund	EQUITY	PRINCIPAL FINANCIAL GROUP		313485.59	4961	0.043589	0
MML Equity Index Fund	EQUITY	RAYMOND JAMES FINANCIAL INC		312149.7	2403	0.043403	0
MML Equity Index Fund	EQUITY	EASTMAN CHEMICAL CO		312072.75	2673	0.043392	0
MML Equity Index Fund	EQUITY	NORTONLIFELOCK INC		309164.76	11358	0.042988	0
MML Equity Index Fund	EQUITY	INCYTE CORP		307915.8	3660	0.042814	0
MML Equity Index Fund	EQUITY	TEXTRON INC		304513.56	4428	0.042341	0
MML Equity Index Fund	EQUITY	PTC INC		293962.06	2081	0.040874	0
MML Equity Index Fund	EQUITY	MASCO CORP		291309.95	4945	0.040505	0
MML Equity Index Fund	EQUITY	UDR INC		285700.34	5833	0.039725	0
MML Equity Index Fund	EQUITY	PULTEGROUP INC		285346.53	5229	0.039676	0
MML Equity Index Fund	EQUITY	WABTEC CORP		284840.3	3461	0.039606	0
MML Equity Index Fund	EQUITY	CITRIX SYSTEMS INC		284027.94	2422	0.039493	0
MML Equity Index Fund	EQUITY	WESTROCK CO		280096.86	5263	0.038946	0
MML Equity Index Fund	EQUITY	ABIOMED INC		279650.56	896	0.038884	0
MML Equity Index Fund	EQUITY	CENTERPOINT ENERGY INC		279626.08	11404	0.038881	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	JM SMUCKER CO/THE	279223.35		2155	0.038825	0
MML Equity Index Fund	EQUITY	ALLIANT ENERGY CORP	273893.12		4912	0.038083	0
MML Equity Index Fund	EQUITY	FMC CORP	273313.2		2526	0.038003	0
MML Equity Index Fund	EQUITY	EVERGY INC	273264.46		4522	0.037996	0
MML Equity Index Fund	EQUITY	BIO RAD LABORATORIES A	271890.38		422	0.037805	0
MML Equity Index Fund	EQUITY	DENTSPLY SIRONA INC	271511.92		4292	0.037752	0
MML Equity Index Fund	EQUITY	FORTUNE BRANDS HOME + SECURI	270640.37		2717	0.037631	0
MML Equity Index Fund	EQUITY	LKQ CORP	268741.2		5460	0.037367	0
MML Equity Index Fund	EQUITY	WHIRLPOOL CORP	267946.58		1229	0.037257	0
MML Equity Index Fund	EQUITY	BROWN FORMAN CORP CLASS B	267910.5		3575	0.037252	0
MML Equity Index Fund	EQUITY	LUMEN TECHNOLOGIES INC	267396.84		19676	0.03718	0
MML Equity Index Fund	EQUITY	HUNT (JB) TRANSPRT SVCS INC	266912.1		1638	0.037113	0
MML Equity Index Fund	EQUITY	AMERICAN AIRLINES GROUP INC	265718.88		12528	0.036947	0
MML Equity Index Fund	EQUITY	HOWMET AEROSPACE INC	264281.49		7667	0.036747	0
MML Equity Index Fund	EQUITY	ADVANCE AUTO PARTS INC	263194.62		1283	0.036596	0
MML Equity Index Fund	EQUITY	HORMEL FOODS CORP	262768.25		5503	0.036537	0
MML Equity Index Fund	EQUITY	LEIDOS HOLDINGS INC	262657.8		2598	0.036521	0
MML Equity Index Fund	EQUITY	INTERPUBLIC GROUP OF COS INC	252999.63		7787	0.035178	0
MML Equity Index Fund	EQUITY	WYNN RESORTS LTD	252916.4		2068	0.035167	0
MML Equity Index Fund	EQUITY	PACKAGING CORP OF AMERICA	251068.68		1854	0.03491	0
MML Equity Index Fund	EQUITY	LIVE NATION ENTERTAINMENT IN	250682.58		2862	0.034856	0
MML Equity Index Fund	EQUITY	CBOE GLOBAL MARKETS INC	247743.05		2081	0.034447	0
MML Equity Index Fund	EQUITY	ATMOS ENERGY CORP	246810.48		2568	0.034318	0
MML Equity Index Fund	EQUITY	QUANTA SERVICES INC	245988.12		2716	0.034203	0
MML Equity Index Fund	EQUITY	ALLEGION PLC	245446.6		1762	0.034128	0
MML Equity Index Fund	EQUITY	C.H. ROBINSON WORLDWIDE INC	243916.68		2604	0.033915	0
MML Equity Index Fund	EQUITY	JACK HENRY + ASSOCIATES INC	239705.66		1466	0.03333	0
MML Equity Index Fund	EQUITY	IRON MOUNTAIN INC	239108		5650	0.033247	0
MML Equity Index Fund	EQUITY	LOEWS CORP	237891.45		4353	0.033078	0
MML Equity Index Fund	EQUITY	SNAP ON INC	237282.66		1062	0.032993	0
MML Equity Index Fund	EQUITY	HOST HOTELS + RESORTS INC	236747.77		13853	0.032919	0
MML Equity Index Fund	EQUITY	TAPESTRY INC	236444.24		5438	0.032876	0
MML Equity Index Fund	EQUITY	FOX CORP CLASS A	236221.06		6362	0.032845	0
MML Equity Index Fund	EQUITY	HASBRO INC	236110.96		2498	0.03283	0
MML Equity Index Fund	EQUITY	LAMB WESTON HOLDINGS INC	231252.22		2867	0.032154	0
MML Equity Index Fund	EQUITY	BORGWARNER INC	230079.6		4740	0.031991	0
MML Equity Index Fund	EQUITY	UNIVERSAL HEALTH SERVICES B	223305.75		1525	0.03105	0
MML Equity Index Fund	EQUITY	PENN NATIONAL GAMING INC	222585.9		2910	0.030949	0
MML Equity Index Fund	EQUITY	LINCOLN NATIONAL CORP	222139.4		3535	0.030887	0
MML Equity Index Fund	EQUITY	MOHAWK INDUSTRIES INC	219673.17		1143	0.030544	0
MML Equity Index Fund	EQUITY	PENTAIR PLC	219342.5		3250	0.030498	0
MML Equity Index Fund	EQUITY	FS NETWORKS INC	219138.84		1174	0.03047	0
MML Equity Index Fund	EQUITY	MOSAIC CO/THE	215743.51		6761	0.029998	0
MML Equity Index Fund	EQUITY	CF INDUSTRIES HOLDINGS INC	215421.15		4187	0.029953	0
MML Equity Index Fund	EQUITY	NORWEGIAN CRUISE LINE HOLDIN	211693.18		7198	0.029435	0
MML Equity Index Fund	EQUITY	MARATHON OIL CORP	210919.32		15486	0.029327	0
MML Equity Index Fund	EQUITY	HENRY SCHEIN INC	204393.45		2755	0.02842	0
MML Equity Index Fund	EQUITY	WR BERKLEY CORP	204310.35		2745	0.028408	0
MML Equity Index Fund	EQUITY	NEWELL BRANDS INC	202673.66		7378	0.028181	0
MML Equity Index Fund	EQUITY	DISH NETWORK CORP A	202103		4835	0.028101	0
MML Equity Index Fund	EQUITY	INVESCO LTD	199111.77		7449	0.027685	0
MML Equity Index Fund	EQUITY	MOLSON COORS BEVERAGE CO B	197257.06		3674	0.027428	0
MML Equity Index Fund	EQUITY	REGENCY CENTERS CORP	197079.32		3076	0.027403	0
MML Equity Index Fund	EQUITY	ROBERT HALF INTL INC	197068.55		2215	0.027401	0
MML Equity Index Fund	EQUITY	EVEREST RE GROUP LTD	196567.8		780	0.027332	0
MML Equity Index Fund	EQUITY	NRG ENERGY INC	195978.9		4863	0.02725	0
MML Equity Index Fund	EQUITY	NEWS CORP CLASS A	195465.45		7585	0.027178	0
MML Equity Index Fund	EQUITY	COMERICA INC	193402.74		2711	0.026892	0
MML Equity Index Fund	EQUITY	DXC TECHNOLOGY CO	192947.7		4955	0.026828	0
MML Equity Index Fund	EQUITY	SMITH (A.O.) CORP	190094.28		2638	0.026432	0
MML Equity Index Fund	EQUITY	NISOURCE INC	188111		7678	0.026156	0
MML Equity Index Fund	EQUITY	ASSURANT INC	186166.56		1192	0.025885	0
MML Equity Index Fund	EQUITY	WESTERN UNION CO	185092.26		8058	0.025736	0
MML Equity Index Fund	EQUITY	CAMPBELL SOUP CO	180171.68		3952	0.025052	0
MML Equity Index Fund	EQUITY	PINNACLE WEST CAPITAL	179678.24		2192	0.024983	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Index Fund	EQUITY	GLOBE LIFE INC		179070	1880	0.024899	0
MML Equity Index Fund	EQUITY	KIMCO REALTY CORP	178121.55		8543	0.024767	0
MML Equity Index Fund	EQUITY	JUNIPER NETWORKS INC	177364.75		6485	0.024662	0
MML Equity Index Fund	EQUITY	SEALED AIR CORP	175913.25		2969	0.02446	0
MML Equity Index Fund	EQUITY	DISCOVERY INC C	172141.2		5940	0.023935	0
MML Equity Index Fund	EQUITY	NIELSEN HOLDINGS PLC	171629.19		6957	0.023864	0
MML Equity Index Fund	EQUITY	ZIONS BANCORP NA	170314.92		3222	0.023681	0
MML Equity Index Fund	EQUITY	FRANKLIN RESOURCES INC	169578.99		5301	0.023579	0
MML Equity Index Fund	EQUITY	DAVITA INC	166072.97		1379	0.023092	0
MML Equity Index Fund	EQUITY	HUNTINGTON INGALLS INDUSTRIE	165438.75		785	0.023003	0
MML Equity Index Fund	EQUITY	FEDERAL REALTY INVS TRUST	163217.81		1393	0.022695	0
MML Equity Index Fund	EQUITY	APA CORP	162571.08		7516	0.022605	0
MML Equity Index Fund	EQUITY	PVH CORP	152670.21		1419	0.021228	0
MML Equity Index Fund	EQUITY	IPG PHOTONICS CORP	150489.78		714	0.020925	0
MML Equity Index Fund	EQUITY	ORGANON + CO	149998.82		4957	0.020857	0
MML Equity Index Fund	EQUITY	ROLLINS INC	146718		4290	0.0204	0
MML Equity Index Fund	EQUITY	ALASKA AIR GROUP INC	146492.99		2429	0.020369	0
MML Equity Index Fund	EQUITY	PEOPLE S UNITED FINANCIAL	143016.16		8344	0.019886	0
MML Equity Index Fund	EQUITY	VORNADO REALTY TRUST	142016.81		3043	0.019747	0
MML Equity Index Fund	EQUITY	CABOT OIL + GAS CORP	139243.5		7975	0.019361	0
MML Equity Index Fund	EQUITY	GAP INC/THE	136248.85		4049	0.018945	0
MML Equity Index Fund	EQUITY	LEGGETT + PLATT INC	134498.76		2596	0.018701	0
MML Equity Index Fund	EQUITY	HANESBRANDS INC	125835.8		6740	0.017497	0
MML Equity Index Fund	EQUITY	PERRIGO CO PLC	119806.05		2613	0.016658	0
MML Equity Index Fund	EQUITY	NOV INC	119404.08		7794	0.016603	0
MML Equity Index Fund	EQUITY	UNUM GROUP	112265.2		3953	0.01561	0
MML Equity Index Fund	EQUITY	RALPH LAUREN CORP	109445.49		929	0.015218	0
MML Equity Index Fund	EQUITY	FOX CORP CLASS B	103523.2		2941	0.014394	0
MML Equity Index Fund	EQUITY	DISCOVERY INC A	100845.16		3287	0.014022	0
MML Equity Index Fund	EQUITY	UNDER ARMOUR INC CLASS A	80221.95		3793	0.011154	0
MML Equity Index Fund	CASH	US DOLLAR	-76746.82		-76746.82	0.010671	0
MML Equity Index Fund	EQUITY	UNDER ARMOUR INC CLASS C	73890.03		3979	0.010274	0
MML Equity Index Fund	EQUITY	NEWS CORP CLASS B	56053.7		2302	0.007794	0
MML Equity Index Fund	FUTURE	S+P500 EMINI FUT SEP21	0		1400	0.001285	0
MML Equity Momentum Fund	EQUITY	MICROSOFT CORP	4198408.2		15498	9.387905	0
MML Equity Momentum Fund	EQUITY	APPLE INC	4067438.08		29698	9.095048	0
MML Equity Momentum Fund	EQUITY	AMAZON.COM INC	4004346.24		1164	8.95397	0
MML Equity Momentum Fund	EQUITY	TESLA INC	3623480.7		5331	8.102331	0
MML Equity Momentum Fund	EQUITY	NVIDIA CORP	3186798.3		3983	7.125882	0
MML Equity Momentum Fund	EQUITY	PAYPAL HOLDINGS INC	2136839.88		7331	4.778109	0
MML Equity Momentum Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	1081583.68		2144	2.418489	0
MML Equity Momentum Fund	EQUITY	NETFLIX INC	911690.46		1726	2.038597	0
MML Equity Momentum Fund	EQUITY	QUALCOMM INC	874731.6		6120	1.955955	0
MML Equity Momentum Fund	EQUITY	ABBOTT LABORATORIES	803626.76		6932	1.79696	0
MML Equity Momentum Fund	EQUITY	DANAHER CORP	802664.76		2991	1.794809	0
MML Equity Momentum Fund	EQUITY	BROADCOM INC	738148.32		1548	1.650546	0
MML Equity Momentum Fund	EQUITY	ELI LILLY + CO	737218.24		3212	1.648466	0
MML Equity Momentum Fund	EQUITY	TARGET CORP	688475.52		2848	1.539475	0
MML Equity Momentum Fund	EQUITY	ABBVIE INC	687779.84		6106	1.537919	0
MML Equity Momentum Fund	EQUITY	NIKE INC CL B	687480.5		4450	1.53725	0
MML Equity Momentum Fund	EQUITY	UNITED PARCEL SERVICE CL B	671119.19		3227	1.500665	0
MML Equity Momentum Fund	EQUITY	DEERE + CO	648986.4		1840	1.451174	0
MML Equity Momentum Fund	EQUITY	TEXAS INSTRUMENTS INC	616513.8		3206	1.378564	0
MML Equity Momentum Fund	EQUITY	APPLIED MATERIALS INC	522892.8		3672	1.169221	0
MML Equity Momentum Fund	EQUITY	ADVANCED MICRO DEVICES	515769.63		5491	1.153293	0
MML Equity Momentum Fund	EQUITY	LOWE S COS INC	476584.29		2457	1.065672	0
MML Equity Momentum Fund	EQUITY	COSTCO WHOLESALE CORP	474408.33		1199	1.060807	0
MML Equity Momentum Fund	EQUITY	SERVICENOW INC	446234.6		812	0.997809	0
MML Equity Momentum Fund	EQUITY	CATERPILLAR INC	414802.78		1906	0.927525	0
MML Equity Momentum Fund	EQUITY	T MOBILE US INC	398861.82		2754	0.89188	0
MML Equity Momentum Fund	EQUITY	ACTIVISION BLIZZARD INC	354273.28		3712	0.792177	0
MML Equity Momentum Fund	EQUITY	LAM RESEARCH CORP	337062.6		518	0.753693	0
MML Equity Momentum Fund	EQUITY	FREEMONT MCMORAN INC	334546.65		9015	0.748067	0
MML Equity Momentum Fund	EQUITY	IDEXX LABORATORIES INC	317038.1		502	0.708917	0
MML Equity Momentum Fund	EQUITY	INTUITIVE SURGICAL INC	313597.24		341	0.701223	0

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Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Momentum Fund	EQUITY	FEDEX CORP	308473.22		1034	0.689766	0
MML Equity Momentum Fund	EQUITY	MICRON TECHNOLOGY INC	300744.22		3539	0.672483	0
MML Equity Momentum Fund	EQUITY	CARRIER GLOBAL CORP	290287.8		5973	0.649102	0
MML Equity Momentum Fund	EQUITY	EBAY INC	267921.36		3816	0.599089	0
MML Equity Momentum Fund	EQUITY	ILLUMINA INC	252220.93		533	0.563982	0
MML Equity Momentum Fund	EQUITY	GENERAL MOTORS CO	242537.83		4099	0.54233	0
MML Equity Momentum Fund	EQUITY	REGENERON PHARMACEUTICALS	234586.8		420	0.524551	0
MML Equity Momentum Fund	EQUITY	SYNOPSIS INC	230836.23		837	0.516164	0
MML Equity Momentum Fund	EQUITY	CADENCE DESIGN SYS INC	212755.1		1555	0.475734	0
MML Equity Momentum Fund	EQUITY	ALIGN TECHNOLOGY INC	211406		346	0.472717	0
MML Equity Momentum Fund	EQUITY	KLA CORP	206521.77		637	0.461796	0
MML Equity Momentum Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	206195.22		133	0.461065	0
MML Equity Momentum Fund	EQUITY	AUTODESK INC	198492		680	0.443841	0
MML Equity Momentum Fund	EQUITY	EQUINIX INC	196637		245	0.439693	0
MML Equity Momentum Fund	EQUITY	AGILENT TECHNOLOGIES INC	196439.49		1329	0.439251	0
MML Equity Momentum Fund	EQUITY	ETSY INC	189784.48		922	0.42437	0
MML Equity Momentum Fund	EQUITY	WEST PHARMACEUTICAL SERVICES	188886.6		526	0.422362	0
MML Equity Momentum Fund	EQUITY	TWITTER INC	182484.12		2652	0.408046	0
MML Equity Momentum Fund	EQUITY	DOLLAR GENERAL CORP	175708.68		812	0.392896	0
MML Equity Momentum Fund	EQUITY	ENPHASE ENERGY INC	173163.09		943	0.387204	0
MML Equity Momentum Fund	EQUITY	DUPONT DE NEMOURS INC	167515.24		2164	0.374575	0
MML Equity Momentum Fund	EQUITY	TRANE TECHNOLOGIES PLC	148969.26		809	0.333105	0
MML Equity Momentum Fund	EQUITY	NEWMONT CORP	148499.34		2343	0.332054	0
MML Equity Momentum Fund	EQUITY	DEXCOM INC	148169		347	0.331315	0
MML Equity Momentum Fund	EQUITY	METTLER TOLEDO INTERNATIONAL	145460.7		105	0.325259	0
MML Equity Momentum Fund	EQUITY	CUMMINS INC	144823.14		594	0.323834	0
MML Equity Momentum Fund	EQUITY	ELECTRONIC ARTS INC	138364.46		962	0.309392	0
MML Equity Momentum Fund	EQUITY	APTIV PLC	131685.21		837	0.294456	0
MML Equity Momentum Fund	EQUITY	MSCI INC	130604.6		245	0.29204	0
MML Equity Momentum Fund	EQUITY	SVB FINANCIAL GROUP	124640.32		224	0.278704	0
MML Equity Momentum Fund	EQUITY	ZEBRA TECHNOLOGIES CORP CL A	122312.19		231	0.273498	0
MML Equity Momentum Fund	EQUITY	KEYSIGHT TECHNOLOGIES IN	119050.11		771	0.266204	0
MML Equity Momentum Fund	EQUITY	OTIS WORLDWIDE CORP	117176.41		1433	0.262014	0
MML Equity Momentum Fund	EQUITY	SKYWORKS SOLUTIONS INC	107763.5		562	0.240966	0
MML Equity Momentum Fund	EQUITY	ALBEMARLE CORP	107645.94		639	0.240703	0
MML Equity Momentum Fund	EQUITY	MONSTER BEVERAGE CORP	107244.9		1174	0.239806	0
MML Equity Momentum Fund	EQUITY	TERADYNE INC	101943.56		761	0.227952	0
MML Equity Momentum Fund	EQUITY	CATALENT INC	99902.88		924	0.223389	0
MML Equity Momentum Fund	EQUITY	TRACTOR SUPPLY COMPANY	99169.98		533	0.22175	0
MML Equity Momentum Fund	EQUITY	KROGER CO	98571.63		2573	0.220412	0
MML Equity Momentum Fund	EQUITY	FASTENAL CO	98280		1890	0.21976	0
MML Equity Momentum Fund	EQUITY	OLD DOMINION FREIGHT LINE	97966.8		386	0.21906	0
MML Equity Momentum Fund	EQUITY	TAKE TWO INTERACTIVE SOFTWARE	97715.04		552	0.218497	0
MML Equity Momentum Fund	EQUITY	UNITED RENTALS INC	92831.91		291	0.207578	0
MML Equity Momentum Fund	EQUITY	MONOLITHIC POWER SYSTEMS INC	89254.55		239	0.199579	0
MML Equity Momentum Fund	EQUITY	ROCKWELL AUTOMATION INC	89238.24		312	0.199542	0
MML Equity Momentum Fund	EQUITY	PERKINELMER INC	88322.52		572	0.197495	0
MML Equity Momentum Fund	EQUITY	CLOROX COMPANY	86716.62		482	0.193904	0
MML Equity Momentum Fund	EQUITY	ABIOMED INC	86454.47		277	0.193318	0
MML Equity Momentum Fund	EQUITY	PACCAR INC	86215.5		966	0.192783	0
MML Equity Momentum Fund	EQUITY	QORVO INC	84912.1		434	0.189869	0
MML Equity Momentum Fund	EQUITY	POOL CORP	80724.16		176	0.180504	0
MML Equity Momentum Fund	EQUITY	TRIMBLE INC	74792.62		914	0.167241	0
MML Equity Momentum Fund	EQUITY	MARKETAXESS HOLDINGS INC	68147.73		147	0.152383	0
MML Equity Momentum Fund	EQUITY	QUANTA SERVICES INC	66116.1		730	0.14784	0
MML Equity Momentum Fund	EQUITY	BIO RAD LABORATORIES A	65717.58		102	0.146949	0
MML Equity Momentum Fund	EQUITY	HOLOGIC INC	63851.04		957	0.142775	0
MML Equity Momentum Fund	EQUITY	TYLER TECHNOLOGIES INC	58355.73		129	0.130487	0
MML Equity Momentum Fund	EQUITY	F5 NETWORKS INC	55998		300	0.125215	0
MML Equity Momentum Fund	EQUITY	DOMINO S PIZZA INC	52246.88		112	0.116827	0
MML Equity Momentum Fund	EQUITY	L BRANDS INC	52027.32		722	0.116336	0
MML Equity Momentum Fund	EQUITY	EASTMAN CHEMICAL CO	51253.25		439	0.114605	0
MML Equity Momentum Fund	EQUITY	NORTONLIFELOCK INC	50629.2		1860	0.11321	0
MML Equity Momentum Fund	EQUITY	PACKAGING CORP OF AMERICA	46313.64		342	0.10356	0
MML Equity Momentum Fund	EQUITY	IPG PHOTONICS CORP	35830.9		170	0.08012	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Momentum Fund	EQUITY	DAVITA INC	34683.84		288	0.077555	0
MML Equity Momentum Fund	EQUITY	NEWS CORP CLASS A	33990.63		1319	0.076005	0
MML Equity Momentum Fund	CASH	US DOLLAR	31700.12		31700.12	0.070883	0
MML Equity Momentum Fund	EQUITY	ROLLINS INC	29890.8		874	0.066838	0
MML Equity Rotation Fund	EQUITY	DELL TECHNOLOGIES C	625030.57		6271	1.287964	0
MML Equity Rotation Fund	EQUITY	HP INC	582848.14		19306	1.201041	0
MML Equity Rotation Fund	EQUITY	SYNCHRONY FINANCIAL	369091.64		7607	0.760566	0
MML Equity Rotation Fund	EQUITY	FORD MOTOR CO	354544.74		23859	0.73059	0
MML Equity Rotation Fund	EQUITY	ALLY FINANCIAL INC	353315.76		7089	0.728057	0
MML Equity Rotation Fund	EQUITY	L BRANDS INC	324342.06		4501	0.668353	0
MML Equity Rotation Fund	EQUITY	NETAPP INC	314106.98		3839	0.647262	0
MML Equity Rotation Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	313711.32		2028	0.646447	0
MML Equity Rotation Fund	EQUITY	QUANTA SERVICES INC	313553.34		3462	0.646121	0
MML Equity Rotation Fund	EQUITY	DISCOVER FINANCIAL SERVICES	313468.5		2650	0.645946	0
MML Equity Rotation Fund	EQUITY	NUCOR CORP	295848.12		3084	0.609637	0
MML Equity Rotation Fund	EQUITY	HEWLETT PACKARD ENTERPRISE	290593.98		19931	0.59881	0
MML Equity Rotation Fund	EQUITY	WESTROCK CO	272220.3		5115	0.560949	0
MML Equity Rotation Fund	EQUITY	UNITED RENTALS INC	270201.47		847	0.556789	0
MML Equity Rotation Fund	EQUITY	AES CORP	263228.79		10097	0.54242	0
MML Equity Rotation Fund	EQUITY	INTERPUBLIC GROUP OF COS INC	258392.97		7953	0.532455	0
MML Equity Rotation Fund	EQUITY	MOSAIC CO/THE	257832.8		8080	0.531301	0
MML Equity Rotation Fund	EQUITY	GENERAL MOTORS CO	257389.5		4350	0.530388	0
MML Equity Rotation Fund	EQUITY	VIACOMCBS INC CLASS B	255018.4		5642	0.525502	0
MML Equity Rotation Fund	EQUITY	STEEL DYNAMICS INC	251690.8		4223	0.518645	0
MML Equity Rotation Fund	EQUITY	WHIRLPOOL CORP	249850.92		1146	0.514853	0
MML Equity Rotation Fund	EQUITY	LITHIA MOTORS INC	248795.36		724	0.512678	0
MML Equity Rotation Fund	EQUITY	DXC TECHNOLOGY CO	247191.12		6348	0.509372	0
MML Equity Rotation Fund	EQUITY	MOHAWK INDUSTRIES INC	244850.06		1274	0.504548	0
MML Equity Rotation Fund	EQUITY	CARRIER GLOBAL CORP	243486		5010	0.501737	0
MML Equity Rotation Fund	EQUITY	ON SEMICONDUCTOR CORP	239709.36		6262	0.493955	0
MML Equity Rotation Fund	EQUITY	INTERNATIONAL PAPER CO	237453.63		3873	0.489307	0
MML Equity Rotation Fund	EQUITY	BUNGE LTD	235856.7		3018	0.486016	0
MML Equity Rotation Fund	EQUITY	JONES LANG LASALLE INC	225951.76		1156	0.465606	0
MML Equity Rotation Fund	EQUITY	LKQ CORP	225919.8		4590	0.46554	0
MML Equity Rotation Fund	EQUITY	CBRE GROUP INC A	215868.14		2518	0.444827	0
MML Equity Rotation Fund	EQUITY	KOHL'S CORP	215865.87		3917	0.444822	0
MML Equity Rotation Fund	EQUITY	CELANESE CORP	214817.2		1417	0.442661	0
MML Equity Rotation Fund	EQUITY	GARTNER INC	213136		880	0.439197	0
MML Equity Rotation Fund	EQUITY	AMERICAN FINANCIAL GROUP INC	211649.84		1697	0.436135	0
MML Equity Rotation Fund	EQUITY	HCA HEALTHCARE INC	211495.02		1023	0.435816	0
MML Equity Rotation Fund	EQUITY	WILLIAMS SONOMA INC	209939.75		1315	0.432611	0
MML Equity Rotation Fund	EQUITY	ARROW ELECTRONICS INC	209105.71		1837	0.430892	0
MML Equity Rotation Fund	EQUITY	TEXTRON INC	208029.25		3025	0.428674	0
MML Equity Rotation Fund	EQUITY	AGCO CORP	203523.18		1561	0.419388	0
MML Equity Rotation Fund	EQUITY	RAYMOND JAMES FINANCIAL INC	202124.4		1556	0.416506	0
MML Equity Rotation Fund	EQUITY	JABIL INC	198770.4		3420	0.409595	0
MML Equity Rotation Fund	EQUITY	IAC/INTERACTIVECORP	198416.79		1287	0.408866	0
MML Equity Rotation Fund	EQUITY	PRUDENTIAL FINANCIAL INC	198074.51		1933	0.408161	0
MML Equity Rotation Fund	EQUITY	FEDEX CORP	197792.79		663	0.40758	0
MML Equity Rotation Fund	EQUITY	US FOODS HOLDING CORP	190764.28		4973	0.393097	0
MML Equity Rotation Fund	EQUITY	BUILDERS FIRSTSOURCE INC	190690.2		4470	0.392944	0
MML Equity Rotation Fund	EQUITY	JEFFERIES FINANCIAL GROUP IN	187176.6		5473	0.385704	0
MML Equity Rotation Fund	EQUITY	CINCINNATI FINANCIAL CORP	186592		1600	0.384499	0
MML Equity Rotation Fund	EQUITY	DARLING INGREDIENTS INC	185895		2754	0.383063	0
MML Equity Rotation Fund	EQUITY	REGIONS FINANCIAL CORP	180974.24		8968	0.372923	0
MML Equity Rotation Fund	EQUITY	AMERIPRISE FINANCIAL INC	177451.44		713	0.365664	0
MML Equity Rotation Fund	EQUITY	INVESCO LTD	176605.11		6607	0.36392	0
MML Equity Rotation Fund	EQUITY	SVB FINANCIAL GROUP	172493.3		310	0.355447	0
MML Equity Rotation Fund	EQUITY	ALCOA CORP	172116.48		4672	0.35467	0
MML Equity Rotation Fund	EQUITY	GENERAC HOLDINGS INC	171456.95		413	0.353311	0
MML Equity Rotation Fund	EQUITY	SLM CORP	166787.1		7965	0.343689	0
MML Equity Rotation Fund	EQUITY	STIFEL FINANCIAL CORP	165522.72		2552	0.341083	0
MML Equity Rotation Fund	EQUITY	SIGNATURE BANK	164094.2		668	0.338139	0
MML Equity Rotation Fund	EQUITY	CAPRI HOLDINGS LTD	163105.88		2852	0.336103	0
MML Equity Rotation Fund	EQUITY	LINCOLN NATIONAL CORP	160367.68		2552	0.33046	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	METLIFE INC	159320.7	2662	0.328303	0	
MML Equity Rotation Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	158705.17	2561	0.327035	0	
MML Equity Rotation Fund	EQUITY	JOHNSON CONTROLS INTERNATION	158466.67	2309	0.326543	0	
MML Equity Rotation Fund	EQUITY	DICK S SPORTING GOODS INC	157598.87	1573	0.324755	0	
MML Equity Rotation Fund	EQUITY	POPULAR INC	156854.5	2090	0.323221	0	
MML Equity Rotation Fund	EQUITY	TEMPUR SEALY INTERNATIONAL I	156407.29	3991	0.322299	0	
MML Equity Rotation Fund	EQUITY	HARLEY DAVIDSON INC	156062.92	3406	0.32159	0	
MML Equity Rotation Fund	EQUITY	AFFILIATED MANAGERS GROUP	155289.47	1007	0.319996	0	
MML Equity Rotation Fund	EQUITY	LOUISIANA PACIFIC CORP	155126.17	2573	0.31966	0	
MML Equity Rotation Fund	EQUITY	TOLL BROTHERS INC	154641.75	2675	0.318661	0	
MML Equity Rotation Fund	EQUITY	PINTEREST INC CLASS A	154426.2	1956	0.318217	0	
MML Equity Rotation Fund	EQUITY	COMERICA INC	153666.36	2154	0.316651	0	
MML Equity Rotation Fund	EQUITY	WESTERN ALLIANCE BANCORP	153202.5	1650	0.315696	0	
MML Equity Rotation Fund	EQUITY	TARGET CORP	152537.94	631	0.314326	0	
MML Equity Rotation Fund	EQUITY	SEALED AIR CORP	151976.25	2565	0.313169	0	
MML Equity Rotation Fund	EQUITY	EASTMAN CHEMICAL CO	151541.5	1298	0.312273	0	
MML Equity Rotation Fund	EQUITY	TRANE TECHNOLOGIES PLC	150994.8	820	0.311146	0	
MML Equity Rotation Fund	EQUITY	TARGA RESOURCES CORP	150285.45	3381	0.309685	0	
MML Equity Rotation Fund	EQUITY	ARCHER DANIELS MIDLAND CO	149015.4	2459	0.307067	0	
MML Equity Rotation Fund	EQUITY	MASTEC INC	148964.4	1404	0.306962	0	
MML Equity Rotation Fund	EQUITY	CROWN HOLDINGS INC	148408.92	1452	0.305818	0	
MML Equity Rotation Fund	EQUITY	MIDDLEBY CORP	147964.04	854	0.304901	0	
MML Equity Rotation Fund	EQUITY	ENTEGRIS INC	147809.94	1202	0.304583	0	
MML Equity Rotation Fund	EQUITY	ATHENE HOLDING LTD CLASS A	147217.5	2181	0.303363	0	
MML Equity Rotation Fund	EQUITY	SNAP ON INC	146346.65	655	0.301568	0	
MML Equity Rotation Fund	EQUITY	EAGLE MATERIALS INC	146231.19	1029	0.30133	0	
MML Equity Rotation Fund	EQUITY	NCR CORPORATION	145404.68	3188	0.299627	0	
MML Equity Rotation Fund	EQUITY	UNUM GROUP	144811.6	5099	0.298405	0	
MML Equity Rotation Fund	EQUITY	LABORATORY CRP OF AMER HLDGS	144269.55	523	0.297288	0	
MML Equity Rotation Fund	EQUITY	NUANCE COMMUNICATIONS INC	143884.92	2643	0.296495	0	
MML Equity Rotation Fund	EQUITY	EPAM SYSTEMS INC	143579.76	281	0.295866	0	
MML Equity Rotation Fund	EQUITY	CHEMOURS CO/THE	143271.6	4117	0.295231	0	
MML Equity Rotation Fund	EQUITY	EAST WEST BANCORP INC	143164.93	1997	0.295012	0	
MML Equity Rotation Fund	EQUITY	XPO LOGISTICS INC	142687.8	1020	0.294028	0	
MML Equity Rotation Fund	EQUITY	ACQUIRY BRANDS INC	142142.8	760	0.292905	0	
MML Equity Rotation Fund	EQUITY	WESTERN DIGITAL CORP	141557.13	1989	0.291699	0	
MML Equity Rotation Fund	EQUITY	EVERCORE INC A	140910.77	1001	0.290367	0	
MML Equity Rotation Fund	EQUITY	DOW INC	140798	2225	0.290134	0	
MML Equity Rotation Fund	EQUITY	DARDEN RESTAURANTS INC	140442.38	962	0.289401	0	
MML Equity Rotation Fund	EQUITY	FIFTH THIRD BANCORP	139424.81	3647	0.287305	0	
MML Equity Rotation Fund	EQUITY	FOOT LOCKER INC	138359.35	2245	0.285109	0	
MML Equity Rotation Fund	EQUITY	KEYCORP	137983.3	6682	0.284334	0	
MML Equity Rotation Fund	EQUITY	AVERY DENNISON CORP	136866.24	651	0.282032	0	
MML Equity Rotation Fund	EQUITY	MANPOWERGROUP INC	136508.68	1148	0.281296	0	
MML Equity Rotation Fund	EQUITY	HUBSPOT INC	136356.48	234	0.280982	0	
MML Equity Rotation Fund	EQUITY	TERADATA CORP	136068.31	2723	0.280388	0	
MML Equity Rotation Fund	EQUITY	LEAR CORP	135842	775	0.279922	0	
MML Equity Rotation Fund	EQUITY	APTIV PLC	135775.79	863	0.279785	0	
MML Equity Rotation Fund	EQUITY	OWENS CORNING	135689.4	1386	0.279607	0	
MML Equity Rotation Fund	EQUITY	CITIZENS FINANCIAL GROUP	135545.85	2955	0.279311	0	
MML Equity Rotation Fund	EQUITY	NIELSEN HOLDINGS PLC	135314.95	5485	0.278836	0	
MML Equity Rotation Fund	EQUITY	QORVO INC	133237.65	681	0.274555	0	
MML Equity Rotation Fund	EQUITY	ONEMAIN HOLDINGS INC	132700.65	2215	0.273449	0	
MML Equity Rotation Fund	EQUITY	PULTEGROUP INC	132605.1	2430	0.273252	0	
MML Equity Rotation Fund	EQUITY	RELIANCE STEEL + ALUMINUM	132188.4	876	0.272393	0	
MML Equity Rotation Fund	EQUITY	SIMON PROPERTY GROUP INC	131132.4	1005	0.270217	0	
MML Equity Rotation Fund	EQUITY	ALLIANCE DATA SYSTEMS CORP	131071.02	1258	0.27009	0	
MML Equity Rotation Fund	EQUITY	RH	130368	192	0.268642	0	
MML Equity Rotation Fund	EQUITY	KANSAS CITY SOUTHERN	130350.2	460	0.268605	0	
MML Equity Rotation Fund	EQUITY	LPL FINANCIAL HOLDINGS INC	130120.72	964	0.268132	0	
MML Equity Rotation Fund	EQUITY	PRINCIPAL FINANCIAL GROUP	128528.46	2034	0.264851	0	
MML Equity Rotation Fund	EQUITY	NEXSTAR MEDIA GROUP INC CL A	128359.84	868	0.264504	0	
MML Equity Rotation Fund	EQUITY	ALIGN TECHNOLOGY INC	128310	210	0.264401	0	
MML Equity Rotation Fund	EQUITY	SYNNEX CORP	126873.92	1042	0.261442	0	
MML Equity Rotation Fund	EQUITY	ONEOK INC	126080.24	2266	0.259806	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	LENNAR CORP A	125677.75	1265	0.258977	0	
MML Equity Rotation Fund	EQUITY	CF INDUSTRIES HOLDINGS INC	125435.1	2438	0.258477	0	
MML Equity Rotation Fund	EQUITY	UNIVERSAL HEALTH SERVICES B	125344.08	856	0.258289	0	
MML Equity Rotation Fund	EQUITY	MATTEL INC	125062.2	6222	0.257708	0	
MML Equity Rotation Fund	EQUITY	VALMONT INDUSTRIES	124398.35	527	0.25634	0	
MML Equity Rotation Fund	EQUITY	APPLIED MATERIALS INC	124030.4	871	0.255582	0	
MML Equity Rotation Fund	EQUITY	OMNICO GROUP	123424.57	1543	0.254334	0	
MML Equity Rotation Fund	EQUITY	OSHKOSH CORP	123393.6	990	0.25427	0	
MML Equity Rotation Fund	EQUITY	ALBEMARLE CORP	122975.8	730	0.253409	0	
MML Equity Rotation Fund	EQUITY	CDW CORP/DE	122778.95	703	0.253003	0	
MML Equity Rotation Fund	EQUITY	CORNING INC	122291	2990	0.251998	0	
MML Equity Rotation Fund	EQUITY	QURATE RETAIL INC SERIES A	121710.82	9298	0.250802	0	
MML Equity Rotation Fund	EQUITY	HOWMET AEROSPACE INC	121368.87	3521	0.250098	0	
MML Equity Rotation Fund	EQUITY	CLOUDFLARE INC CLASS A	120445.92	1138	0.248196	0	
MML Equity Rotation Fund	EQUITY	AUTONATION INC	120408.7	1270	0.248119	0	
MML Equity Rotation Fund	EQUITY	LYONDELBASELL INDU CL A	120049.29	1167	0.247379	0	
MML Equity Rotation Fund	EQUITY	CHANGE HEALTHCARE INC	118448.64	5141	0.24408	0	
MML Equity Rotation Fund	EQUITY	LAM RESEARCH CORP	118427.4	182	0.244036	0	
MML Equity Rotation Fund	EQUITY	FREPORT MCMORAN INC	117972.69	3179	0.243099	0	
MML Equity Rotation Fund	EQUITY	DEERE + CO	116394.3	330	0.239847	0	
MML Equity Rotation Fund	EQUITY	ENPHASE ENERGY INC	115870.53	631	0.238768	0	
MML Equity Rotation Fund	EQUITY	OLD REPUBLIC INTL CORP	115706.95	4645	0.238431	0	
MML Equity Rotation Fund	EQUITY	NEWELL BRANDS INC	115483.88	4204	0.237971	0	
MML Equity Rotation Fund	EQUITY	ZEBRA TECHNOLOGIES CORP CL A	115428.82	218	0.237857	0	
MML Equity Rotation Fund	EQUITY	PARKER HANNIFIN CORP	114552.03	373	0.236051	0	
MML Equity Rotation Fund	EQUITY	AFLAC INC	114188.48	2128	0.235302	0	
MML Equity Rotation Fund	EQUITY	DR HORTON INC	112962.5	1250	0.232775	0	
MML Equity Rotation Fund	EQUITY	ADVANCED DRAINAGE SYSTEMS INC	112373.48	964	0.231562	0	
MML Equity Rotation Fund	EQUITY	KLA CORP	111852.45	345	0.230488	0	
MML Equity Rotation Fund	EQUITY	FORTUNE BRANDS HOME + SECURI	111762.42	1122	0.230302	0	
MML Equity Rotation Fund	EQUITY	FIRST HORIZON CORP	110695.68	6406	0.228104	0	
MML Equity Rotation Fund	EQUITY	STARWOOD PROPERTY TRUST INC	110463.57	4221	0.227626	0	
MML Equity Rotation Fund	EQUITY	ROBERT HALF INTL INC	110233.83	1239	0.227152	0	
MML Equity Rotation Fund	EQUITY	TIMKEN CO	109521.81	1359	0.225685	0	
MML Equity Rotation Fund	EQUITY	AVANTOR INC	105713.27	2977	0.217837	0	
MML Equity Rotation Fund	EQUITY	IRON MOUNTAIN INC	105080.56	2483	0.216533	0	
MML Equity Rotation Fund	EQUITY	PENTAIR PLC	104744.48	1552	0.215841	0	
MML Equity Rotation Fund	EQUITY	YETI HOLDINGS INC	104674.8	1140	0.215697	0	
MML Equity Rotation Fund	EQUITY	AECOM	104667.96	1653	0.215683	0	
MML Equity Rotation Fund	EQUITY	BERRY GLOBAL GROUP INC	104417.22	1601	0.215167	0	
MML Equity Rotation Fund	EQUITY	PPG INDUSTRIES INC	104408.55	615	0.215149	0	
MML Equity Rotation Fund	EQUITY	JACOBS ENGINEERING GROUP INC	103934.18	779	0.214171	0	
MML Equity Rotation Fund	EQUITY	PINNACLE FINANCIAL PARTNERS	103917.33	1177	0.214136	0	
MML Equity Rotation Fund	EQUITY	CORTEVA INC	103823.35	2341	0.213943	0	
MML Equity Rotation Fund	EQUITY	EXPEDITORS INTL WASH INC	103432.2	817	0.213137	0	
MML Equity Rotation Fund	EQUITY	CHARLES RIVER LABORATORIES	101728	275	0.209625	0	
MML Equity Rotation Fund	EQUITY	BRUNSWICK CORP	101213.92	1016	0.208566	0	
MML Equity Rotation Fund	EQUITY	MAXIM INTEGRATED PRODUCTS	101040.24	959	0.208208	0	
MML Equity Rotation Fund	EQUITY	CROWDSTRIKE HOLDINGS INC A	99518.76	396	0.205073	0	
MML Equity Rotation Fund	EQUITY	AVNET INC	99438.48	2481	0.204907	0	
MML Equity Rotation Fund	EQUITY	STERLING BANCORP/DE	99234.37	4003	0.204487	0	
MML Equity Rotation Fund	EQUITY	MARTIN MARIETTA MATERIALS	98506.8	280	0.202987	0	
MML Equity Rotation Fund	EQUITY	ROKU INC	98279.5	214	0.202519	0	
MML Equity Rotation Fund	EQUITY	NXP SEMICONDUCTORS NV	98128.44	477	0.202208	0	
MML Equity Rotation Fund	EQUITY	DECKERS OUTDOOR CORP	97937.85	255	0.201815	0	
MML Equity Rotation Fund	EQUITY	BROOKS AUTOMATION INC	97376.16	1022	0.200657	0	
MML Equity Rotation Fund	EQUITY	RYDER SYSTEM INC	97074.98	1306	0.200037	0	
MML Equity Rotation Fund	EQUITY	AMERCO	94304	160	0.194327	0	
MML Equity Rotation Fund	EQUITY	MICRON TECHNOLOGY INC	94157.84	1108	0.194026	0	
MML Equity Rotation Fund	EQUITY	XYLEM INC	93808.72	782	0.193306	0	
MML Equity Rotation Fund	EQUITY	GAP INC/THE	93748.9	2786	0.193183	0	
MML Equity Rotation Fund	EQUITY	HANESBRANDS INC	92677.88	4964	0.190976	0	
MML Equity Rotation Fund	EQUITY	ENVISTA HOLDINGS CORP	92037.3	2130	0.189656	0	
MML Equity Rotation Fund	EQUITY	TRIMBLE INC	91976.92	1124	0.189532	0	
MML Equity Rotation Fund	EQUITY	LUMEN TECHNOLOGIES INC	91433.52	6728	0.188412	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	JANUS HENDERSON GROUP PLC	91281.12		2352	0.188098	0
MML Equity Rotation Fund	EQUITY	GENERAL ELECTRIC CO	90868.46		6751	0.187247	0
MML Equity Rotation Fund	EQUITY	SYNOVUS FINANCIAL CORP	89910.12		2049	0.185273	0
MML Equity Rotation Fund	EQUITY	CHENIERE ENERGY INC	89775.9		1035	0.184996	0
MML Equity Rotation Fund	EQUITY	SPECTRUM BRANDS HOLDINGS INC	89121.92		1048	0.183648	0
MML Equity Rotation Fund	EQUITY	MDU RESOURCES GROUP INC	88817.56		2834	0.183021	0
MML Equity Rotation Fund	EQUITY	GENUINE PARTS CO	88781.94		702	0.182948	0
MML Equity Rotation Fund	EQUITY	HORIZON THERAPEUTICS PLC	88021.6		940	0.181381	0
MML Equity Rotation Fund	EQUITY	PNC FINANCIAL SERVICES GROUP	86986.56		456	0.179248	0
MML Equity Rotation Fund	EQUITY	ASSURED GUARANTY LTD	86413.6		1820	0.178067	0
MML Equity Rotation Fund	EQUITY	STANLEY BLACK + DECKER INC	86095.8		420	0.177413	0
MML Equity Rotation Fund	EQUITY	ETSY INC	86041.12		418	0.1773	0
MML Equity Rotation Fund	EQUITY	COMMSCOPE HOLDING CO INC	85133.45		3995	0.17543	0
MML Equity Rotation Fund	EQUITY	KIMCO REALTY CORP	85026.3		4078	0.175209	0
MML Equity Rotation Fund	EQUITY	MARATHON PETROLEUM CORP	84346.32		1396	0.173808	0
MML Equity Rotation Fund	EQUITY	BEST BUY CO INC	84280.34		733	0.173672	0
MML Equity Rotation Fund	EQUITY	MGIC INVESTMENT CORP	84048		6180	0.173193	0
MML Equity Rotation Fund	EQUITY	SYSCO CORP	83736.75		1077	0.172551	0
MML Equity Rotation Fund	EQUITY	NOVOCURE LTD	83404.32		376	0.171866	0
MML Equity Rotation Fund	EQUITY	GAMESTOP CORP CLASS A	82872.18		387	0.17077	0
MML Equity Rotation Fund	EQUITY	FIRST CITIZENS BCSHS CL A	82441.26		99	0.169882	0
MML Equity Rotation Fund	EQUITY	TERADYNE INC	81715.6		610	0.168387	0
MML Equity Rotation Fund	EQUITY	WEBSTER FINANCIAL CORP	81503.52		1528	0.16795	0
MML Equity Rotation Fund	EQUITY	TAPESTRY INC	81003.24		1863	0.166919	0
MML Equity Rotation Fund	EQUITY	IQVIA HOLDINGS INC	80207.92		331	0.16528	0
MML Equity Rotation Fund	EQUITY	CARLISLE COS INC	79996.84		418	0.164845	0
MML Equity Rotation Fund	EQUITY	UNITED STATES STEEL CORP	79872		3328	0.164588	0
MML Equity Rotation Fund	EQUITY	PVH CORP	78971.06		734	0.162731	0
MML Equity Rotation Fund	EQUITY	WEYERHAEUSER CO	78959.48		2294	0.162707	0
MML Equity Rotation Fund	EQUITY	EATON CORP PLC	78831.76		532	0.162444	0
MML Equity Rotation Fund	EQUITY	FIDELITY NATIONAL FINANCIAL	77967.24		1794	0.160663	0
MML Equity Rotation Fund	EQUITY	BANK OZK	77911.68		1848	0.160548	0
MML Equity Rotation Fund	EQUITY	CUMMINS INC	77531.58		318	0.159765	0
MML Equity Rotation Fund	EQUITY	CLEVELAND CLIFFS INC	77400.4		3590	0.159495	0
MML Equity Rotation Fund	EQUITY	TORO CO	77135.76		702	0.158949	0
MML Equity Rotation Fund	EQUITY	ELEMENT SOLUTIONS INC	76896.82		3289	0.158457	0
MML Equity Rotation Fund	EQUITY	DOVER CORP	76354.2		507	0.157339	0
MML Equity Rotation Fund	EQUITY	CONCENTRIX CORP	75576		470	0.155735	0
MML Equity Rotation Fund	EQUITY	VERTIV HOLDINGS CO	74610.9		2733	0.153746	0
MML Equity Rotation Fund	EQUITY	LEGGETT + PLATT INC	73725.63		1423	0.151922	0
MML Equity Rotation Fund	EQUITY	TEXAS PACIFIC LAND CORP	73588.04		46	0.151639	0
MML Equity Rotation Fund	EQUITY	SAGE THERAPEUTICS INC	73000.85		1285	0.150429	0
MML Equity Rotation Fund	EQUITY	XEROX HOLDINGS CORP	72208.26		3074	0.148795	0
MML Equity Rotation Fund	EQUITY	ASSURANT INC	71998.98		461	0.148364	0
MML Equity Rotation Fund	EQUITY	ZIONS BANCORP NA	71466.72		1352	0.147267	0
MML Equity Rotation Fund	EQUITY	ORGANON + CO	70808.4		2340	0.145911	0
MML Equity Rotation Fund	EQUITY	BORGWARNER INC	70577.16		1454	0.145434	0
MML Equity Rotation Fund	EQUITY	PELTON INTERACTIVE INC A	70195.32		566	0.144647	0
MML Equity Rotation Fund	EQUITY	REGAL BELOIT CORP	70092.75		525	0.144436	0
MML Equity Rotation Fund	EQUITY	WATSCO INC	69940.16		244	0.144122	0
MML Equity Rotation Fund	EQUITY	LOEWS CORP	68859		1260	0.141894	0
MML Equity Rotation Fund	CASH	US DOLLAR	68846.23	68846.23		0.141867	0
MML Equity Rotation Fund	EQUITY	MOLINA HEALTHCARE INC	68579.26		271	0.141317	0
MML Equity Rotation Fund	EQUITY	WATERS CORP	68085.17		197	0.140299	0
MML Equity Rotation Fund	EQUITY	FLOOR + DECOR HOLDINGS INC A	67859.4		642	0.139834	0
MML Equity Rotation Fund	EQUITY	UNITED PARCEL SERVICE CL B	67798.22		326	0.139708	0
MML Equity Rotation Fund	EQUITY	DAVITA INC	67440.8		560	0.138971	0
MML Equity Rotation Fund	EQUITY	HUNTSMAN CORP	67228.2		2535	0.138533	0
MML Equity Rotation Fund	EQUITY	VENTAS INC	67206.7		1177	0.138489	0
MML Equity Rotation Fund	EQUITY	EQT CORP	67047.12		3012	0.13816	0
MML Equity Rotation Fund	EQUITY	ANTERO MIDSTREAM CORP	66631.07		6413	0.137303	0
MML Equity Rotation Fund	EQUITY	VALVOLINE INC	66575.46		2051	0.137188	0
MML Equity Rotation Fund	EQUITY	MODERNA INC	66499.34		283	0.137031	0
MML Equity Rotation Fund	EQUITY	PACKAGING CORP OF AMERICA	66491.22		491	0.137015	0
MML Equity Rotation Fund	EQUITY	INTERACTIVE BROKERS GRO CL A	66453.03		1011	0.136936	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	PEOPLE S UNITED FINANCIAL	65714.76	3834	0.135415	0	
MML Equity Rotation Fund	EQUITY	PTC INC	65685.9	465	0.135355	0	
MML Equity Rotation Fund	EQUITY	UNITED THERAPEUTICS CORP	65125.83	363	0.134201	0	
MML Equity Rotation Fund	EQUITY	EOG RESOURCES INC	63581.28	762	0.131018	0	
MML Equity Rotation Fund	EQUITY	CATERPILLAR INC	63330.33	291	0.130501	0	
MML Equity Rotation Fund	EQUITY	MKS INSTRUMENTS INC	62994.3	354	0.129809	0	
MML Equity Rotation Fund	EQUITY	CRANE CO	62719.23	679	0.129242	0	
MML Equity Rotation Fund	EQUITY	ALLSTATE CORP	62611.2	480	0.129019	0	
MML Equity Rotation Fund	EQUITY	NORFOLK SOUTHERN CORP	61840.53	233	0.127431	0	
MML Equity Rotation Fund	EQUITY	ALTICE USA INC A	61622.7	1805	0.126982	0	
MML Equity Rotation Fund	EQUITY	BRIXMOR PROPERTY GROUP INC	61368.09	2681	0.126458	0	
MML Equity Rotation Fund	EQUITY	BOSTON BEER COMPANY INC A	61248	60	0.12621	0	
MML Equity Rotation Fund	EQUITY	REINSURANCE GROUP OF AMERICA	61218	537	0.126148	0	
MML Equity Rotation Fund	EQUITY	ANTHEM INC	61088	160	0.125881	0	
MML Equity Rotation Fund	EQUITY	EMERSON ELECTRIC CO	61016.16	634	0.125732	0	
MML Equity Rotation Fund	EQUITY	INGERSOLL RAND INC	60524.4	1240	0.124719	0	
MML Equity Rotation Fund	EQUITY	FIRST REPUBLIC BANK/CA	60455.91	323	0.124578	0	
MML Equity Rotation Fund	EQUITY	WW GRAINGER INC	60444	138	0.124553	0	
MML Equity Rotation Fund	EQUITY	JAZZ PHARMACEUTICALS PLC	60397.6	340	0.124458	0	
MML Equity Rotation Fund	EQUITY	PENSKE AUTOMOTIVE GROUP INC	60090.04	796	0.123824	0	
MML Equity Rotation Fund	EQUITY	TRAVEL LEISURE CO	59628.35	1003	0.122873	0	
MML Equity Rotation Fund	EQUITY	BOYD GAMING CORP	59460.83	967	0.122527	0	
MML Equity Rotation Fund	EQUITY	TRACTOR SUPPLY COMPANY	58981.02	317	0.121539	0	
MML Equity Rotation Fund	EQUITY	NEWS CORP CLASS A	58626.75	2275	0.120809	0	
MML Equity Rotation Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	58178.4	840	0.119885	0	
MML Equity Rotation Fund	EQUITY	TRUIST FINANCIAL CORP	58053	1046	0.119626	0	
MML Equity Rotation Fund	EQUITY	PENN NATIONAL GAMING INC	57902.93	757	0.119317	0	
MML Equity Rotation Fund	EQUITY	ITT INC	57152.16	624	0.11777	0	
MML Equity Rotation Fund	EQUITY	ARAMARK	56806.25	1525	0.117057	0	
MML Equity Rotation Fund	EQUITY	HUNTINGTON BANCSHARES INC	56694.71	3973	0.116828	0	
MML Equity Rotation Fund	EQUITY	POOL CORP	56415.18	123	0.116251	0	
MML Equity Rotation Fund	EQUITY	SCOTTS MIRACLE GRO CO	56040.64	292	0.11548	0	
MML Equity Rotation Fund	EQUITY	HALLIBURTON CO	55719.2	2410	0.114817	0	
MML Equity Rotation Fund	EQUITY	MARATHON OIL CORP	55637.7	4085	0.114649	0	
MML Equity Rotation Fund	EQUITY	VAIL RESORTS INC	55391	175	0.114141	0	
MML Equity Rotation Fund	EQUITY	CARVANA CO	55233.06	183	0.113816	0	
MML Equity Rotation Fund	EQUITY	FNB CORP	55139.76	4472	0.113623	0	
MML Equity Rotation Fund	EQUITY	FORTINET INC	54783.7	230	0.11289	0	
MML Equity Rotation Fund	EQUITY	SYNEOS HEALTH INC	54678.39	611	0.112673	0	
MML Equity Rotation Fund	EQUITY	PIONEER NATURAL RESOURCES CO	54606.72	336	0.112525	0	
MML Equity Rotation Fund	EQUITY	TOPBUILD CORP	54389.5	275	0.112077	0	
MML Equity Rotation Fund	EQUITY	EXTRA SPACE STORAGE INC	54388.24	332	0.112075	0	
MML Equity Rotation Fund	EQUITY	PALO ALTO NETWORKS INC	54173.3	146	0.111632	0	
MML Equity Rotation Fund	EQUITY	DTE ENERGY COMPANY	54043.2	417	0.111364	0	
MML Equity Rotation Fund	EQUITY	LAZARD LTD CL A	53666.5	1186	0.110587	0	
MML Equity Rotation Fund	EQUITY	HUBBELL INC	53249.4	285	0.109728	0	
MML Equity Rotation Fund	EQUITY	NORTHERN TRUST CORP	53185.2	460	0.109596	0	
MML Equity Rotation Fund	EQUITY	SQUARE INC A	53148.4	218	0.10952	0	
MML Equity Rotation Fund	EQUITY	TRAVELERS COS INC/THE	53147.05	355	0.109517	0	
MML Equity Rotation Fund	EQUITY	ARTHUR J GALLAGHER + CO	52810.16	377	0.108823	0	
MML Equity Rotation Fund	EQUITY	MORGAN STANLEY	51713.16	564	0.106562	0	
MML Equity Rotation Fund	EQUITY	VULCAN MATERIALS CO	51524.72	296	0.106174	0	
MML Equity Rotation Fund	EQUITY	UNIVAR SOLUTIONS INC	51295.52	2104	0.105702	0	
MML Equity Rotation Fund	EQUITY	METTLER TOLEDO INTERNATIONAL	51257.58	37	0.105624	0	
MML Equity Rotation Fund	EQUITY	SL GREEN REALTY CORP	50960	637	0.10501	0	
MML Equity Rotation Fund	EQUITY	PERKINELMER INC	50955.3	330	0.105001	0	
MML Equity Rotation Fund	EQUITY	T ROWE PRICE GROUP INC	50680.32	256	0.104434	0	
MML Equity Rotation Fund	EQUITY	TWITTER INC	50644.16	736	0.104359	0	
MML Equity Rotation Fund	EQUITY	IDEXX LABORATORIES INC	50524	80	0.104112	0	
MML Equity Rotation Fund	EQUITY	M + T BANK CORP	50422.57	347	0.103903	0	
MML Equity Rotation Fund	EQUITY	SANTANDER CONSUMER USA HOLDI	50339.52	1386	0.103732	0	
MML Equity Rotation Fund	EQUITY	UGI CORP	50246.35	1085	0.10354	0	
MML Equity Rotation Fund	EQUITY	VONTIER CORP	50238.36	1542	0.103523	0	
MML Equity Rotation Fund	EQUITY	LENNOX INTERNATIONAL INC	50164.4	143	0.103371	0	
MML Equity Rotation Fund	EQUITY	FIVE BELOW	50056.93	259	0.103149	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	DUPONT DE NEMOURS INC	50006.86	50006.86	646	0.103046	0
MML Equity Rotation Fund	EQUITY	WILLIAMS COS INC	49409.55	49409.55	1861	0.101815	0
MML Equity Rotation Fund	EQUITY	ALLEGHANY CORP	49363.18	49363.18	74	0.10172	0
MML Equity Rotation Fund	EQUITY	AIR LEASE CORP	49002.76	49002.76	1174	0.100977	0
MML Equity Rotation Fund	EQUITY	MATCH GROUP INC	48858.75	48858.75	303	0.10068	0
MML Equity Rotation Fund	EQUITY	FIVE9 INC	48414.96	48414.96	264	0.099766	0
MML Equity Rotation Fund	EQUITY	NVENT ELECTRIC PLC	48265.8	48265.8	1545	0.099459	0
MML Equity Rotation Fund	EQUITY	SENSATA TECHNOLOGIES HOLDING	47767.28	47767.28	824	0.098431	0
MML Equity Rotation Fund	EQUITY	ALEXION PHARMACEUTICALS INC	47397.18	47397.18	258	0.097669	0
MML Equity Rotation Fund	EQUITY	EQUITABLE HOLDINGS INC	46588.5	46588.5	1530	0.096002	0
MML Equity Rotation Fund	EQUITY	SMITH (A.O.) CORP	46118.4	46118.4	640	0.095034	0
MML Equity Rotation Fund	EQUITY	DISCOVERY INC C	45353.7	45353.7	1565	0.093458	0
MML Equity Rotation Fund	EQUITY	ZENDESK INC	45322.76	45322.76	314	0.093394	0
MML Equity Rotation Fund	EQUITY	MICROCHIP TECHNOLOGY INC	45071.74	45071.74	301	0.092877	0
MML Equity Rotation Fund	EQUITY	AMPHENOL CORP CL A	45013.78	45013.78	658	0.092757	0
MML Equity Rotation Fund	EQUITY	HUNT (JB) TRANSPRT SVCS INC	44322.4	44322.4	272	0.091333	0
MML Equity Rotation Fund	EQUITY	CIMAREX ENERGY CO	44194.5	44194.5	610	0.091069	0
MML Equity Rotation Fund	EQUITY	AMETEK INC	44188.5	44188.5	331	0.091057	0
MML Equity Rotation Fund	EQUITY	LINCOLN ELECTRIC HOLDINGS	44122.85	44122.85	335	0.090921	0
MML Equity Rotation Fund	EQUITY	OLIN CORP	43715.7	43715.7	945	0.090082	0
MML Equity Rotation Fund	EQUITY	MARRIOTT VACATIONS WORLD	43648.2	43648.2	274	0.089943	0
MML Equity Rotation Fund	EQUITY	ARCH CAPITAL GROUP LTD	43457.04	43457.04	1116	0.089549	0
MML Equity Rotation Fund	EQUITY	RALPH LAUREN CORP	43118.46	43118.46	366	0.088852	0
MML Equity Rotation Fund	EQUITY	US BANCORP	43069.32	43069.32	756	0.08875	0
MML Equity Rotation Fund	EQUITY	MOTOROLA SOLUTIONS INC	42936.3	42936.3	198	0.088476	0
MML Equity Rotation Fund	EQUITY	CUBESMART	42846	42846	925	0.08829	0
MML Equity Rotation Fund	EQUITY	FLOWSERVE CORP	42497.28	42497.28	1054	0.087572	0
MML Equity Rotation Fund	EQUITY	CVS HEALTH CORP	41970.32	41970.32	503	0.086486	0
MML Equity Rotation Fund	EQUITY	LANDSTAR SYSTEM INC	41875.3	41875.3	265	0.08629	0
MML Equity Rotation Fund	EQUITY	STATE STREET CORP	41798.24	41798.24	508	0.086131	0
MML Equity Rotation Fund	EQUITY	SCHWAB (CHARLES) CORP	41792.94	41792.94	574	0.08612	0
MML Equity Rotation Fund	EQUITY	WAYFAIR INC CLASS A	41673.72	41673.72	132	0.085875	0
MML Equity Rotation Fund	EQUITY	FRANKLIN RESOURCES INC	41523.02	41523.02	1298	0.085564	0
MML Equity Rotation Fund	EQUITY	AGNC INVESTMENT CORP	41279.16	41279.16	2444	0.085062	0
MML Equity Rotation Fund	EQUITY	BIO TECHNE CORP	40973.66	40973.66	91	0.084432	0
MML Equity Rotation Fund	EQUITY	MOLSON COORS BEVERAGE CO B	40911.78	40911.78	762	0.084305	0
MML Equity Rotation Fund	EQUITY	ADVANCE AUTO PARTS INC	40822.86	40822.86	199	0.084121	0
MML Equity Rotation Fund	EQUITY	H+R BLOCK INC	40667.36	40667.36	1732	0.083801	0
MML Equity Rotation Fund	EQUITY	NOVAVAX INC	40551.21	40551.21	191	0.083562	0
MML Equity Rotation Fund	EQUITY	CULLEN/FROST BANKERS INC	40544	40544	362	0.083547	0
MML Equity Rotation Fund	EQUITY	WESTLAKE CHEMICAL CORP	40090.05	40090.05	445	0.082611	0
MML Equity Rotation Fund	EQUITY	VICI PROPERTIES INC	39891.72	39891.72	1286	0.082203	0
MML Equity Rotation Fund	EQUITY	OLD DOMINION FREIGHT LINE	39846.6	39846.6	157	0.08211	0
MML Equity Rotation Fund	EQUITY	GRACO INC	39818.2	39818.2	526	0.082051	0
MML Equity Rotation Fund	EQUITY	NVR INC	39786.4	39786.4	8	0.081986	0
MML Equity Rotation Fund	EQUITY	ACADIA HEALTHCARE CO INC	39783.5	39783.5	634	0.08198	0
MML Equity Rotation Fund	EQUITY	BRIGHTHOUSE FINANCIAL INC	39710.88	39710.88	872	0.08183	0
MML Equity Rotation Fund	EQUITY	FIRST SOLAR INC	39643.38	39643.38	438	0.081691	0
MML Equity Rotation Fund	EQUITY	WOODWARD INC	39444.48	39444.48	321	0.081281	0
MML Equity Rotation Fund	EQUITY	ULTA BEAUTY INC	39417.78	39417.78	114	0.081226	0
MML Equity Rotation Fund	EQUITY	AMDOCS LTD	38989.44	38989.44	504	0.080343	0
MML Equity Rotation Fund	EQUITY	POLARIS INC	38896.64	38896.64	284	0.080152	0
MML Equity Rotation Fund	EQUITY	VOYA FINANCIAL INC	38868	38868	632	0.080093	0
MML Equity Rotation Fund	EQUITY	COLFAX CORP	38801.07	38801.07	847	0.079955	0
MML Equity Rotation Fund	EQUITY	CLEAN HARBORS INC	38746.24	38746.24	416	0.079842	0
MML Equity Rotation Fund	EQUITY	TYSON FOODS INC CL A	38281.44	38281.44	519	0.078884	0
MML Equity Rotation Fund	EQUITY	CASEY S GENERAL STORES INC	38149.44	38149.44	196	0.078612	0
MML Equity Rotation Fund	EQUITY	MONOLITHIC POWER SYSTEMS INC	38091.9	38091.9	102	0.078494	0
MML Equity Rotation Fund	EQUITY	WEINGARTEN REALTY INVESTORS	38002.95	38002.95	1185	0.07831	0
MML Equity Rotation Fund	EQUITY	CIGNA CORP	37931.2	37931.2	160	0.078163	0
MML Equity Rotation Fund	EQUITY	GLOBE LIFE INC	37814.25	37814.25	397	0.077922	0
MML Equity Rotation Fund	EQUITY	SITEONE LANDSCAPE SUPPLY INC	37744.98	37744.98	223	0.077779	0
MML Equity Rotation Fund	EQUITY	BRUKER CORP	37686.08	37686.08	496	0.077658	0
MML Equity Rotation Fund	EQUITY	SKYWORX SOLUTIONS INC	37391.25	37391.25	195	0.07705	0
MML Equity Rotation Fund	EQUITY	BANK OF NEW YORK MELLON CORP	35861	35861	700	0.073897	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	FS NETWORKS INC	35652.06	35652.06	191	0.073466	0
MML Equity Rotation Fund	EQUITY	DENTSPLY SIRONA INC	35362.34	35362.34	559	0.072869	0
MML Equity Rotation Fund	EQUITY	CENTERPOINT ENERGY INC	35333.32	35333.32	1441	0.072809	0
MML Equity Rotation Fund	EQUITY	ESTEE LAUDER COMPANIES CL A	35306.88	35306.88	111	0.072755	0
MML Equity Rotation Fund	EQUITY	TREX COMPANY INC	35262.45	35262.45	345	0.072663	0
MML Equity Rotation Fund	EQUITY	PUBLIC SERVICE ENTERPRISE GP	35246.6	35246.6	590	0.072631	0
MML Equity Rotation Fund	EQUITY	LIFE STORAGE INC	35103.45	35103.45	327	0.072336	0
MML Equity Rotation Fund	EQUITY	BILL.COM HOLDINGS INC	34987.38	34987.38	191	0.072096	0
MML Equity Rotation Fund	EQUITY	BLACKSTONE GROUP INC/THE	34970.4	34970.4	360	0.072061	0
MML Equity Rotation Fund	EQUITY	SHIFT4 PAYMENTS INC CLASS A	34676.4	34676.4	370	0.071456	0
MML Equity Rotation Fund	EQUITY	OTIS WORLDWIDE CORP	34343.4	34343.4	420	0.070769	0
MML Equity Rotation Fund	EQUITY	EBAY INC	34262.48	34262.48	488	0.070603	0
MML Equity Rotation Fund	EQUITY	PROOFPOINT INC	33883.2	33883.2	195	0.069821	0
MML Equity Rotation Fund	EQUITY	SUNRUN INC	33746.9	33746.9	605	0.06954	0
MML Equity Rotation Fund	EQUITY	ZILLOW GROUP INC C	33732.72	33732.72	276	0.069511	0
MML Equity Rotation Fund	EQUITY	DEVON ENERGY CORP	33714.45	33714.45	1155	0.069473	0
MML Equity Rotation Fund	EQUITY	WELLTOWER INC	33572.4	33572.4	404	0.069181	0
MML Equity Rotation Fund	EQUITY	FRESHPET INC	33243.84	33243.84	204	0.068504	0
MML Equity Rotation Fund	EQUITY	WEST PHARMACEUTICAL SERVICES	33037.2	33037.2	92	0.068078	0
MML Equity Rotation Fund	EQUITY	AUTOZONE INC	32828.84	32828.84	22	0.067648	0
MML Equity Rotation Fund	EQUITY	FIRST HAWAIIAN INC	32676.02	32676.02	1153	0.067334	0
MML Equity Rotation Fund	EQUITY	DIAMONDBACK ENERGY INC	32673.72	32673.72	348	0.067329	0
MML Equity Rotation Fund	EQUITY	MCKESSON CORP	32510.8	32510.8	170	0.066993	0
MML Equity Rotation Fund	EQUITY	QUALCOMM INC	32302.18	32302.18	226	0.066563	0
MML Equity Rotation Fund	EQUITY	AGILENT TECHNOLOGIES INC	32222.58	32222.58	218	0.066399	0
MML Equity Rotation Fund	EQUITY	MARKEL CORP	32041.17	32041.17	27	0.066025	0
MML Equity Rotation Fund	EQUITY	DOLBY LABORATORIES INC CL A	31551.09	31551.09	321	0.065016	0
MML Equity Rotation Fund	EQUITY	ARISTA NETWORKS INC	31520.97	31520.97	87	0.064953	0
MML Equity Rotation Fund	EQUITY	GOLDMAN SACHS GROUP INC	31500.99	31500.99	83	0.064912	0
MML Equity Rotation Fund	EQUITY	MANHATTAN ASSOCIATES INC	31430.28	31430.28	217	0.064767	0
MML Equity Rotation Fund	EQUITY	PLUG POWER INC	31112.9	31112.9	910	0.064113	0
MML Equity Rotation Fund	EQUITY	WALGREENS BOOTS ALLIANCE INC	31092.51	31092.51	591	0.064071	0
MML Equity Rotation Fund	EQUITY	BIO RAD LABORATORIES A	30925.92	30925.92	48	0.063727	0
MML Equity Rotation Fund	EQUITY	BURLINGTON STORES INC	30911.04	30911.04	96	0.063697	0
MML Equity Rotation Fund	EQUITY	LITTELFUSE INC	30829.59	30829.59	121	0.063529	0
MML Equity Rotation Fund	EQUITY	CSX CORP	30796.8	30796.8	960	0.063461	0
MML Equity Rotation Fund	EQUITY	COPART INC	30716.39	30716.39	233	0.063295	0
MML Equity Rotation Fund	EQUITY	CARMAX INC	30608.55	30608.55	237	0.063073	0
MML Equity Rotation Fund	EQUITY	IHS MARKIT LTD	30418.2	30418.2	270	0.062681	0
MML Equity Rotation Fund	EQUITY	SKECHERS USA INC CL A	30147.15	30147.15	605	0.062122	0
MML Equity Rotation Fund	EQUITY	LOWE S COS INC	30065.35	30065.35	155	0.061954	0
MML Equity Rotation Fund	EQUITY	HERSHEY CO/THE	29958.96	29958.96	172	0.061735	0
MML Equity Rotation Fund	EQUITY	JM SMUCKER CO/THE	29671.53	29671.53	229	0.061142	0
MML Equity Rotation Fund	EQUITY	APA CORP	29654.73	29654.73	1371	0.061108	0
MML Equity Rotation Fund	EQUITY	GARMIN LTD	29361.92	29361.92	203	0.060504	0
MML Equity Rotation Fund	EQUITY	VALERO ENERGY CORP	29201.92	29201.92	374	0.060175	0
MML Equity Rotation Fund	EQUITY	SHERWIN WILLIAMS CO/THE	29152.15	29152.15	107	0.060072	0
MML Equity Rotation Fund	EQUITY	WASTE MANAGEMENT INC	29002.77	29002.77	207	0.059764	0
MML Equity Rotation Fund	EQUITY	IDEX CORP	28826.55	28826.55	131	0.059401	0
MML Equity Rotation Fund	EQUITY	PROGRESSIVE CORP	28775.53	28775.53	293	0.059296	0
MML Equity Rotation Fund	EQUITY	WILLIS TOWERS WATSON PLC	28752.5	28752.5	125	0.059249	0
MML Equity Rotation Fund	EQUITY	PUBLIC STORAGE	28565.55	28565.55	95	0.058863	0
MML Equity Rotation Fund	EQUITY	NORDSTROM INC	28524.6	28524.6	780	0.058779	0
MML Equity Rotation Fund	EQUITY	PPD INC	28437.53	28437.53	617	0.0586	0
MML Equity Rotation Fund	EQUITY	TWILIO INC A	28379.52	28379.52	72	0.05848	0
MML Equity Rotation Fund	EQUITY	ASPEN TECHNOLOGY INC	28333.24	28333.24	206	0.058385	0
MML Equity Rotation Fund	EQUITY	ALBERTSONS COS INC CLASS A	28290.74	28290.74	1439	0.058297	0
MML Equity Rotation Fund	EQUITY	NORTONLIFELOCK INC	28227.14	28227.14	1037	0.058166	0
MML Equity Rotation Fund	EQUITY	INTUIT INC	27939.69	27939.69	57	0.057574	0
MML Equity Rotation Fund	EQUITY	GLOBALANT SA	27835.86	27835.86	127	0.05736	0
MML Equity Rotation Fund	EQUITY	EXELON CORP	27693.75	27693.75	625	0.057067	0
MML Equity Rotation Fund	EQUITY	CREE INC	27518.33	27518.33	281	0.056705	0
MML Equity Rotation Fund	EQUITY	ADVANCED MICRO DEVICES	27427.56	27427.56	292	0.056518	0
MML Equity Rotation Fund	EQUITY	CADENCE DESIGN SYS INC	27364	27364	200	0.056387	0
MML Equity Rotation Fund	EQUITY	PACCAR INC	27221.25	27221.25	305	0.056093	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	O REILLY AUTOMOTIVE INC	27178.08		48	0.056004	0
MML Equity Rotation Fund	EQUITY	EQUIFAX INC	27064.63		113	0.055771	0
MML Equity Rotation Fund	EQUITY	HANOVER INSURANCE GROUP INC/	26992.36		199	0.055622	0
MML Equity Rotation Fund	EQUITY	SERVICE CORP INTERNATIONAL	26955.77		503	0.055546	0
MML Equity Rotation Fund	EQUITY	XILINX INC	26903.04		186	0.055438	0
MML Equity Rotation Fund	EQUITY	WABTEC CORP	26829.8		326	0.055287	0
MML Equity Rotation Fund	EQUITY	UNDER ARMOUR INC CLASS A	26733.6		1264	0.055088	0
MML Equity Rotation Fund	EQUITY	TEXAS INSTRUMENTS INC	26537.4		138	0.054684	0
MML Equity Rotation Fund	EQUITY	SS+C TECHNOLOGIES HOLDINGS	26446.02		367	0.054496	0
MML Equity Rotation Fund	EQUITY	AMERICAN EXPRESS CO	26436.8		160	0.054477	0
MML Equity Rotation Fund	EQUITY	STONECO LTD A	26421.64		394	0.054446	0
MML Equity Rotation Fund	EQUITY	HASBRO INC	26371.08		279	0.054341	0
MML Equity Rotation Fund	EQUITY	PAYCHEX INC	26288.5		245	0.054171	0
MML Equity Rotation Fund	EQUITY	DOLLAR TREE INC	26168.5		263	0.053924	0
MML Equity Rotation Fund	EQUITY	FIRST AMERICAN FINANCIAL	26124.65		419	0.053834	0
MML Equity Rotation Fund	EQUITY	ANALOG DEVICES INC	25996.16		151	0.053569	0
MML Equity Rotation Fund	EQUITY	MSA SAFETY INC	25996.06		157	0.053569	0
MML Equity Rotation Fund	EQUITY	APTARGROUP INC	25914.56		184	0.053401	0
MML Equity Rotation Fund	EQUITY	WR BERKLEY CORP	25752.78		346	0.053067	0
MML Equity Rotation Fund	EQUITY	ENCOMPASS HEALTH CORP	25593.84		328	0.05274	0
MML Equity Rotation Fund	EQUITY	HENRY SCHEIN INC	25447.17		343	0.052438	0
MML Equity Rotation Fund	EQUITY	AXALTA COATING SYSTEMS LTD	25398.17		833	0.052337	0
MML Equity Rotation Fund	EQUITY	KKR + CO INC	25295.48		427	0.052125	0
MML Equity Rotation Fund	EQUITY	SONOCO PRODUCTS CO	25288.2		378	0.05211	0
MML Equity Rotation Fund	EQUITY	C.H. ROBINSON WORLDWIDE INC	25197.23		269	0.051922	0
MML Equity Rotation Fund	EQUITY	MERCURY GENERAL CORP	25005.75		385	0.051528	0
MML Equity Rotation Fund	EQUITY	CHARGEPOINT HOLDINGS INC	24839.1		715	0.051184	0
MML Equity Rotation Fund	EQUITY	QUEST DIAGNOSTICS INC	24810.36		188	0.051125	0
MML Equity Rotation Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	24656.8		518	0.050809	0
MML Equity Rotation Fund	EQUITY	REPUBLIC SERVICES INC	24642.24		224	0.050779	0
MML Equity Rotation Fund	EQUITY	MARVELL TECHNOLOGY INC	24556.93		421	0.050603	0
MML Equity Rotation Fund	EQUITY	CHUBB LTD	24476.76		154	0.050438	0
MML Equity Rotation Fund	EQUITY	FOX CORP CLASS A	24431.54		658	0.050345	0
MML Equity Rotation Fund	EQUITY	BENTLEY SYSTEMS INC CLASS B	24098.16		372	0.049658	0
MML Equity Rotation Fund	EQUITY	MID AMERICA APARTMENT COMM	24084.06		143	0.049629	0
MML Equity Rotation Fund	EQUITY	SYNOPSIS INC	23993.73		87	0.049442	0
MML Equity Rotation Fund	EQUITY	MSC INDUSTRIAL DIRECT CO A	23957.91		267	0.049369	0
MML Equity Rotation Fund	EQUITY	MASCO CORP	23858.55		405	0.049164	0
MML Equity Rotation Fund	EQUITY	BROADCOM INC	23842		50	0.04913	0
MML Equity Rotation Fund	EQUITY	UNDER ARMOUR INC CLASS C	23416.77		1261	0.048254	0
MML Equity Rotation Fund	EQUITY	SCHLUMBERGER LTD	23367.3		730	0.048152	0
MML Equity Rotation Fund	EQUITY	ZSCALER INC	23334.48		108	0.048084	0
MML Equity Rotation Fund	EQUITY	EURONET WORLDWIDE INC	23280.2		172	0.047972	0
MML Equity Rotation Fund	EQUITY	VEREIT INC	23102.79		503	0.047607	0
MML Equity Rotation Fund	EQUITY	CURTISS WRIGHT CORP	23039.44		194	0.047476	0
MML Equity Rotation Fund	EQUITY	BAKER HUGHES CO	22618.43		989	0.046608	0
MML Equity Rotation Fund	EQUITY	PRIMERICA INC	22511.58		147	0.046388	0
MML Equity Rotation Fund	EQUITY	INTL BUSINESS MACHINES CORP	22428.27		153	0.046217	0
MML Equity Rotation Fund	EQUITY	REGENCY CENTERS CORP	22104.15		345	0.045549	0
MML Equity Rotation Fund	EQUITY	CONSTELLATION BRANDS INC A	21985.66		94	0.045305	0
MML Equity Rotation Fund	EQUITY	YUM BRANDS INC	21970.73		191	0.045274	0
MML Equity Rotation Fund	EQUITY	EVEREST RE GROUP LTD	21924.87		87	0.045179	0
MML Equity Rotation Fund	EQUITY	CATALENT INC	21840.24		202	0.045005	0
MML Equity Rotation Fund	EQUITY	FIREYE INC	21837.6		1080	0.044999	0
MML Equity Rotation Fund	EQUITY	GRAPHIC PACKAGING HOLDING CO	21659.16		1194	0.044632	0
MML Equity Rotation Fund	EQUITY	HILTON WORLDWIDE HOLDINGS IN	21590.98		179	0.044491	0
MML Equity Rotation Fund	EQUITY	LAMAR ADVERTISING CO A	21510.52		206	0.044325	0
MML Equity Rotation Fund	EQUITY	DISCOVERY INC A	21445.32		699	0.044191	0
MML Equity Rotation Fund	EQUITY	SILGAN HOLDINGS INC	21414		516	0.044127	0
MML Equity Rotation Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	21297.12		156	0.043886	0
MML Equity Rotation Fund	EQUITY	HONEYWELL INTERNATIONAL INC	21276.95		97	0.043844	0
MML Equity Rotation Fund	EQUITY	DONALDSON CO INC	21155.49		333	0.043594	0
MML Equity Rotation Fund	EQUITY	DUKE ENERGY CORP	21027.36		213	0.04333	0
MML Equity Rotation Fund	EQUITY	BLACKROCK INC	20999.28		24	0.043272	0
MML Equity Rotation Fund	EQUITY	NASDAQ INC	20392.8		116	0.042022	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	REPLIGEN CORP	20361.24	20361.24	102	0.041957	0
MML Equity Rotation Fund	EQUITY	COHERENT INC	20089.84	20089.84	76	0.041398	0
MML Equity Rotation Fund	EQUITY	BOSTON PROPERTIES INC	20053.25	20053.25	175	0.041323	0
MML Equity Rotation Fund	EQUITY	DISH NETWORK CORP A	19813.2	19813.2	474	0.040828	0
MML Equity Rotation Fund	EQUITY	MORNINGSTAR INC	19797.47	19797.47	77	0.040795	0
MML Equity Rotation Fund	EQUITY	GENERAL DYNAMICS CORP	19767.3	19767.3	105	0.040733	0
MML Equity Rotation Fund	EQUITY	FORTIVE CORP	19736.42	19736.42	283	0.04067	0
MML Equity Rotation Fund	EQUITY	ILLINOIS TOOL WORKS	19673.28	19673.28	88	0.04054	0
MML Equity Rotation Fund	EQUITY	AVALONBAY COMMUNITIES INC	19616.86	19616.86	94	0.040423	0
MML Equity Rotation Fund	EQUITY	STORE CAPITAL CORP	19498.15	19498.15	565	0.040179	0
MML Equity Rotation Fund	EQUITY	PALANTIR TECHNOLOGIES INC A	19348.24	19348.24	734	0.03987	0
MML Equity Rotation Fund	EQUITY	AON PLC CLASS A	19339.56	19339.56	81	0.039852	0
MML Equity Rotation Fund	EQUITY	ROCKWELL AUTOMATION INC	19163.34	19163.34	67	0.039489	0
MML Equity Rotation Fund	EQUITY	ALLEGION PLC	19084.1	19084.1	137	0.039325	0
MML Equity Rotation Fund	EQUITY	CDK GLOBAL INC	19031.27	19031.27	383	0.039217	0
MML Equity Rotation Fund	EQUITY	KEYSIGHT TECHNOLOGIES IN	18838.02	18838.02	122	0.038818	0
MML Equity Rotation Fund	EQUITY	PAYSAFE LTD	18649.4	18649.4	1540	0.03843	0
MML Equity Rotation Fund	EQUITY	NEWMONT CORP	18633.72	18633.72	294	0.038397	0
MML Equity Rotation Fund	EQUITY	APPLE INC	18626.56	18626.56	136	0.038383	0
MML Equity Rotation Fund	EQUITY	10X GENOMICS INC CLASS A	18407.08	18407.08	94	0.03793	0
MML Equity Rotation Fund	EQUITY	AMCOR PLC	18313.08	18313.08	1598	0.037737	0
MML Equity Rotation Fund	EQUITY	UNIVERSAL DISPLAY CORP	18231.06	18231.06	82	0.037568	0
MML Equity Rotation Fund	EQUITY	SOUTHERN CO/THE	18153	18153	300	0.037407	0
MML Equity Rotation Fund	EQUITY	WINTRUST FINANCIAL CORP	18075.57	18075.57	239	0.037247	0
MML Equity Rotation Fund	EQUITY	RAYONIER INC	18072.79	18072.79	503	0.037242	0
MML Equity Rotation Fund	EQUITY	OCCIDENTAL PETROLEUM CORP	18011.52	18011.52	576	0.037115	0
MML Equity Rotation Fund	EQUITY	KROGER CO	17929.08	17929.08	468	0.036945	0
MML Equity Rotation Fund	EQUITY	HUMANA INC	17708.8	17708.8	40	0.036491	0
MML Equity Rotation Fund	EQUITY	HUNTINGTON INGALLS INDUSTRIE	17703	17703	84	0.03648	0
MML Equity Rotation Fund	EQUITY	ENTERGY CORP	17646.9	17646.9	177	0.036364	0
MML Equity Rotation Fund	EQUITY	HOWARD HUGHES CORP/THE	17640.26	17640.26	181	0.03635	0
MML Equity Rotation Fund	EQUITY	VIMEO INC	17640	17640	360	0.03635	0
MML Equity Rotation Fund	EQUITY	MSCI INC	17591.64	17591.64	33	0.03625	0
MML Equity Rotation Fund	EQUITY	UNITY SOFTWARE INC	17572.8	17572.8	160	0.036211	0
MML Equity Rotation Fund	EQUITY	CINTAS CORP	17572	17572	46	0.03621	0
MML Equity Rotation Fund	EQUITY	ALTRIA GROUP INC	17546.24	17546.24	368	0.036157	0
MML Equity Rotation Fund	EQUITY	AMEREN CORPORATION	17528.76	17528.76	219	0.03612	0
MML Equity Rotation Fund	EQUITY	IAA INC	17507.34	17507.34	321	0.036076	0
MML Equity Rotation Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	17344.25	17344.25	175	0.03574	0
MML Equity Rotation Fund	EQUITY	ELANCO ANIMAL HEALTH INC	17240.93	17240.93	497	0.035527	0
MML Equity Rotation Fund	EQUITY	PACWEST BANCORP	17122.56	17122.56	416	0.035283	0
MML Equity Rotation Fund	EQUITY	APARTMENT INCOME REIT CO	17122.23	17122.23	361	0.035283	0
MML Equity Rotation Fund	EQUITY	NOV INC	16821.36	16821.36	1098	0.034663	0
MML Equity Rotation Fund	EQUITY	PPL CORP	16782	16782	600	0.034582	0
MML Equity Rotation Fund	EQUITY	NEWS CORP CLASS B	16728.45	16728.45	687	0.034471	0
MML Equity Rotation Fund	EQUITY	SEMPRA ENERGY	16692.48	16692.48	126	0.034397	0
MML Equity Rotation Fund	EQUITY	ROSS STORES INC	16616	16616	134	0.03424	0
MML Equity Rotation Fund	EQUITY	MARSH + MCLENNAN COS	16600.24	16600.24	118	0.034207	0
MML Equity Rotation Fund	EQUITY	STERICYCLE INC	16599.6	16599.6	232	0.034206	0
MML Equity Rotation Fund	EQUITY	NATERA INC	16575.38	16575.38	146	0.034156	0
MML Equity Rotation Fund	EQUITY	TERMINIX GLOBAL HOLDINGS INC	16507.66	16507.66	346	0.034016	0
MML Equity Rotation Fund	EQUITY	WELLS FARGO + CO	16485.56	16485.56	364	0.033971	0
MML Equity Rotation Fund	EQUITY	KRAFT HEINZ CO/THE	16434.34	16434.34	403	0.033865	0
MML Equity Rotation Fund	EQUITY	KINDER MORGAN INC	16388.77	16388.77	899	0.033771	0
MML Equity Rotation Fund	EQUITY	WYNDHAM HOTELS + RESORTS INC	16337.54	16337.54	226	0.033666	0
MML Equity Rotation Fund	EQUITY	EQUITY RESIDENTIAL	16247	16247	211	0.033479	0
MML Equity Rotation Fund	EQUITY	TRADE DESK INC/THE CLASS A	16168.24	16168.24	209	0.033317	0
MML Equity Rotation Fund	EQUITY	YUM CHINA HOLDINGS INC	16098.75	16098.75	243	0.033174	0
MML Equity Rotation Fund	EQUITY	WHITE MOUNTAINS INSURANCE GP	16072.42	16072.42	14	0.03312	0
MML Equity Rotation Fund	EQUITY	COMMERCE BANCSHARES INC	15955.84	15955.84	214	0.032879	0
MML Equity Rotation Fund	EQUITY	NEW RESIDENTIAL INVESTMENT	15895.59	15895.59	1501	0.032755	0
MML Equity Rotation Fund	EQUITY	BALL CORP	15636.86	15636.86	193	0.032222	0
MML Equity Rotation Fund	EQUITY	CONTINENTAL RESOURCES INC/OK	15630.33	15630.33	411	0.032209	0
MML Equity Rotation Fund	EQUITY	CAESARS ENTERTAINMENT INC	15562.5	15562.5	150	0.032069	0
MML Equity Rotation Fund	EQUITY	CENTENE CORP	15534.09	15534.09	213	0.03201	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	FTI CONSULTING INC	15300.32	112	0.031528	0	
MML Equity Rotation Fund	EQUITY	NORTHROP GRUMMAN CORP	15264.06	42	0.031454	0	
MML Equity Rotation Fund	EQUITY	RPM INTERNATIONAL INC	15252.96	172	0.031431	0	
MML Equity Rotation Fund	EQUITY	BROADRIDGE FINANCIAL SOLUTIO	15183.82	94	0.031288	0	
MML Equity Rotation Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	15117.08	94	0.031151	0	
MML Equity Rotation Fund	EQUITY	GENPACT LTD	15082.76	332	0.03108	0	
MML Equity Rotation Fund	EQUITY	TAKE TWO INTERACTIVE SOFTWARE	15046.7	85	0.031006	0	
MML Equity Rotation Fund	EQUITY	ESSEX PROPERTY TRUST INC	15000.5	50	0.030911	0	
MML Equity Rotation Fund	EQUITY	FASTENAL CO	14976	288	0.03086	0	
MML Equity Rotation Fund	EQUITY	POST HOLDINGS INC	14968.86	138	0.030845	0	
MML Equity Rotation Fund	EQUITY	COGNEX CORP	14960.9	178	0.030829	0	
MML Equity Rotation Fund	EQUITY	CAMDEN PROPERTY TRUST	14859.04	112	0.030619	0	
MML Equity Rotation Fund	EQUITY	3M CO	14698.62	74	0.030289	0	
MML Equity Rotation Fund	EQUITY	PINNACLE WEST CAPITAL	14672.63	179	0.030235	0	
MML Equity Rotation Fund	EQUITY	AMERICAN HOMES 4 RENT A	14568.75	375	0.030021	0	
MML Equity Rotation Fund	EQUITY	AUTOMATIC DATA PROCESSING	14499.26	73	0.029878	0	
MML Equity Rotation Fund	EQUITY	BANK OF HAWAII CORP	14485.84	172	0.02985	0	
MML Equity Rotation Fund	EQUITY	FEDERAL REALTY INVS TRUST	14411.91	123	0.029698	0	
MML Equity Rotation Fund	EQUITY	GLOBUS MEDICAL INC A	14343.05	185	0.029556	0	
MML Equity Rotation Fund	EQUITY	L3HARRIS TECHNOLOGIES INC	14265.9	66	0.029397	0	
MML Equity Rotation Fund	EQUITY	ZILLOW GROUP INC A	14213.48	116	0.029289	0	
MML Equity Rotation Fund	EQUITY	OMEGA HEALTHCARE INVESTORS	14189.39	391	0.029239	0	
MML Equity Rotation Fund	EQUITY	ATLASSIAN CORP PLC CLASS A	14127.3	55	0.029111	0	
MML Equity Rotation Fund	EQUITY	MGM RESORTS INTERNATIONAL	14117.15	331	0.02909	0	
MML Equity Rotation Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	13953.06	9	0.028752	0	
MML Equity Rotation Fund	EQUITY	HEALTHPEAK PROPERTIES INC	13948.51	419	0.028743	0	
MML Equity Rotation Fund	EQUITY	BERKSHIRE HATHAWAY INC CL B	13896	50	0.028635	0	
MML Equity Rotation Fund	EQUITY	INTEGRA LIFESCIENCES HOLDING	13784.48	202	0.028405	0	
MML Equity Rotation Fund	EQUITY	AMERICAN WATER WORKS CO INC	13717.57	89	0.028267	0	
MML Equity Rotation Fund	EQUITY	CONAGRA BRANDS INC	13642.5	375	0.028112	0	
MML Equity Rotation Fund	EQUITY	GENTEX CORP	13500.72	408	0.02782	0	
MML Equity Rotation Fund	EQUITY	COSTCO WHOLESALE CORP	13452.78	34	0.027721	0	
MML Equity Rotation Fund	EQUITY	AXON ENTERPRISE INC	13436.8	76	0.027688	0	
MML Equity Rotation Fund	EQUITY	MONGOODB INC	13376.24	37	0.027564	0	
MML Equity Rotation Fund	EQUITY	WORKDAY INC CLASS A	13369.44	56	0.02755	0	
MML Equity Rotation Fund	EQUITY	LEIDOS HOLDINGS INC	13143	130	0.027083	0	
MML Equity Rotation Fund	EQUITY	ALLIANT ENERGY CORP	13103.6	235	0.027002	0	
MML Equity Rotation Fund	EQUITY	NATIONAL FUEL GAS CO	13062.5	250	0.026917	0	
MML Equity Rotation Fund	EQUITY	TRANSIDGM GROUP INC	12945.8	20	0.026677	0	
MML Equity Rotation Fund	EQUITY	DUKE REALTY CORP	12879.2	272	0.026539	0	
MML Equity Rotation Fund	EQUITY	NATIONAL RETAIL PROPERTIES	12704.48	271	0.026179	0	
MML Equity Rotation Fund	EQUITY	PHILLIPS 66	12701.36	148	0.026173	0	
MML Equity Rotation Fund	EQUITY	TJX COMPANIES INC	12674.96	188	0.026119	0	
MML Equity Rotation Fund	EQUITY	PETCO HEALTH AND WELLNESS CO	12572.01	561	0.025906	0	
MML Equity Rotation Fund	EQUITY	ALPHABET INC CL C	12531.6	5	0.025823	0	
MML Equity Rotation Fund	EQUITY	CIRRUS LOGIC INC	12512.64	147	0.025784	0	
MML Equity Rotation Fund	EQUITY	STRYKER CORP	12467.04	48	0.02569	0	
MML Equity Rotation Fund	EQUITY	ORACLE CORP	12454.4	160	0.025664	0	
MML Equity Rotation Fund	EQUITY	STERIS PLC	12378	60	0.025507	0	
MML Equity Rotation Fund	EQUITY	LAMB WESTON HOLDINGS INC	12340.98	153	0.02543	0	
MML Equity Rotation Fund	EQUITY	BROOKFIELD RENEWABLE COR A	12288.42	293	0.025322	0	
MML Equity Rotation Fund	EQUITY	BANK OF AMERICA CORP	12286.54	298	0.025318	0	
MML Equity Rotation Fund	EQUITY	STARBUCKS CORP	12187.29	109	0.025114	0	
MML Equity Rotation Fund	EQUITY	ACCENTURE PLC CL A	12086.39	41	0.024906	0	
MML Equity Rotation Fund	EQUITY	AKAMAI TECHNOLOGIES INC	12009.8	103	0.024748	0	
MML Equity Rotation Fund	EQUITY	HAWAIIAN ELECTRIC INDS	12007.52	284	0.024743	0	
MML Equity Rotation Fund	EQUITY	PROSPERITY BANCSHARES INC	11990.6	167	0.024708	0	
MML Equity Rotation Fund	EQUITY	MARAVAI LIFESCIENCES HLDGS A	11851.32	284	0.024421	0	
MML Equity Rotation Fund	EQUITY	EDWARDS LIFESCIENCES CORP	11806.98	114	0.02433	0	
MML Equity Rotation Fund	EQUITY	GATES INDUSTRIAL CORP PLC	11799.71	653	0.024315	0	
MML Equity Rotation Fund	EQUITY	AIR PRODUCTS + CHEMICALS INC	11794.88	41	0.024305	0	
MML Equity Rotation Fund	EQUITY	TELEDYNE TECHNOLOGIES INC	11727.24	28	0.024166	0	
MML Equity Rotation Fund	EQUITY	INVITATION HOMES INC	11559.9	310	0.023821	0	
MML Equity Rotation Fund	EQUITY	WESTERN UNION CO	11530.94	502	0.023761	0	
MML Equity Rotation Fund	EQUITY	SCIENCE APPLICATIONS INTE	11492.63	131	0.023682	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Equity Rotation Fund	EQUITY	COOPER COS INC/THE	11491.83	11491.83	29	0.023681	0
MML Equity Rotation Fund	EQUITY	BROWN + BROWN INC	11425.1	11425.1	215	0.023543	0
MML Equity Rotation Fund	EQUITY	WR GRACE + CO	11335.68	11335.68	164	0.023359	0
MML Equity Rotation Fund	EQUITY	CONSOLIDATED EDISON INC	11331.76	11331.76	158	0.023351	0
MML Equity Rotation Fund	EQUITY	ARDAGH GROUP SA	11254.68	11254.68	459	0.023192	0
MML Equity Rotation Fund	EQUITY	CHURCHILL DOWNS INC	11102.56	11102.56	56	0.022878	0
MML Equity Rotation Fund	EQUITY	FIRST INDUSTRIAL REALTY TR	11020.53	11020.53	211	0.022709	0
MML Equity Rotation Fund	EQUITY	GAMING AND LEISURE PROPERTIE	10933.88	10933.88	236	0.022531	0
MML Equity Rotation Fund	EQUITY	COMCAST CORP CLASS A	10833.8	10833.8	190	0.022325	0
MML Equity Rotation Fund	EQUITY	AMEDISYS INC	10776.92	10776.92	44	0.022207	0
MML Equity Rotation Fund	EQUITY	VF CORP	10665.2	10665.2	130	0.021977	0
MML Equity Rotation Fund	EQUITY	AMERICAN ELECTRIC POWER	10573.75	10573.75	125	0.021789	0
MML Equity Rotation Fund	EQUITY	ALLISON TRANSMISSION HOLDING	10570.84	10570.84	266	0.021783	0
MML Equity Rotation Fund	EQUITY	OPENDOOR TECHNOLOGIES INC	10513.89	10513.89	593	0.021665	0
MML Equity Rotation Fund	EQUITY	SPIRIT REALTY CAPITAL INC	10333.44	10333.44	216	0.021294	0
MML Equity Rotation Fund	EQUITY	MCAFFEE CORP CLASS A	10255.32	10255.32	366	0.021133	0
MML Equity Rotation Fund	EQUITY	HERBALIFE NUTRITION LTD	10124.16	10124.16	192	0.020862	0
MML Equity Rotation Fund	EQUITY	SOUTHERN COPPER CORP	9969.6	9969.6	155	0.020544	0
MML Equity Rotation Fund	EQUITY	HEICO CORP CLASS A	9934.4	9934.4	80	0.020471	0
MML Equity Rotation Fund	EQUITY	ALPHABET INC CL A	9767.16	9767.16	4	0.020127	0
MML Focused Equity Fund	EQUITY	DIAGEO PLC	15596656.74	15596656.74	325449	5.253586	0
MML Focused Equity Fund	EQUITY	COLGATE PALMOLIVE CO	15557943.45	15557943.45	191247	5.240546	0
MML Focused Equity Fund	EQUITY	TJX COMPANIES INC	15346072.98	15346072.98	227619	5.169179	0
MML Focused Equity Fund	EQUITY	MARSH + MCLENNAN COS	14965538.4	14965538.4	106380	5.041	0
MML Focused Equity Fund	EQUITY	NORTHROP GRUMMAN CORP	14677483.98	14677483.98	40386	4.943971	0
MML Focused Equity Fund	EQUITY	JOHNSON + JOHNSON	14634348.42	14634348.42	88833	4.929442	0
MML Focused Equity Fund	EQUITY	UNITEDHEALTH GROUP INC	14351369.16	14351369.16	35839	4.834123	0
MML Focused Equity Fund	EQUITY	MEDTRONIC PLC	14343221.5	14343221.5	115550	4.831378	0
MML Focused Equity Fund	EQUITY	AMERICAN EXPRESS CO	13898982.37	13898982.37	84119	4.681741	0
MML Focused Equity Fund	EQUITY	PEPSICO INC	13712985.33	13712985.33	92549	4.619089	0
MML Focused Equity Fund	EQUITY	MCDONALD S CORP	13250510.36	13250510.36	57364	4.463309	0
MML Focused Equity Fund	EQUITY	NIKE INC CL B	13246590.56	13246590.56	85744	4.461989	0
MML Focused Equity Fund	EQUITY	HUBB LTD	11464342.2	11464342.2	72130	3.861655	0
MML Focused Equity Fund	EQUITY	COCA COLA CO/THE	11143846.28	11143846.28	205948	3.753699	0
MML Focused Equity Fund	EQUITY	UNION PACIFIC CORP	10041783.87	10041783.87	45659	3.38248	0
MML Focused Equity Fund	EQUITY	MICROSOFT CORP	9636996.6	9636996.6	35574	3.246131	0
MML Focused Equity Fund	EQUITY	PROCTER + GAMBLE CO/THE	9624691.83	9624691.83	71331	3.241986	0
MML Focused Equity Fund	EQUITY	LOCKHEED MARTIN CORP	9430373.75	9430373.75	24925	3.176532	0
MML Focused Equity Fund	EQUITY	LINDE PLC	9409337.7	9409337.7	32547	3.169446	0
MML Focused Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	9143961.8	9143961.8	3.080057	3.080057	7/1/2021
MML Focused Equity Fund	EQUITY	ECOLAB INC	8559495.29	8559495.29	41557	2.883185	0
MML Focused Equity Fund	EQUITY	BAXTER INTERNATIONAL INC	8346481.5	8346481.5	103683	2.811433	0
MML Focused Equity Fund	EQUITY	ACCENTURE PLC CL A	6811122.95	6811122.95	23105	2.294262	0
MML Focused Equity Fund	EQUITY	VISA INC CLASS A SHARES	6031153.08	6031153.08	25794	2.031537	0
MML Focused Equity Fund	EQUITY	PUBLIC STORAGE	5681537.55	5681537.55	18895	1.913772	0
MML Focused Equity Fund	EQUITY	AMERICAN TOWER CORP	4084516.8	4084516.8	15120	1.375831	0
MML Focused Equity Fund	EQUITY	DANAHER CORP	3885047.72	3885047.72	14477	1.308642	0
MML Foreign Fund	EQUITY	SONY GROUP CORP	7570140	7570140	78000	2.735725	0
MML Foreign Fund	EQUITY	NESTLE SA REG	5429741.46	5429741.46	43600	1.96222	0
MML Foreign Fund	EQUITY	SAMSUNG ELECTRONICS CO LTD	5382818.36	5382818.36	75100	1.945263	0
MML Foreign Fund	EQUITY	SEVEN + I HOLDINGS CO LTD	5353228.13	5353228.13	112300	1.934569	0
MML Foreign Fund	EQUITY	TOYOTA INDUSTRIES CORP	5032514.77	5032514.77	58200	1.818669	0
MML Foreign Fund	EQUITY	ENGIE	5014834.73	5014834.73	365800	1.81228	0
MML Foreign Fund	EQUITY	SIEMENS AG REG	4896102.34	4896102.34	30900	1.769372	0
MML Foreign Fund	EQUITY	UBS GROUP AG REG	4803213.01	4803213.01	313700	1.735803	0
MML Foreign Fund	EQUITY	ORIX CORP	4694601.62	4694601.62	279000	1.696552	0
MML Foreign Fund	EQUITY	UNILEVER PLC	4655721.37	4655721.37	79600	1.682502	0
MML Foreign Fund	EQUITY	FRESENIUS SE + CO KGAA	4638844.94	4638844.94	88900	1.676403	0
MML Foreign Fund	EQUITY	SANOFI	4442912.1	4442912.1	42400	1.605596	0
MML Foreign Fund	EQUITY	SMURFIT KAPPA GROUP PLC	4432443.84	4432443.84	81700	1.601813	0
MML Foreign Fund	EQUITY	NOVARTIS AG REG	4393179.03	4393179.03	48200	1.587623	0
MML Foreign Fund	EQUITY	HEINEKEN HOLDING NV	4301806.57	4301806.57	42700	1.554603	0
MML Foreign Fund	EQUITY	ASML HOLDING NV	4199858.61	4199858.61	6100	1.51776	0
MML Foreign Fund	EQUITY	ASTELLAS PHARMA INC	4099492.02	4099492.02	235500	1.48149	0
MML Foreign Fund	EQUITY	NINTENDO CO LTD	4072880.03	4072880.03	7000	1.471872	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Foreign Fund	EQUITY	HEIDELBERGCEMENT AG	4066793.01	47400	1.469673	0	
MML Foreign Fund	EQUITY	KONINKLIJKE PHILIPS NV	4009519.83	80879	1.448975	0	
MML Foreign Fund	EQUITY	ROCHE HOLDING AG GENUSSCHEIN	3994828.41	10600	1.443666	0	
MML Foreign Fund	EQUITY	SUMITOMO MITSUI FINANCIAL GR	3937045.86	114400	1.422784	0	
MML Foreign Fund	EQUITY	VEOLIA ENVIRONNEMENT	3921727.72	129800	1.417248	0	
MML Foreign Fund	EQUITY	DEUTSCHE POST AG REG	3796684.94	55800	1.37206	0	
MML Foreign Fund	EQUITY	CK HUTCHISON HOLDINGS LTD	3736299.47	479500	1.350238	0	
MML Foreign Fund	EQUITY	HITACHI LTD	3714282.13	64900	1.342281	0	
MML Foreign Fund	EQUITY	DBS GROUP HOLDINGS LTD	3705891.95	167000	1.339249	0	
MML Foreign Fund	EQUITY	TOSHIBA CORP	3669196.91	84800	1.325988	0	
MML Foreign Fund	EQUITY	ABB LTD REG	3628665.82	106900	1.311341	0	
MML Foreign Fund	EQUITY	KBC GROUP NV	3625837.39	47600	1.310319	0	
MML Foreign Fund	EQUITY	SAP SE	3513326.55	24900	1.269659	0	
MML Foreign Fund	EQUITY	TESCO PLC	3471607.28	1124605	1.254582	0	
MML Foreign Fund	EQUITY	BASF SE	3420004.94	43400	1.235934	0	
MML Foreign Fund	EQUITY	OLYMPUS CORP	3363565.79	169300	1.215538	0	
MML Foreign Fund	EQUITY	MACQUARIE GROUP LTD	3354448.8	28600	1.212243	0	
MML Foreign Fund	EQUITY	DEUTSCHE BOERSE AG	3333930.22	19100	1.204828	0	
MML Foreign Fund	EQUITY	RAKUTEN GROUP INC	3278563.53	290600	1.184819	0	
MML Foreign Fund	EQUITY	INFINEON TECHNOLOGIES AG	3276240.73	81700	1.18398	0	
MML Foreign Fund	EQUITY	FANUC CORP	3157759.24	13100	1.141163	0	
MML Foreign Fund	EQUITY	CAPGEMINI SE	3076654.6	16000	1.111853	0	
MML Foreign Fund	EQUITY	ALCON INC	3040032.68	43400	1.098618	0	
MML Foreign Fund	EQUITY	DCC PLC	3014481.78	36800	1.089385	0	
MML Foreign Fund	EQUITY	FUJITSU LTD	2959404.75	15800	1.069481	0	
MML Foreign Fund	EQUITY	BRITISH LAND CO PLC	2859134.8	417000	1.033245	0	
MML Foreign Fund	EQUITY	PERSIMMON PLC	2766992.61	67500	0.999946	0	
MML Foreign Fund	EQUITY	LINDE PLC	2746450	9500	0.992522	0	
MML Foreign Fund	EQUITY	MOWI ASA	2686287.35	105600	0.97078	0	
MML Foreign Fund	EQUITY	CHECK POINT SOFTWARE TECH	2670990	23000	0.965252	0	
MML Foreign Fund	EQUITY	ARCELORMITTAL	2670730.03	87000	0.965158	0	
MML Foreign Fund	EQUITY	NXP SEMICONDUCTORS NV	2633216	12800	0.951601	0	
MML Foreign Fund	EQUITY	ALLIANZ SE REG	2618028.75	10500	0.946113	0	
MML Foreign Fund	EQUITY	TOTALENERGIES SE	2613159.1	57600	0.944353	0	
MML Foreign Fund	EQUITY	KYOCERA CORP	2595413.34	42000	0.93794	0	
MML Foreign Fund	EQUITY	CK ASSET HOLDINGS LTD	2564609.82	371500	0.926808	0	
MML Foreign Fund	EQUITY	LLOYDS BANKING GROUP PLC	2468349.47	3815600	0.892021	0	
MML Foreign Fund	EQUITY	SIEMENS ENERGY AG	2421066.5	80300	0.874934	0	
MML Foreign Fund	EQUITY	INVESTOR AB B SHS	2388934.54	103700	0.863322	0	
MML Foreign Fund	EQUITY	IMPERIAL BRANDS PLC	2297174.71	106600	0.830161	0	
MML Foreign Fund	EQUITY	VOLVO AB B SHS	2228871.85	92598	0.805478	0	
MML Foreign Fund	EQUITY	SANTOS LTD	2216434.38	415500	0.800983	0	
MML Foreign Fund	EQUITY	ASHTREAD GROUP PLC	2213426.09	29800	0.799896	0	
MML Foreign Fund	EQUITY	KIRIN HOLDINGS CO LTD	2185124.41	112100	0.789668	0	
MML Foreign Fund	EQUITY	AVIVA PLC	2182951.01	388200	0.788883	0	
MML Foreign Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	2118762.17	17500	0.765686	0	
MML Foreign Fund	EQUITY	SMITH + NEPHEW PLC	2112909.16	97500	0.763571	0	
MML Foreign Fund	EQUITY	GROUPE BRUXELLES LAMBERT SA	2080395.8	18600	0.751821	0	
MML Foreign Fund	EQUITY	DENKA CO LTD	1997945.87	60100	0.722025	0	
MML Foreign Fund	EQUITY	ENTAIN PLC	1945279.38	80500	0.702992	0	
MML Foreign Fund	EQUITY	ARKEMA	1833055.13	14600	0.662436	0	
MML Foreign Fund	EQUITY	BUNZL PLC	1812056.9	54800	0.654848	0	
MML Foreign Fund	EQUITY	UBISOFT ENTERTAINMENT	1722402.16	24600	0.622448	0	
MML Foreign Fund	EQUITY	GLENCORE PLC	1645288.78	384200	0.594581	0	
MML Foreign Fund	EQUITY	INFORMA PLC	1641181.24	236100	0.593096	0	
MML Foreign Fund	EQUITY	AIB GROUP PLC	1566198.52	608700	0.565999	0	
MML Foreign Fund	EQUITY	ANHEUSER BUSCH INBEV SA/NV	1562709.26	21700	0.564738	0	
MML Foreign Fund	EQUITY	LENLEASE GROUP	1557628.01	181200	0.562901	0	
MML Foreign Fund	EQUITY	SEGA SAMMY HOLDINGS INC	1554362.69	118400	0.561721	0	
MML Foreign Fund	EQUITY	SQUARE ENIX HOLDINGS CO LTD	1478482.57	29800	0.534299	0	
MML Foreign Fund	EQUITY	PRYSMIAN SPA	1456202.48	40600	0.526248	0	
MML Foreign Fund	EQUITY	INCHCAPE PLC	1388183.37	130500	0.501667	0	
MML Foreign Fund	EQUITY	ESSITY AKTIEBOLAG B	1382693.49	41700	0.499683	0	
MML Foreign Fund	EQUITY	MELROSE INDUSTRIES PLC	1362883.02	633400	0.492524	0	
MML Foreign Fund	EQUITY	MEDIOBANCA SPA	1346801.85	115400	0.486712	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Foreign Fund	EQUITY	JAPAN AIRLINES CO LTD	1263509.21		58400	0.456612	0
MML Foreign Fund	EQUITY	EXOR NV	1200574.52		15000	0.433868	0
MML Foreign Fund	EQUITY	BARRATT DEVELOPMENTS PLC	1155078.73		119900	0.417427	0
MML Foreign Fund	EQUITY	AP MOLLER MAERSK A/S B	1150319.93		400	0.415707	0
MML Foreign Fund	EQUITY	RECKITT BENCKISER GROUP PLC	1141665.52		12900	0.412579	0
MML Foreign Fund	EQUITY	DASSAULT AVIATION SA	1059519.56		900	0.382893	0
MML Foreign Fund	EQUITY	TALANX AG	1059090.68		25900	0.382738	0
MML Foreign Fund	EQUITY	SIEMENS GAMESA RENEWABLE ENE	1054990.69		31600	0.381256	0
MML Foreign Fund	EQUITY	KINGFISHER PLC	882930.95		175000	0.319077	0
MML Foreign Fund	EQUITY	REXEL SA	876896.76		41900	0.316896	0
MML Foreign Fund	EQUITY	BHP GROUP PLC ADR	823722		13800	0.29768	0
MML Foreign Fund	EQUITY	AMUNDI SA	801723.23		9100	0.28973	0
MML Foreign Fund	EQUITY	BAYER AG REG	710677.83		11700	0.256827	0
MML Foreign Fund	EQUITY	AIRBUS SE	708292.77		5500	0.255965	0
MML Foreign Fund	EQUITY	RYANAIR HOLDINGS PLC SP ADR	638439		5900	0.230721	0
MML Foreign Fund	EQUITY	AMS AG	616002.26		30700	0.222613	0
MML Foreign Fund	EQUITY	IG GROUP HOLDINGS PLC	538623.38		46000	0.19465	0
MML Foreign Fund	CASH	US DOLLAR	-456699.19		-456699.19	0.165044	0
MML Foreign Fund	EQUITY	LUNDIN ENERGY AB	439966.17		12400	0.158997	0
MML Foreign Fund	EQUITY	MATSUMOTOKIYOSHI HOLDINGS CO	348697.02		7900	0.126013	0
MML Foreign Fund	EQUITY	LIBERTY GLOBAL PLC C	251472		9300	0.090878	0
MML Foreign Fund	EQUITY	SAVILLS PLC	219560.21		13800	0.079345	0
MML Foreign Fund	CASH	JAPANESE YEN	176168.14		19571400	0.063664	0
MML Foreign Fund	CASH	EURO CURRENCY	34628.18		29203.61	0.012514	0
MML Foreign Fund	CASH	POUND STERLING	31055.02		22449.95	0.011223	0
MML Foreign Fund	CASH	SOUTH KOREAN WON	0.86		966	0	0
MML Foreign Fund	CASH	SWISS FRANC	0.02		0.02	0	0
MML Fundamental Equity Fund	EQUITY	MICROSOFT CORP	14236607.7		52553	7.530597	0
MML Fundamental Equity Fund	EQUITY	AMAZON.COM INC	11218361.76		3261	5.934066	0
MML Fundamental Equity Fund	EQUITY	FACEBOOK INC CLASS A	7296694.35		20985	3.85966	0
MML Fundamental Equity Fund	EQUITY	JPMORGAN CHASE + CO	5868835.28		37732	3.10438	0
MML Fundamental Equity Fund	EQUITY	UNITEDHEALTH GROUP INC	5544492.24		13846	2.932815	0
MML Fundamental Equity Fund	EQUITY	UNITED PARCEL SERVICE CL B	5235436.78		25174	2.769337	0
MML Fundamental Equity Fund	EQUITY	PROLOGIS INC	4775223.5		39950	2.525903	0
MML Fundamental Equity Fund	EQUITY	QUALCOMM INC	4715546.56		32992	2.494336	0
MML Fundamental Equity Fund	EQUITY	HCA HEALTHCARE INC	4622292.92		22358	2.445008	0
MML Fundamental Equity Fund	EQUITY	APPLIED MATERIALS INC	4236969.6		29754	2.241188	0
MML Fundamental Equity Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	4131460.52		26708	2.185378	0
MML Fundamental Equity Fund	EQUITY	ASTRAZENECA PLC SPONS ADR	4125612.5		68875	2.182284	0
MML Fundamental Equity Fund	EQUITY	HOME DEPOT INC	3775657.6		11840	1.997172	0
MML Fundamental Equity Fund	EQUITY	PROCTER + GAMBLE CO/THE	3721369.4		27580	1.968456	0
MML Fundamental Equity Fund	EQUITY	ELI LILLY + CO	3715240.24		16187	1.965214	0
MML Fundamental Equity Fund	EQUITY	EQUITABLE HOLDINGS INC	3663074.1		120298	1.93762	0
MML Fundamental Equity Fund	EQUITY	CVS HEALTH CORP	3552207.68		42572	1.878976	0
MML Fundamental Equity Fund	EQUITY	TEXAS INSTRUMENTS INC	3424670.7		17809	1.811514	0
MML Fundamental Equity Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	3372901.47		39537	1.78413	0
MML Fundamental Equity Fund	EQUITY	VERIZON COMMUNICATIONS INC	3330030.99		59433	1.761453	0
MML Fundamental Equity Fund	EQUITY	COMCAST CORP CLASS A	3238336.86		56793	1.712951	0
MML Fundamental Equity Fund	EQUITY	APPLE INC	3230475.52		23587	1.708793	0
MML Fundamental Equity Fund	EQUITY	INTERCONTINENTAL EXCHANGE INC	3188994.2		26866	1.686851	0
MML Fundamental Equity Fund	EQUITY	OTIS WORLDWIDE CORP	3186413.36		38968	1.685485	0
MML Fundamental Equity Fund	EQUITY	ACCENTURE PLC CL A	2886583.68		9792	1.526888	0
MML Fundamental Equity Fund	EQUITY	MASTERCARD INC A	2855368.89		7821	1.510376	0
MML Fundamental Equity Fund	EQUITY	CONSTELLATION BRANDS INC A	2845271.85		12165	1.505035	0
MML Fundamental Equity Fund	EQUITY	FIRSTENERGY CORP	2741000.23		73663	1.44988	0
MML Fundamental Equity Fund	EQUITY	MOTOROLA SOLUTIONS INC	2737080.7		12622	1.447806	0
MML Fundamental Equity Fund	EQUITY	FISERV INC	2576369.67		24103	1.362797	0
MML Fundamental Equity Fund	EQUITY	TARGET CORP	2535369.12		10488	1.341109	0
MML Fundamental Equity Fund	EQUITY	NETFLIX INC	2517448.86		4766	1.33163	0
MML Fundamental Equity Fund	EQUITY	WORKDAY INC CLASS A	2412706.44		10106	1.276225	0
MML Fundamental Equity Fund	EQUITY	GENERAL MOTORS CO	2318635.62		39186	1.226466	0
MML Fundamental Equity Fund	EQUITY	MONDELEZ INTERNATIONAL INC A	2183339.48		34967	1.154899	0
MML Fundamental Equity Fund	EQUITY	VULCAN MATERIALS CO	2172045.46		12478	1.148925	0
MML Fundamental Equity Fund	EQUITY	UNION PACIFIC CORP	2141678.34		9738	1.132862	0
MML Fundamental Equity Fund	EQUITY	SYSCO CORP	1911950.25		24591	1.011345	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Fundamental Value Fund	EQUITY	AVANTOR INC	2752096.02		77502	1.268028	0
MML Fundamental Value Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2658417.41	2658417.41		1.224866	
MML Fundamental Value Fund	EQUITY	CENTENE CORP	2531400.3		34710	1.166343	0
MML Fundamental Value Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	2530573.71		16359	1.165962	0
MML Fundamental Value Fund	EQUITY	GENERAL DYNAMICS CORP	2474865.96		13146	1.140295	0
MML Fundamental Value Fund	EQUITY	TAPESTRY INC	2445358.68		56241	1.126699	0
MML Fundamental Value Fund	EQUITY	PRIZER INC	2431561.88		62093	1.120342	0
MML Fundamental Value Fund	EQUITY	ORACLE CORP	2416309.28		31042	1.113315	0
MML Fundamental Value Fund	EQUITY	UNITED RENTALS INC	2408525.5		7550	1.109728	0
MML Fundamental Value Fund	EQUITY	PIONEER NATURAL RESOURCES CO	2390669.2		14710	1.101501	0
MML Fundamental Value Fund	EQUITY	T MOBILE US INC	2385060.44		16468	1.098917	0
MML Fundamental Value Fund	EQUITY	PROGRESSIVE CORP	2324728.91		23671	1.071119	0
MML Fundamental Value Fund	EQUITY	FIDELITY NATIONAL INFO SERV	2310212.69		16307	1.064431	0
MML Fundamental Value Fund	EQUITY	NXP SEMICONDUCTORS NV	2254691.2		10960	1.038849	0
MML Fundamental Value Fund	EQUITY	LAM RESEARCH CORP	2218236.3		3409	1.022052	0
MML Fundamental Value Fund	EQUITY	SONY GROUP CORP SP ADR	2214088.28		22774	1.020141	0
MML Fundamental Value Fund	EQUITY	SCHLUMBERGER LTD	2180137.08		68108	1.004498	0
MML Fundamental Value Fund	EQUITY	COCA COLA EUROPACIFIC PARTNE	2146316.24		36182	0.988915	0
MML Fundamental Value Fund	EQUITY	MOHAWK INDUSTRIES INC	2131771.48		11092	0.982214	0
MML Fundamental Value Fund	EQUITY	ABBVIE INC	2094428.16		18594	0.965008	0
MML Fundamental Value Fund	EQUITY	CVS HEALTH CORP	2075486.56		24874	0.956281	0
MML Fundamental Value Fund	EQUITY	CHARTER COMMUNICATIONS INC A	2062625.55		2859	0.950355	0
MML Fundamental Value Fund	EQUITY	OTIS WORLDWIDE CORP	2053817.09		25117	0.946296	0
MML Fundamental Value Fund	EQUITY	HOWMET AEROSPACE INC	2015495.37		58471	0.92864	0
MML Fundamental Value Fund	EQUITY	BOEING CO/THE	1949778.84		8139	0.898361	0
MML Fundamental Value Fund	EQUITY	CANADIAN NATURAL RESOURCES	1937896.2		53415	0.892886	0
MML Fundamental Value Fund	EQUITY	QORVO INC	1857696.75		9495	0.855934	0
MML Fundamental Value Fund	EQUITY	QUALCOMM INC	1853230.38		12966	0.853876	0
MML Fundamental Value Fund	EQUITY	CENTERPOINT ENERGY INC	1804917.2		73610	0.831616	0
MML Fundamental Value Fund	EQUITY	EVEREST RE GROUP LTD	1740381.06		6906	0.801881	0
MML Fundamental Value Fund	EQUITY	LKQ CORP	1738844.16		35328	0.801173	0
MML Fundamental Value Fund	EQUITY	DOMINION ENERGY INC	1726614.33		23469	0.795538	0
MML Fundamental Value Fund	EQUITY	MCKESSON CORP	1623053.88		8487	0.747822	0
MML Fundamental Value Fund	EQUITY	HARLEY DAVIDSON INC	1557559.26		33993	0.717645	0
MML Fundamental Value Fund	EQUITY	AMERISOURCEBERGEN CORP	1547790.31		13519	0.713144	0
MML Fundamental Value Fund	EQUITY	FIFTH THIRD BANCORP	1539980.86		40282	0.709546	0
MML Fundamental Value Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	1539812.4		32349	0.709469	0
MML Fundamental Value Fund	EQUITY	SS+C TECHNOLOGIES HOLDINGS	1531058.82		21247	0.705435	0
MML Fundamental Value Fund	EQUITY	LAS VEGAS SANDS CORP	1514679.43		28747	0.697889	0
MML Fundamental Value Fund	EQUITY	DOVER CORP	1487777.4		9879	0.685493	0
MML Fundamental Value Fund	EQUITY	WABTEC CORP	1470371.8		17866	0.677474	0
MML Fundamental Value Fund	EQUITY	CRH PLC SPONSORED ADR	1468920.12		28893	0.676805	0
MML Fundamental Value Fund	EQUITY	UNION PACIFIC CORP	1450218.42		6594	0.668188	0
MML Fundamental Value Fund	EQUITY	KLA CORP	1366220.94		4214	0.629486	0
MML Fundamental Value Fund	EQUITY	LENNAR CORP A	1333575.05		13423	0.614445	0
MML Fundamental Value Fund	EQUITY	US FOODS HOLDING CORP	1303434.44		33979	0.600557	0
MML Fundamental Value Fund	EQUITY	LOWE S COS INC	1294167.84		6672	0.596288	0
MML Fundamental Value Fund	EQUITY	TIJ COMPANIES INC	1286912.96		19088	0.592945	0
MML Fundamental Value Fund	EQUITY	NORTHROP CORP	1235783.24		19498	0.569387	0
MML Fundamental Value Fund	EQUITY	NORTONLIFELOCK INC	1165832.6		42830	0.537157	0
MML Fundamental Value Fund	EQUITY	OWENS CORNING	1154436.8		11792	0.531907	0
MML Fundamental Value Fund	EQUITY	KOHL'S CORP	1116308.16		20256	0.514339	0
MML Fundamental Value Fund	EQUITY	AXALTA COATING SYSTEMS LTD	1067150		35000	0.491689	0
MML Fundamental Value Fund	EQUITY	HOLLYFRONTIER CORP	1016116.5		30885	0.468176	0
MML Fundamental Value Fund	EQUITY	FMC CORP	1011453.6		9348	0.466027	0
MML Fundamental Value Fund	EQUITY	PPG INDUSTRIES INC	994512.66		5858	0.458222	0
MML Fundamental Value Fund	EQUITY	NORTHROP GRUMMAN CORP	974355.83		2681	0.448934	0
MML Fundamental Value Fund	EQUITY	VERTIV HOLDINGS CO	943406.1		34557	0.434674	0
MML Fundamental Value Fund	EQUITY	AFLAC INC	930249.76		17336	0.428613	0
MML Fundamental Value Fund	EQUITY	POLARIS INC	926260.48		6763	0.426775	0
MML Fundamental Value Fund	EQUITY	BP PLC SPONS ADR	921133.3		34865	0.424412	0
MML Fundamental Value Fund	EQUITY	NETAPP INC	872037.56		10658	0.401791	0
MML Fundamental Value Fund	EQUITY	LEAR CORP	772634.24		4408	0.355991	0
MML Fundamental Value Fund	EQUITY	KINROSS GOLD CORP	755046.75		118905	0.347888	0
MML Fundamental Value Fund	EQUITY	ALLEGION PLC	743165.5		5335	0.342414	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Fundamental Value Fund	EQUITY	EOG RESOURCES INC	727680.24		8721	0.335279	0
MML Fundamental Value Fund	EQUITY	ALLISON TRANSMISSION HOLDING	702205.8		17670	0.323541	0
MML Fundamental Value Fund	CASH	SWISS FRANCO	59675.97		55215.19	0.027496	0
MML Fundamental Value Fund	CASH	US DOLLAR	3039.35		3039.35	0.0014	0
MML Global Fund	EQUITY	COMCAST CORP CLASS A	13157136.92		230746	3.324849	0
MML Global Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	12695492.02		25166	3.20819	0
MML Global Fund	EQUITY	VISA INC CLASS A SHARES	11747350.62		50241	2.968592	0
MML Global Fund	EQUITY	MEDTRONIC PLC	11281058.53		90881	2.850758	0
MML Global Fund	EQUITY	SCHNEIDER ELECTRIC SE	10905678.64		69280	2.755899	0
MML Global Fund	EQUITY	ROCHE HOLDING AG GENUSSCHEIN	10120483.22		26854	2.557477	0
MML Global Fund	EQUITY	LVMH MOET HENNESSY LOUIS VUI	9623005.72		12256	2.431763	0
MML Global Fund	EQUITY	ACCENTURE PLC CL A	9572126.09		32471	2.418906	0
MML Global Fund	EQUITY	NESTLE SA REG	9389343.07		75395	2.372716	0
MML Global Fund	EQUITY	DIAGEO PLC	9240849.83		192825	2.335191	0
MML Global Fund	EQUITY	HONEYWELL INTERNATIONAL INC	8640635.2		39392	2.183515	0
MML Global Fund	EQUITY	WALT DISNEY CO/THE	7179149.88		40844	1.814193	0
MML Global Fund	EQUITY	DANONE	7023352.31		99724	1.774823	0
MML Global Fund	EQUITY	LINDE PLC	6897227.32		23871	1.742951	0
MML Global Fund	EQUITY	STRYKER CORP	6781290.57		26109	1.713653	0
MML Global Fund	EQUITY	ESSITY AKTIEBOLAG B	6732987.83		203057	1.701447	0
MML Global Fund	EQUITY	CANADIAN NATL RAILWAY CO	6630876.8		62840	1.675643	0
MML Global Fund	EQUITY	GOLDMAN SACHS GROUP INC	6613689.78		17426	1.6713	0
MML Global Fund	EQUITY	HEINEKEN NV	6600433.32		54446	1.66795	0
MML Global Fund	EQUITY	ORACLE CORP	6068172.88		77957	1.533446	0
MML Global Fund	EQUITY	PERNOD RICARD SA	6045482.02		27237	1.527712	0
MML Global Fund	EQUITY	RECKITT BENCKISER GROUP PLC	5896392.63		66625	1.490037	0
MML Global Fund	EQUITY	SCHWAB (CHARLES) CORP	5733860.31		78751	1.448964	0
MML Global Fund	EQUITY	3M CO	5729680.98		28846	1.447908	0
MML Global Fund	EQUITY	ABBOTT LABORATORIES	5616576.64		48448	1.419326	0
MML Global Fund	EQUITY	FIDELITY NATIONAL INFO SERV	5400885.41		38123	1.36482	0
MML Global Fund	EQUITY	BOSTON SCIENTIFIC CORP	5336704.56		124806	1.348602	0
MML Global Fund	EQUITY	KANSAS CITY SOUTHERN	5257646.98		18554	1.328624	0
MML Global Fund	EQUITY	AKZO NOBEL N.V.	5187088.89		41975	1.310793	0
MML Global Fund	EQUITY	PAYPAL HOLDINGS INC	5170563.72		17739	1.306617	0
MML Global Fund	EQUITY	MERCK KGAA	5101024.3		26572	1.289045	0
MML Global Fund	EQUITY	AMERICAN EXPRESS CO	5085448.94		30778	1.285109	0
MML Global Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	5013354.52		41408	1.26689	0
MML Global Fund	EQUITY	FISERV INC	4975729.5		46550	1.257382	0
MML Global Fund	EQUITY	EQUIFAX INC	4914745.2		20520	1.241971	0
MML Global Fund	EQUITY	LEGRAND SA	4625457.74		43676	1.168867	0
MML Global Fund	EQUITY	PPG INDUSTRIES INC	4562568.75		26875	1.152975	0
MML Global Fund	EQUITY	UNITED PARCEL SERVICE CL B	4380680.08		21064	1.107011	0
MML Global Fund	EQUITY	KUBOTA CORP	4340762.08		214700	1.096924	0
MML Global Fund	EQUITY	LIBERTY BROADBAND C	4318403.22		24867	1.091274	0
MML Global Fund	EQUITY	BAYER AG REG	4300147.55		70794	1.086661	0
MML Global Fund	EQUITY	AON PLC CLASS A	4298396.28		18003	1.086218	0
MML Global Fund	EQUITY	EBAY INC	4199260.1		59810	1.061166	0
MML Global Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	4152178.41		4152178.41	1.049268	0
MML Global Fund	EQUITY	SAMSUNG ELECTRONICS CO LTD	3965223.4		55322	1.002024	0
MML Global Fund	EQUITY	WATERS CORP	3921291.06		11346	0.990922	0
MML Global Fund	EQUITY	COOPER COS INC/THE	3765753.81		9503	0.951618	0
MML Global Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	3732793.02		23211	0.943288	0
MML Global Fund	EQUITY	CHECK POINT SOFTWARE TECH	3704895.39		31903	0.936238	0
MML Global Fund	EQUITY	AIR LIQUIDE SA	3613996.69		20625	0.913268	0
MML Global Fund	EQUITY	CANADIAN PACIFIC RAILWAY LTD	3577468.65		46515	0.904037	0
MML Global Fund	EQUITY	COLGATE PALMOLIVE CO	3409134.45		41907	0.861499	0
MML Global Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	3360425.94		48519	0.84919	0
MML Global Fund	EQUITY	UNION PACIFIC CORP	3348434.25		15225	0.84616	0
MML Global Fund	EQUITY	AENA SME SA	3341365.08		20378	0.844373	0
MML Global Fund	EQUITY	UBS GROUP AG REG	3103071.59		202663	0.784156	0
MML Global Fund	EQUITY	WPP PLC	2964639.53		218988	0.749174	0
MML Global Fund	EQUITY	COMPASS GROUP PLC	2632819.3		124831	0.665322	0
MML Global Fund	EQUITY	BURBERRY GROUP PLC	2554638.48		89195	0.645565	0
MML Global Fund	EQUITY	CARLSBERG AS B	2286735.26		12249	0.577865	0
MML Global Fund	EQUITY	AMPHENOL CORP CL A	2192677.32		32052	0.554096	0

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Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Global Fund	EQUITY	APTIV PLC	2135440.09		13573	0.539632	0
MML Global Fund	EQUITY	WILLIS TOWERS WATSON PLC	2084671.26		9063	0.526803	0
MML Global Fund	EQUITY	HOYA CORP	2080859.81		15700	0.52584	0
MML Global Fund	EQUITY	BRENTAG SE	2080408.09		22370	0.525726	0
MML Global Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	2079609.16		15233	0.525524	0
MML Global Fund	EQUITY	OTIS WORLDWIDE CORP	2075404.37		25381	0.524461	0
MML Global Fund	EQUITY	INTL FLAVORS + FRAGRANCES	2074867.2		13888	0.524325	0
MML Global Fund	EQUITY	MICROCHIP TECHNOLOGY INC	1961594		13100	0.495701	0
MML Global Fund	EQUITY	ROLLS ROYCE HOLDINGS PLC	1937117.63		1412006	0.489516	0
MML Global Fund	EQUITY	DEUTSCHE BOERSE AG	1908893.24		10936	0.482383	0
MML Global Fund	EQUITY	MTU AERO ENGINES AG	1877353.92		7577	0.474413	0
MML Global Fund	EQUITY	WHITBREAD PLC	1820784.73		42073	0.460118	0
MML Global Fund	EQUITY	LINDE PLC	1820462.7		6297	0.460037	0
MML Global Fund	EQUITY	JULIUS BAER GROUP LTD	1678717.56		25739	0.424217	0
MML Global Fund	EQUITY	ADECCO GROUP AG REG	1645473.86		24209	0.415816	0
MML Global Fund	EQUITY	CISCO SYSTEMS INC	1560585		29445	0.394365	0
MML Global Fund	EQUITY	ESSILORLUXOTTICA	1551038.22		8400	0.391952	0
MML Global Fund	EQUITY	STATE STREET CORP	1413323.56		17177	0.357151	0
MML Global Fund	EQUITY	OLYMPUS CORP	1410591.68		71000	0.356461	0
MML Global Fund	EQUITY	HERMES INTERNATIONAL	1398267.36		959	0.353346	0
MML Global Fund	EQUITY	SONOVA HOLDING AG REG	1332107.28		3540	0.336628	0
MML Global Fund	EQUITY	ERSTE GROUP BANK AG	1097002.51		29926	0.277216	0
MML Global Fund	EQUITY	CARRIER GLOBAL CORP	1065457.8		21923	0.269244	0
MML Global Fund	EQUITY	BANK OF NEW YORK MELLON CORP	1037919.8		20260	0.262286	0
MML Global Fund	EQUITY	OMNICOM GROUP	988916.37		12363	0.249902	0
MML Global Fund	EQUITY	GRUPO FINANCIERO BANORTE O	870612.29		135204	0.220006	0
MML Global Fund	EQUITY	WOLTERS KLUWER	617719.6		6146	0.1561	0
MML Global Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	70683.69		105484	0.017862	0
MML Global Fund	CASH	US DOLLAR	26712.11		26712.11	0.00675	0
MML Global Fund	CASH	JAPANESE YEN	0.01		1	0	0
MML Growth & Income Fund	EQUITY	MICROSOFT CORP	9115785		33650	5.321644	0
MML Growth & Income Fund	EQUITY	ALPHABET INC CL A	8387548.65		3435	4.896512	0
MML Growth & Income Fund	EQUITY	JPMORGAN CHASE + CO	4513304.18		29017	2.634792	0
MML Growth & Income Fund	EQUITY	BANK OF AMERICA CORP	4137719.11		100357	2.415532	0
MML Growth & Income Fund	EQUITY	APPLE INC	3907879.68		28533	2.281355	0
MML Growth & Income Fund	EQUITY	VISA INC CLASS A SHARES	3793729.5		16225	2.214716	0
MML Growth & Income Fund	EQUITY	FACEBOOK INC CLASS A	3744836.7		10770	2.186174	0
MML Growth & Income Fund	EQUITY	JOHNSON + JOHNSON	3631199.08		22042	2.119834	0
MML Growth & Income Fund	EQUITY	AMERICAN TOWER CORP	3583947.38		13267	2.092249	0
MML Growth & Income Fund	EQUITY	HONEYWELL INTERNATIONAL INC	3325346		15160	1.941282	0
MML Growth & Income Fund	EQUITY	MEDTRONIC PLC	3290438.04		26508	1.920903	0
MML Growth & Income Fund	EQUITY	MASTERCARD INC A	3204029.84		8776	1.87046	0
MML Growth & Income Fund	EQUITY	COMCAST CORP CLASS A	3189698.8		55940	1.862093	0
MML Growth & Income Fund	EQUITY	THERMO FISHER SCIENTIFIC INC	3118633.54		6182	1.820607	0
MML Growth & Income Fund	EQUITY	ADOBE INC	3053526.96		5214	1.782598	0
MML Growth & Income Fund	EQUITY	TARGET CORP	3019332.6		12490	1.762636	0
MML Growth & Income Fund	EQUITY	GOLDMAN SACHS GROUP INC	3000564.18		7906	1.75168	0
MML Growth & Income Fund	EQUITY	ALPHABET INC CL C	3000065.04		1197	1.751388	0
MML Growth & Income Fund	EQUITY	TEXAS INSTRUMENTS INC	2915268		15160	1.701885	0
MML Growth & Income Fund	EQUITY	FIDELITY NATIONAL INFO SERV	2898851.54		20462	1.692301	0
MML Growth & Income Fund	EQUITY	BECTON DICKINSON AND CO	2731023.7		11230	1.594326	0
MML Growth & Income Fund	EQUITY	NASDAQ INC	2718571.2		15464	1.587057	0
MML Growth & Income Fund	EQUITY	ELECTRONIC ARTS INC	2563338.26		17822	1.496434	0
MML Growth & Income Fund	EQUITY	HOME DEPOT INC	2531986.6		7940	1.478132	0
MML Growth & Income Fund	EQUITY	LVMH MOET HENNESSY LOUIS VUI	2525096.8		3216	1.47411	0
MML Growth & Income Fund	EQUITY	DANAHER CORP	2487160.48		9268	1.451963	0
MML Growth & Income Fund	EQUITY	PRA HEALTH SCIENCES INC	2436847.5		14750	1.422591	0
MML Growth & Income Fund	EQUITY	MERCK + CO. INC.	2434745.39		31307	1.421364	0
MML Growth & Income Fund	EQUITY	ELI LILLY + CO	2342710.64		10207	1.367636	0
MML Growth & Income Fund	EQUITY	EQUINIX INC	2251293		2805	1.314268	0
MML Growth & Income Fund	EQUITY	DIAGEO PLC	2235823.19		46654	1.305237	0
MML Growth & Income Fund	EQUITY	CANADIAN NATL RAILWAY CO	2137835.2		20260	1.248033	0
MML Growth & Income Fund	EQUITY	TRACTOR SUPPLY COMPANY	2129642.76		11446	1.24325	0
MML Growth & Income Fund	EQUITY	SALESFORCE.COM INC	2086554.34		8542	1.218096	0
MML Growth & Income Fund	EQUITY	ACCENTURE PLC CL A	2070604.96		7024	1.208785	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Growth & Income Fund	EQUITY	CROWN HOLDINGS INC	2048186.19		20039	1.195697	0
MML Growth & Income Fund	EQUITY	PERNOD RICARD SA	1994074.62		8984	1.164108	0
MML Growth & Income Fund	EQUITY	DOLLAR GENERAL CORP	1902717.27		8793	1.110775	0
MML Growth & Income Fund	EQUITY	TRUIST FINANCIAL CORP	1898211		34202	1.108144	0
MML Growth & Income Fund	EQUITY	AMDOCS LTD	1895706.8		24505	1.106682	0
MML Growth & Income Fund	EQUITY	VERTEX PHARMACEUTICALS INC	1884433.98		9346	1.100101	0
MML Growth & Income Fund	EQUITY	ANALOG DEVICES INC	1870174.08		10863	1.091777	0
MML Growth & Income Fund	EQUITY	DANONE	1852746.87		26307	1.081603	0
MML Growth & Income Fund	EQUITY	COSTCO WHOLESALE CORP	1821664.68		4604	1.063458	0
MML Growth & Income Fund	EQUITY	SHERWIN WILLIAMS CO/THE	1764931.1		6478	1.030338	0
MML Growth & Income Fund	EQUITY	TE CONNECTIVITY LTD	1687015.17		12477	0.984851	0
MML Growth & Income Fund	EQUITY	COLGATE PALMOLIVE CO	1664746.4		20464	0.971851	0
MML Growth & Income Fund	EQUITY	NIKE INC CL B	1650725.65		10685	0.963666	0
MML Growth & Income Fund	EQUITY	ZOETIS INC	1630650		8750	0.951946	0
MML Growth & Income Fund	EQUITY	JOHNSON CONTROLS INTERNATION	1558930.45		22715	0.910078	0
MML Growth & Income Fund	EQUITY	AMETEK INC	1556743.5		11661	0.908801	0
MML Growth & Income Fund	EQUITY	CHUBB LTD	1541082.24		9696	0.899658	0
MML Growth & Income Fund	EQUITY	BLACKSTONE GROUP INC/THE	1463025.54		15061	0.85409	0
MML Growth & Income Fund	EQUITY	CIGNA CORP	1462010.69		6167	0.853498	0
MML Growth & Income Fund	EQUITY	CONOCOPHILLIPS	1424938.2		23398	0.831855	0
MML Growth & Income Fund	EQUITY	ILLUMINA INC	1423415.68		3008	0.830966	0
MML Growth & Income Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	1412391.14	1412391.14		0.824531	7/1/2021
MML Growth & Income Fund	EQUITY	DUPOINT DE NEMOURS INC	1361177.44		17584	0.794633	0
MML Growth & Income Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	1359500.16		15936	0.793654	0
MML Growth & Income Fund	EQUITY	KIMBERLY CLARK CORP	1349438.86		10087	0.78778	0
MML Growth & Income Fund	EQUITY	SCHWAB (CHARLES) CORP	1333223.91		18311	0.778314	0
MML Growth & Income Fund	EQUITY	FORTIVE CORP	1316621.46		18879	0.768622	0
MML Growth & Income Fund	EQUITY	FISERV INC	1274770.14		11926	0.74419	0
MML Growth & Income Fund	EQUITY	MONDELEZ INTERNATIONAL INC A	1227507.96		19659	0.716599	0
MML Growth & Income Fund	EQUITY	STARBUCKS CORP	1174228.62		10502	0.685495	0
MML Growth & Income Fund	EQUITY	PPG INDUSTRIES INC	1137798.54		6702	0.664228	0
MML Growth & Income Fund	EQUITY	APPLIED MATERIALS INC	1105166.4		7761	0.645178	0
MML Growth & Income Fund	EQUITY	ESTEE LAUDER COMPANIES CL A	1026444.16		3227	0.599221	0
MML Growth & Income Fund	EQUITY	CABLE ONE INC	971707.48		508	0.567267	0
MML Growth & Income Fund	EQUITY	MASCO CORP	947390.62		16082	0.553071	0
MML Growth & Income Fund	EQUITY	AMERICAN ELECTRIC POWER	938187.69		11091	0.547698	0
MML Growth & Income Fund	EQUITY	ICON PLC	936809.72		4532	0.546894	0
MML Growth & Income Fund	EQUITY	ENTERPRISE PRODUCTS PARTNERS	500794.02		20754	0.292355	0
MML Growth & Income Fund	EQUITY	HOWMET AEROSPACE INC	499780.53		14499	0.291764	0
MML Growth & Income Fund	EQUITY	RAYONIER INC	479701.43		13351	0.280042	0
MML Growth & Income Fund	EQUITY	OLD DOMINION FREIGHT LINE	424099.8		1671	0.247582	0
MML Growth & Income Fund	CASH	US DOLLAR	8594.22	8594.22		0.005017	0
MML Growth Allocation Fund	EQUITY	MML GLOBAL FD	126640990.7	8107617.845		10.213286	0
MML Growth Allocation Fund	EQUITY	MML MANAGED BOND FUND	95386380.59	6980963.735		7.692678	0
MML Growth Allocation Fund	EQUITY	MML FOCUSED EQUITY FUND	84331864.76	10607781.73		6.801158	0
MML Growth Allocation Fund	EQUITY	MML BLUE CHIP GROWTH FD	79266411.07	3437398.572		6.392642	0
MML Growth Allocation Fund	EQUITY	MML MID CAP GROWTH FD	74376331.34	3758278.491		5.998269	0
MML Growth Allocation Fund	EQUITY	MML EQUITY INCOME FD	70332050.64	5779133.167		5.672108	0
MML Growth Allocation Fund	EQUITY	MML INCOME AND GROWTH FD	68684609.64	5742860.338		5.539246	0
MML Growth Allocation Fund	EQUITY	MML FUNDAMENTAL VALUE FUND	65679480.64	4668051.218		5.296889	0
MML Growth Allocation Fund	EQUITY	MML MID CAP VALUE FD	63748949.7	5195513.423		5.141197	0
MML Growth Allocation Fund	EQUITY	MML INTERNATIONAL EQUITY FUND	60013309.29	5296849.893		4.839926	0
MML Growth Allocation Fund	EQUITY	MML DYNAMIC BOND FUND	53807036.7	5158872.167		4.339406	0
MML Growth Allocation Fund	EQUITY	MML FUNDAMENTAL GROWTH FUND	51166699.5	4103183.601		4.126469	0
MML Growth Allocation Fund	EQUITY	MML TOTAL RETURN BOND FUND	50493825.36	4528594.203		4.072203	0
MML Growth Allocation Fund	EQUITY	MML FOREIGN FD	49273748.45	4435080.869		3.973807	0
MML Growth Allocation Fund	EQUITY	MML INFLATION PROTECTED BD FD	47500198.84	4070282.677		3.830775	0
MML Growth Allocation Fund	EQUITY	MML STRG EMERGING MARKETS FUND	41551327.98	2689406.342		3.351013	0
MML Growth Allocation Fund	EQUITY	MML SHORT DURATION BOND FUND	30170614.56	3005041.291		2.433186	0
MML Growth Allocation Fund	EQUITY	MML LARGE CAP GROWTH FD	28398770.54	1787210.229		2.290291	0
MML Growth Allocation Fund	EQUITY	MML SMALL COMPANY VALUE FUND	26122817.66	1470051.641		2.106741	0
MML Growth Allocation Fund	EQUITY	MML SMALL/MID CAP VALUE	21469439.98	1547904.829		1.731458	0
MML Growth Allocation Fund	EQUITY	MML HIGH YIELD FUND	14876230.65	1391602.493		1.199732	0
MML Growth Allocation Fund	EQUITY	INVESCO VI GLOBAL STRATEGIC IN	14223521.28	3026281.123		1.147092	0
MML Growth Allocation Fund	EQUITY	MML SMALL CAP GROWTH EQUITY FD	12574215.59	692387.627		1.01408	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Growth Allocation Fund	EQUITY	MML SER INVT FD	5073768.21	152000.246	0.409187	0	
MML Growth Allocation Fund	EQUITY	INVESCO VI GLOBAL FUND	3609573.47	61988.21	0.291103	0	
MML Growth Allocation Fund	EQUITY	INVESCO VI DISCOVERY MID CAP G	675988.94	5785.1	0.054517	0	
MML Growth Allocation Fund	EQUITY	INVESCO OPPENHEIMER VI INTERNA	515083.54	165621.718	0.04154	0	
MML High Yield Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	4168477.01	4168477.01	4.349489	0	7/1/2021
MML High Yield Fund	FIXED INCOME	VERITAS US INC/BERMUDA L	1843540.12	1796000	1.923594	10.5	2/1/2024
MML High Yield Fund	FIXED INCOME	KENAN ADVANTAGE GROUP	1697450	1700000	1.77116	7.875	7/31/2023
MML High Yield Fund	FIXED INCOME	FINASTRA USA, INC.	1647794.38	1675183.63	1.719348	0	6/13/2024
MML High Yield Fund	FIXED INCOME	GLOBAL AIR LEASE CO LTD	1453666.06	1445880	1.51679	6.5	9/15/2024
MML High Yield Fund	FIXED INCOME	FINASTRA USA, INC.	1413482	1400000	1.474861	0	6/13/2025
MML High Yield Fund	EQUITY	TOURMALINE OIL CORP	1293726.62	45264	1.349906	0	
MML High Yield Fund	FIXED INCOME	TRIUMPH GROUP INC	1278686.53	1243000	1.334212	7.75	8/15/2025
MML High Yield Fund	FIXED INCOME	JBS USA/FOOD/FINANCE	1229393.44	1094000	1.282779	6.5	4/15/2029
MML High Yield Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	1129912.5	1039000	1.178978	4.542	8/1/2026
MML High Yield Fund	FIXED INCOME	LBC TANK TERMINAL HLDING	1108222.5	1111000	1.156346	6.875	5/15/2023
MML High Yield Fund	FIXED INCOME	FORD MOTOR COMPANY	1041810	726000	1.08705	9.625	4/22/2030
MML High Yield Fund	FIXED INCOME	CVR ENERGY INC	1012738.5	1005000	1.056716	5.75	2/15/2028
MML High Yield Fund	FIXED INCOME	JBS USA/FOOD/FINANCE	923781.88	826000	0.963896	5.5	1/15/2030
MML High Yield Fund	FIXED INCOME	JBS USA LUX/JBS USA FIN	905370	824000	0.944685	6.75	2/15/2028
MML High Yield Fund	FIXED INCOME	SYNIVERSE HLDGS INC	893885.14	903708.45	0.932701	0	3/9/2023
MML High Yield Fund	FIXED INCOME	ANTERO MIDSTREAM PART/FI	889252.5	853000	0.927867	5.375	6/15/2029
MML High Yield Fund	FIXED INCOME	CONSOLIDATED ENERGY FIN	830216.05	815000	0.866267	6.875	6/15/2025
MML High Yield Fund	FIXED INCOME	WYNN LAS VEGAS LLC/CORP	796876.4	740000	0.83148	5.5	3/1/2025
MML High Yield Fund	FIXED INCOME	PBF HOLDING CO LLC	770625	1125000	0.804089	6	2/15/2028
MML High Yield Fund	FIXED INCOME	HUGHES SATELLITE SYSTEMS	770298.75	687000	0.803748	6.625	8/1/2026
MML High Yield Fund	FIXED INCOME	MAUSER PACKAGING SOLUT	765380	781000	0.798616	7.25	4/15/2025
MML High Yield Fund	FIXED INCOME	CVENT INC	764842.57	776095.96	0.798055	0	11/29/2024
MML High Yield Fund	FIXED INCOME	MCAFFEE LLC	763658.44	764422.86	0.79682	0	5/3/2028
MML High Yield Fund	FIXED INCOME	DIEBOLD NIXDORF INC	748406.25	675000	0.780905	9.375	7/15/2025
MML High Yield Fund	FIXED INCOME	WELLTEC A/S	697479.6	683000	0.727767	9.5	12/1/2022
MML High Yield Fund	FIXED INCOME	DISH NETWORK CORP	693940	680000	0.724074	3.375	8/15/2026
MML High Yield Fund	FIXED INCOME	MATTAMY GROUP CORP	682362	668000	0.711993	4.625	3/1/2030
MML High Yield Fund	FIXED INCOME	CONSOLIDATED ENERGY FIN S A	672534.98	693635.37	0.701739	0	5/7/2025
MML High Yield Fund	FIXED INCOME	FIRST QUANTUM MINERALS L	671771.42	659000	0.700942	7.25	4/1/2023
MML High Yield Fund	FIXED INCOME	KINROSS GOLD CORP	665572.88	476000	0.694475	6.875	9/1/2041
MML High Yield Fund	FIXED INCOME	PICAU HOLD LLC/HOLD CORP	651900	656000	0.680208	10	12/31/2024
MML High Yield Fund	FIXED INCOME	PAR PHARMACEUTICAL INC	643152.5	629000	0.671081	7.5	4/1/2027
MML High Yield Fund	FIXED INCOME	SPIN HOLDCO INC	627404.97	627323.42	0.654649	0	3/1/2028
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	621896	550000	0.648901	6.2	3/15/2040
MML High Yield Fund	FIXED INCOME	FORD MOTOR COMPANY	620680	472000	0.647632	7.45	7/16/2031
MML High Yield Fund	FIXED INCOME	NEPTUNE ENERGY BONDCO	609859.8	594000	0.636342	6.625	5/15/2025
MML High Yield Fund	FIXED INCOME	ONEMAIN FINANCE CORP	600432.48	552000	0.626506	5.375	11/15/2029
MML High Yield Fund	FIXED INCOME	PG+E CORP	573305.04	567000	0.5982	5	7/1/2028
MML High Yield Fund	FIXED INCOME	NGL ENRGY OP/FIN CORP	573300	546000	0.598195	7.5	2/1/2026
MML High Yield Fund	FIXED INCOME	AMERICAN AIRLINES/AADVAN	566431.25	535000	0.591028	5.5	4/20/2026
MML High Yield Fund	FIXED INCOME	TERRIER MEDIA BUYER INC	565682.03	523000	0.590246	8.875	12/15/2027
MML High Yield Fund	FIXED INCOME	WARRIOR MET COAL INC	542010	534000	0.565546	8	11/1/2024
MML High Yield Fund	FIXED INCOME	RENAISSANCE HLDG CORP	538498.39	539037.43	0.561882	0	5/29/2026
MML High Yield Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	528912.45	467000	0.55188	7.5	9/15/2025
MML High Yield Fund	FIXED INCOME	AADVANTAGE LOYALTY IP LTD	527659.19	506512.3	0.550572	0	4/20/2028
MML High Yield Fund	FIXED INCOME	NCL CORPORATION LTD	522702.5	499000	0.5454	5.875	3/15/2026
MML High Yield Fund	FIXED INCOME	PRIME SECSRVC BRW/FINANC	518046.25	487000	0.540542	6.25	1/15/2028
MML High Yield Fund	FIXED INCOME	IHEARTCOMMUNICATIONS INC	516342.5	482000	0.538764	8.375	5/1/2027
MML High Yield Fund	FIXED INCOME	SUNCOKE ENGY PART FIN CO	510966.6	492000	0.533155	7.5	6/15/2025
MML High Yield Fund	FIXED INCOME	CARNIVAL CORP	510132.5	487000	0.532285	5.75	3/1/2027
MML High Yield Fund	FIXED INCOME	CLARIOS GLOBAL LP/US FIN	509123.4	467000	0.531232	8.5	5/15/2027
MML High Yield Fund	FIXED INCOME	NMG HLDGO/NEIMAN MARCUS	503745	473000	0.52562	7.125	4/1/2026
MML High Yield Fund	FIXED INCOME	CAESARS ENTERTAIN INC	492704.6	443000	0.5141	8.125	7/1/2027
MML High Yield Fund	FIXED INCOME	BANFF MERGER SUB INC	490465	466000	0.511763	9.75	9/1/2026
MML High Yield Fund	FIXED INCOME	MCG HILL/MCG GLB ED FIN	483642.5	473000	0.504644	8	11/30/2024
MML High Yield Fund	FIXED INCOME	ITT HOLDINGS LLC	480156.7	470000	0.501007	6.5	8/1/2029
MML High Yield Fund	FIXED INCOME	LCPR SR SECURED FIN DAC	479731.2	465000	0.500563	5.125	7/15/2029
MML High Yield Fund	FIXED INCOME	STAPLES INC	478287.5	461000	0.499057	7.5	4/15/2026
MML High Yield Fund	FIXED INCOME	AMERICAN AIRLINES INC	475645	379000	0.496299	11.75	7/15/2025
MML High Yield Fund	FIXED INCOME	SPRINT CORP	470920	386000	0.491369	7.625	3/1/2026

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML High Yield Fund	FIXED INCOME	RADIOLOGY PARTNERS INC	470609.07	471000	0.491045	0	7/9/2025
MML High Yield Fund	FIXED INCOME	GREAT OUTDOORS GROUP, LLC	470141.39	468968.97	0.490557	0	3/6/2028
MML High Yield Fund	FIXED INCOME	PIKE CORP	464880	447000	0.485067	5.5	9/1/2028
MML High Yield Fund	FIXED INCOME	STL HOLDING CO LLC	463100	440000	0.48321	7.5	2/15/2026
MML High Yield Fund	FIXED INCOME	HECLA MINING CO	462127.5	423000	0.482195	7.25	2/15/2028
MML High Yield Fund	FIXED INCOME	JB POINDEXTER + CO INC	460012.5	435000	0.479988	7.125	4/15/2026
MML High Yield Fund	FIXED INCOME	CLEAR CHANNEL OUTDOOR HLDNGS I	455942.35	467431.82	0.475741	0	8/21/2026
MML High Yield Fund	FIXED INCOME	RESIDEO FUNDING INC	454650	433000	0.474393	6.125	11/1/2026
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	454241.25	387000	0.473966	6.125	1/1/2031
MML High Yield Fund	FIXED INCOME	GENESIS ENERGY LP/FIN	443850	440000	0.463124	6.5	10/1/2025
MML High Yield Fund	FIXED INCOME	RHP HOTEL PPTY/RHP FINAN	436496.25	425000	0.455451	4.75	10/15/2027
MML High Yield Fund	FIXED INCOME	STAPLES INC	429026.3	422000	0.447656	10.75	4/15/2027
MML High Yield Fund	FIXED INCOME	LADDER CAP FIN LLLP/CORP	425531.25	425000	0.44401	4.75	6/15/2029
MML High Yield Fund	FIXED INCOME	WESTERN MIDSTREAM OPERAT	424935	399000	0.443387	5.3	3/1/2048
MML High Yield Fund	FIXED INCOME	BAUSCH HEALTH COS INC	423071.14	446000	0.441443	5	1/30/2028
MML High Yield Fund	FIXED INCOME	CONSOLIDATED COMMUNICATI	420618.25	391000	0.438883	6.5	10/1/2028
MML High Yield Fund	FIXED INCOME	JBS FINANCE LUXEMBOURG	419869.8	420000	0.438102	3.625	1/15/2032
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	418422.4	352000	0.436592	6.6	3/15/2046
MML High Yield Fund	FIXED INCOME	MAGIC MERGECO INC	417656.25	405000	0.435793	7.875	5/1/2029
MML High Yield Fund	FIXED INCOME	TENET HEALTHCARE CORP	405880	400000	0.423505	4.625	7/15/2024
MML High Yield Fund	FIXED INCOME	MEG ENERGY CORP	403758.18	379000	0.421291	7.125	2/1/2027
MML High Yield Fund	FIXED INCOME	TRIDENT TPI HOLDINGS INC	403370	386000	0.420886	9.25	8/1/2024
MML High Yield Fund	FIXED INCOME	CQP HOLDCO LP + BIP V CHINOOK	394914.21	379000	0.412063	5.5	6/15/2031
MML High Yield Fund	FIXED INCOME	AVAYA HOLDINGS CORP	391112.5	335000	0.408096	2.25	6/15/2023
MML High Yield Fund	FIXED INCOME	HILCORP ENERGY I/HILCORP	387812.5	365000	0.404653	6.25	11/1/2028
MML High Yield Fund	FIXED INCOME	M/I HOMES INC	383916	368000	0.400587	4.95	2/1/2028
MML High Yield Fund	FIXED INCOME	FREPORT MCMORAN INC	379193.75	359000	0.39566	4.375	8/1/2028
MML High Yield Fund	FIXED INCOME	L BRANDS INC	378982.5	299000	0.395439	6.875	11/1/2035
MML High Yield Fund	FIXED INCOME	TENET HEALTHCARE CORP	373380	350000	0.389594	6.125	10/1/2028
MML High Yield Fund	FIXED INCOME	ALTICE FRANCE SA	369803.2	368000	0.385862	5.125	7/15/2029
MML High Yield Fund	FIXED INCOME	MSG NATIONAL PROPERTIES LLC	364661.74	354040.52	0.380497	0	11/12/2025
MML High Yield Fund	FIXED INCOME	NEW ENTERPRISE STONE + L	361760	323000	0.377469	9.75	7/15/2028
MML High Yield Fund	FIXED INCOME	BAUSCH HEALTH COS INC	358444.8	384000	0.37401	5.25	2/15/2031
MML High Yield Fund	FIXED INCOME	ACURIS FIN US/ACURIS FIN	357872.74	359000	0.373413	5	5/1/2028
MML High Yield Fund	FIXED INCOME	CELESTIAL SATURN PARENT INC	356889.21	355113.64	0.372387	0	4/13/2029
MML High Yield Fund	FIXED INCOME	ATKORE INC	351441.6	347000	0.366703	4.25	6/1/2031
MML High Yield Fund	FIXED INCOME	ENDURE DIGITAL INC	346500	350000	0.361546	6	2/15/2029
MML High Yield Fund	FIXED INCOME	WINDSTREAM ESCROW LLC	339900	330000	0.35466	7.75	8/15/2028
MML High Yield Fund	FIXED INCOME	EMERGENT BIOSOLUTIONS	339893.44	347000	0.354653	3.875	8/15/2028
MML High Yield Fund	FIXED INCOME	CLARK EQUIPMENT CO	339457.5	321000	0.354198	5.875	6/1/2025
MML High Yield Fund	FIXED INCOME	LCPR SR SECURED FIN DAC	338330.29	314000	0.353022	6.75	10/15/2027
MML High Yield Fund	FIXED INCOME	TRANSIDGM INC	333380	316000	0.347857	6.25	3/15/2026
MML High Yield Fund	FIXED INCOME	TENET HEALTHCARE CORP	331514.28	323000	0.34591	4.625	9/1/2024
MML High Yield Fund	FIXED INCOME	RADIOLOGY PARTNERS INC	331500	300000	0.345895	9.25	2/1/2028
MML High Yield Fund	FIXED INCOME	NORDSTROM INC	331282.63	331000	0.345668	5	1/15/2044
MML High Yield Fund	FIXED INCOME	REALOGY GROUP/CO ISSUER	325116.29	311000	0.339234	5.75	1/15/2029
MML High Yield Fund	FIXED INCOME	IRON MOUNTAIN INC	320749.74	303000	0.334678	5.25	7/15/2030
MML High Yield Fund	FIXED INCOME	TARGA RESOURCES PARTNERS	319337.5	295000	0.333204	4.875	2/1/2031
MML High Yield Fund	FIXED INCOME	CORE + MAIN LP	319260	313000	0.333124	6.125	8/15/2025
MML High Yield Fund	FIXED INCOME	CLEAR CHANNEL WORLDWIDE	319219.31	313000	0.333081	5.125	8/15/2027
MML High Yield Fund	FIXED INCOME	UNITED AIRLINES, INC.	318419.43	314575.32	0.332247	0	4/21/2028
MML High Yield Fund	FIXED INCOME	CLEAR CHANNEL OUTDOOR HO	315303.52	301000	0.328995	7.75	4/15/2028
MML High Yield Fund	FIXED INCOME	GATES GLOBAL/GATES CORP	312159.47	298000	0.325715	6.25	1/15/2026
MML High Yield Fund	FIXED INCOME	TRIUMPH GROUP INC	310590	306000	0.324077	6.25	9/15/2024
MML High Yield Fund	FIXED INCOME	JAZZ SECURITIES DAC	310003.2	299000	0.323465	4.375	1/15/2029
MML High Yield Fund	FIXED INCOME	HIGHLAND HOLDINGS BOND	309947.12	293000	0.323406	7.625	10/15/2025
MML High Yield Fund	FIXED INCOME	ION TRADING TECHNOLOGIES	309394.03	298000	0.322829	5.75	5/15/2028
MML High Yield Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	306564.67	289000	0.319877	4.125	8/17/2027
MML High Yield Fund	FIXED INCOME	COMPASS MINERALS INTERNA	303555	294000	0.316737	4.875	7/15/2024
MML High Yield Fund	FIXED INCOME	BAUSCH HEALTH COS INC	301268.75	295000	0.314351	4.875	6/1/2028
MML High Yield Fund	FIXED INCOME	BAUSCH HEALTH COS INC	297600	320000	0.310523	5.25	1/30/2030
MML High Yield Fund	FIXED INCOME	CF INDUSTRIES INC	297408	240000	0.310323	5.375	3/15/2044
MML High Yield Fund	FIXED INCOME	FORD MOTOR COMPANY	297121.67	241000	0.310024	9	4/22/2025
MML High Yield Fund	FIXED INCOME	AMBIENCE MERGER	296572.5	294000	0.309451	7.125	7/15/2029
MML High Yield Fund	FIXED INCOME	CORONADO FINANCE PTY LTD	291810	274000	0.304482	10.75	5/15/2026

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML High Yield Fund	FIXED INCOME	MILEAGE PLUS HLDINGS LLC	291765	265000	0.304435	6.5	6/20/2027
MML High Yield Fund	FIXED INCOME	VIRGIN MEDIA SECURED FIN	282100	280000	0.29435	4.5	8/15/2030
MML High Yield Fund	FIXED INCOME	WYNN MACAU LTD	276040	268000	0.288027	5.125	12/15/2029
MML High Yield Fund	FIXED INCOME	TRANSIDGM INC	275527.5	255000	0.287492	8	12/15/2025
MML High Yield Fund	FIXED INCOME	CARLSON TRAVEL INC	272136.48	296000	0.283954	6.75	12/15/2025
MML High Yield Fund	FIXED INCOME	BAUSCH HEALTH AMERICAS	271725	250000	0.283524	8.5	1/31/2027
MML High Yield Fund	FIXED INCOME	NABORS INDUSTRIES LTD	270480	276000	0.282225	7.25	1/15/2026
MML High Yield Fund	FIXED INCOME	UNIVAR SOLUTIONS USA INC	267017.5	254000	0.278612	5.125	12/1/2027
MML High Yield Fund	FIXED INCOME	BCPE ULYSSES INTERMEDIAT	266500	260000	0.278073	7.75	4/1/2027
MML High Yield Fund	FIXED INCOME	PARKLAND CORP	263269.89	247000	0.274702	5.875	7/15/2027
MML High Yield Fund	FIXED INCOME	CLEAR CHANNEL OUTDOOR HO	258834.13	250000	0.270074	7.5	6/1/2029
MML High Yield Fund	FIXED INCOME	BROOKFIELD RESID PROPERT	258468.3	261000	0.269692	4.875	2/15/2030
MML High Yield Fund	FIXED INCOME	DELTA 2 (LUX) SARL	258094.39	259675.82	0.269302	0	2/1/2024
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	257054	215000	0.268216	6.45	9/15/2036
MML High Yield Fund	FIXED INCOME	RADIATE HOLDCO / FINANCE	255259.35	243000	0.266344	6.5	9/15/2028
MML High Yield Fund	FIXED INCOME	TRANSOCEAN INC	252840	294000	0.263819	7.5	1/15/2026
MML High Yield Fund	FIXED INCOME	CCO HLDGS LLC/CAP CORP	249275	236000	0.2601	4.75	3/1/2030
MML High Yield Fund	FIXED INCOME	BANIJAY ENTERTAINMENT	248832.5	241000	0.259638	5.375	3/1/2025
MML High Yield Fund	FIXED INCOME	HARVEST MIDSTREAM I LP	247608	228000	0.25836	7.5	9/1/2028
MML High Yield Fund	FIXED INCOME	AMERICAN AIRLINES/AADVAN	247226.11	229000	0.257962	5.75	4/20/2029
MML High Yield Fund	FIXED INCOME	DISH DBS CORP	245752.5	217000	0.256424	7.75	7/1/2026
MML High Yield Fund	FIXED INCOME	DCP MIDSTREAM OPERATING	245700	216000	0.256369	5.625	7/15/2027
MML High Yield Fund	FIXED INCOME	TRAVEL + LEISURE CO	241329	213000	0.251808	6.625	7/31/2026
MML High Yield Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	232585	257000	0.242685	5.6	4/1/2044
MML High Yield Fund	FIXED INCOME	CLEARWATER PAPER CORP	229137.5	230000	0.239088	4.75	8/15/2028
MML High Yield Fund	FIXED INCOME	FIRSTENERGY CORP	223013	186000	0.232697	5.35	7/15/2047
MML High Yield Fund	FIXED INCOME	CGG SA	221490	214000	0.231108	8.75	4/1/2027
MML High Yield Fund	FIXED INCOME	WESTERN MIDSTREAM OPERAT	217655	202000	0.227106	5.45	4/1/2044
MML High Yield Fund	FIXED INCOME	CHS/COMMUNITY HEALTH SYS	216195	213000	0.225583	6.125	4/1/2030
MML High Yield Fund	FIXED INCOME	MIDCONTINENT COMM + FIN	215254.1	205000	0.224601	5.375	8/15/2027
MML High Yield Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	213748	200000	0.22303	4.134	8/4/2025
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	212485	182000	0.221712	6.375	9/1/2028
MML High Yield Fund	FIXED INCOME	MOLINA HEALTHCARE INC	208500	200000	0.217554	4.375	6/15/2028
MML High Yield Fund	FIXED INCOME	APACHE CORP	207342.5	197000	0.216346	5.35	7/1/2049
MML High Yield Fund	FIXED INCOME	COMPASS MINERALS INTERNA	206400	192000	0.215363	6.75	12/1/2027
MML High Yield Fund	FIXED INCOME	ARETEC ESCROW ISSUER INC	204472.5	199000	0.213352	7.5	4/1/2029
MML High Yield Fund	FIXED INCOME	AHP HEALTH PARTN	202750	200000	0.211554	5.75	7/15/2029
MML High Yield Fund	FIXED INCOME	CCM MERGER INC	202650	193000	0.21145	6.375	5/1/2026
MML High Yield Fund	FIXED INCOME	COMMSCOPE TECH LLC	200165	196000	0.208857	6	6/15/2025
MML High Yield Fund	FIXED INCOME	HILTON GRAND VAC BOR ESC	198751.25	199000	0.207382	4.875	7/1/2031
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	198025	178000	0.206624	5.875	9/1/2025
MML High Yield Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	197925	182000	0.20652	6	7/1/2025
MML High Yield Fund	FIXED INCOME	CHESAPEAKE ENERGY CORP	197006.81	182000	0.205562	5.875	2/1/2029
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	194275	190000	0.202711	3.5	6/15/2025
MML High Yield Fund	FIXED INCOME	MURPHY OIL CORP	191891.7	182000	0.200224	6.375	7/15/2028
MML High Yield Fund	FIXED INCOME	WYNDHAM HOTELS + RESORTS	191771	185000	0.200098	4.375	8/15/2028
MML High Yield Fund	FIXED INCOME	SPRINT CAPITAL CORP	191520	126000	0.199837	8.75	3/15/2032
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	190179	198000	0.198437	4.4	4/15/2046
MML High Yield Fund	FIXED INCOME	NORTHWEST FIBER LLC/NORT	190125	169000	0.198381	10.75	6/1/2028
MML High Yield Fund	FIXED INCOME	MCAFFEE LLC	189600	192000	0.197833	0	5/3/2029
MML High Yield Fund	FIXED INCOME	UBER TECHNOLOGIES INC	187260.54	174000	0.195392	6.25	1/15/2028
MML High Yield Fund	FIXED INCOME	TRANSOCEAN INC	186480	222000	0.194578	8	2/1/2027
MML High Yield Fund	FIXED INCOME	ALLIANCE DATA SYSTEMS CO	181041.25	169000	0.188903	7	1/15/2026
MML High Yield Fund	FIXED INCOME	ENLINK MIDSTREAM LLC	180546.26	173000	0.188386	5.375	6/1/2029
MML High Yield Fund	FIXED INCOME	ATLANTICA SUSTAIN INFRA	180327.6	177000	0.188158	4.125	6/15/2028
MML High Yield Fund	FIXED INCOME	UNITI GROUP/CSL CAPITAL	179550	180000	0.187347	4.75	4/15/2028
MML High Yield Fund	FIXED INCOME	COMMSCOPE TECH LLC	178132.5	174000	0.185868	5	3/15/2027
MML High Yield Fund	FIXED INCOME	ANTERO RESOURCES CORP	177450	156000	0.185156	8.375	7/15/2026
MML High Yield Fund	FIXED INCOME	ADIANT GLOBAL HOLDINGS	174969.1	170000	0.182567	4.875	8/15/2026
MML High Yield Fund	FIXED INCOME	TELECOM ITALIA CAPITAL	173062.5	150000	0.180578	6	9/30/2034
MML High Yield Fund	FIXED INCOME	NORTHWEST FIBER LLC/NORT	171374.49	171000	0.178816	6	2/15/2028
MML High Yield Fund	FIXED INCOME	SCIENTIFIC GAMES INTERNA	170328	151000	0.177724	7.25	11/15/2029
MML High Yield Fund	FIXED INCOME	MAGIC MERGECO INC	170304.38	166000	0.1777	5.25	5/1/2028
MML High Yield Fund	FIXED INCOME	TRI POINTE HOMES INC	168682.5	153000	0.176007	5.7	6/15/2028
MML High Yield Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	168365	151000	0.175676	6.5	7/1/2027

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML High Yield Fund	FIXED INCOME	ONEMAIN FINANCE CORP	167255.92	169000	0.174519	4	9/15/2030
MML High Yield Fund	FIXED INCOME	WESTERN MIDSTREAM OPERAT	162400	145000	0.169452	5.3	2/1/2030
MML High Yield Fund	FIXED INCOME	SIMMONS FOOD INC/SIMMONS	162399.09	161000	0.169451	4.625	3/1/2029
MML High Yield Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	159728.3	157000	0.166664	4.5	1/15/2029
MML High Yield Fund	FIXED INCOME	ASP TPI HLDGS INC	159671.8	160474.17	0.166605	0	10/17/2024
MML High Yield Fund	FIXED INCOME	CORE + MAIN HOLDING LP	158100	155000	0.164965	8.625	9/15/2024
MML High Yield Fund	EQUITY	TOURMALINE OIL CORP	158018.68	195879.96	0.164881	0	
MML High Yield Fund	FIXED INCOME	HUDBAY MINERALS INC	156555	147000	0.163353	6.125	4/1/2029
MML High Yield Fund	FIXED INCOME	PEABODY ENERGY CORP	153308.25	204411	0.159966	8.5	12/31/2024
MML High Yield Fund	FIXED INCOME	MIDCAP FINANCIAL ISSR TR	151748.3	145000	0.158338	6.5	5/1/2028
MML High Yield Fund	FIXED INCOME	TRANSOCEAN INC	149640	172000	0.156138	7.25	11/1/2025
MML High Yield Fund	FIXED INCOME	SUPERIOR PLUS/GEN PRTR	149352.9	145000	0.155838	4.5	3/15/2029
MML High Yield Fund	FIXED INCOME	ALTICE FINANCING SA	148985.84	152000	0.155455	5	1/15/2028
MML High Yield Fund	FIXED INCOME	VIRGIN MEDIA FINANCE PLC	147735	147000	0.15415	5	7/15/2030
MML High Yield Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	146322.48	142000	0.152676	4.75	1/15/2031
MML High Yield Fund	FIXED INCOME	FREPORT MCMORAN INC	143445	131000	0.149674	4.625	8/1/2030
MML High Yield Fund	FIXED INCOME	OUTFRONT MEDIA CAP LLC/C	141881.25	141000	0.148042	4.25	1/15/2029
MML High Yield Fund	FIXED INCOME	RANGE RESOURCES CORP	138682.5	123000	0.144705	8.25	1/15/2029
MML High Yield Fund	FIXED INCOME	APACHE CORP	136175	130000	0.142088	5.1	9/1/2040
MML High Yield Fund	FIXED INCOME	COMSTOCK RESOURCES INC	134218.98	126000	0.140047	6.75	3/1/2029
MML High Yield Fund	FIXED INCOME	WASH MULTIFAM ACQ INC	129468.4	124000	0.13509	5.75	4/15/2026
MML High Yield Fund	FIXED INCOME	EMPIRE COMMUNITIES CORP	129150	123000	0.134758	7	12/15/2025
MML High Yield Fund	FIXED INCOME	UNITED AIRLINES INC	126270	122000	0.131753	4.375	4/15/2026
MML High Yield Fund	FIXED INCOME	UNITED AIRLINES INC	125235	121000	0.130673	4.625	4/15/2029
MML High Yield Fund	FIXED INCOME	L BRANDS INC	121492.5	97000	0.126768	6.75	7/1/2036
MML High Yield Fund	FIXED INCOME	NEXSTAR BROADCASTING INC	121245	118000	0.12651	4.75	11/1/2028
MML High Yield Fund	FIXED INCOME	HOFFMASTER GROUP INC	117986.38	122678.85	0.12311	0	11/21/2023
MML High Yield Fund	FIXED INCOME	COMSTOCK RESOURCES INC	116280	114000	0.121329	5.875	1/15/2030
MML High Yield Fund	FIXED INCOME	PARK INTERMED HOLDINGS	115007.04	108000	0.120001	5.875	10/1/2028
MML High Yield Fund	FIXED INCOME	AVAYA INC	114522.1	107000	0.119495	6.125	9/15/2028
MML High Yield Fund	FIXED INCOME	NABORS INDUSTRIES LTD	114240	119000	0.119201	7.5	1/15/2028
MML High Yield Fund	FIXED INCOME	ARCOSA INC	109890	108000	0.114662	4.375	4/15/2029
MML High Yield Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	109537.5	115000	0.114294	4.375	2/15/2030
MML High Yield Fund	FIXED INCOME	ANTERO RESOURCES CORP	108186.78	106000	0.112885	5.375	3/1/2030
MML High Yield Fund	FIXED INCOME	CHS/COMMUNITY HEALTH SYS	108135	108000	0.112831	4.75	2/15/2031
MML High Yield Fund	FIXED INCOME	RLJ LODGING TRUST LP	108070	107000	0.112763	3.75	7/1/2026
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	99130.24	88000	0.103435	6.95	7/1/2024
MML High Yield Fund	FIXED INCOME	NCL FINANCE LTD	98507.3	94000	0.102785	6.125	3/15/2028
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	95092.5	93000	0.099222	2.9	8/15/2024
MML High Yield Fund	FIXED INCOME	CHESAPEAKE ENERGY CORP	94950	90000	0.099073	5.5	2/1/2026
MML High Yield Fund	FIXED INCOME	SCIENTIFIC GAMES INTERNA	91980	84000	0.095974	8.625	7/1/2025
MML High Yield Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	86087.5	97000	0.089826	5.45	6/1/2047
MML High Yield Fund	FIXED INCOME	LIVE NATION ENTERTAINMEN	84037.5	81000	0.087687	4.75	10/15/2027
MML High Yield Fund	FIXED INCOME	IMOLA MERGER CORP	83328.75	81000	0.086947	4.75	5/15/2029
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	77962.5	81000	0.081348	4.5	7/15/2044
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	74880	78000	0.078132	4.4	8/15/2049
MML High Yield Fund	FIXED INCOME	CF INDUSTRIES INC	74471.67	63000	0.077706	4.95	6/1/2043
MML High Yield Fund	FIXED INCOME	FREPORT MCMORAN INC	72018.75	69000	0.075146	4.125	3/1/2028
MML High Yield Fund	FIXED INCOME	EQT CORP	71660.05	55000	0.074772	8.25	2/1/2030
MML High Yield Fund	FIXED INCOME	ANTERO RESOURCES CORP	68820	62000	0.071808	7.625	2/1/2029
MML High Yield Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	68802.5	73000	0.07179	3.95	1/15/2028
MML High Yield Fund	FIXED INCOME	TARGA RESOURCES PARTNERS	68724.43	61000	0.071709	6.875	1/15/2029
MML High Yield Fund	FIXED INCOME	NORDSTROM INC	67795.02	65000	0.070739	4.375	4/1/2030
MML High Yield Fund	FIXED INCOME	NORDSTROM INC	67478.27	65000	0.070408	4	3/15/2027
MML High Yield Fund	FIXED INCOME	APACHE CORP	66379.3	65000	0.069262	4.75	4/15/2043
MML High Yield Fund	FIXED INCOME	BUCKEYE PARTNERS LP	65505	66000	0.068349	5.85	11/15/2043
MML High Yield Fund	FIXED INCOME	ALTA EQUIPMENT GROUP	61570.2	60000	0.064244	5.625	4/15/2026
MML High Yield Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	57960	56000	0.060477	4.85	7/15/2026
MML High Yield Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	57710	58000	0.060216	4.95	2/15/2027
MML High Yield Fund	FIXED INCOME	IVANTI SOFTWARE, INC.	53349.72	53342.25	0.055666	0	12/1/2027
MML High Yield Fund	FIXED INCOME	UNITI GROUP/CSL CAPITAL	46518.75	45000	0.048539	7.125	12/15/2024
MML High Yield Fund	FIXED INCOME	HILCORP ENERGY I/HILCORP	43645	43000	0.04554	5.75	10/1/2025
MML High Yield Fund	FIXED INCOME	MACY S RETAIL HLDGS LLC	43017.2	40000	0.044885	5.875	4/1/2029
MML High Yield Fund	FIXED INCOME	CP ATLAS BUYER INC	39377.5	38000	0.041087	7	12/1/2028
MML High Yield Fund	FIXED INCOME	TARGA RESOURCES PARTNERS	34815	33000	0.036327	5	1/15/2028

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML High Yield Fund	FIXED INCOME	TRANSOCEAN GUARDIAN LTD	33137.94	34075	0.034577	5.875	1/15/2024
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	32710.4	32000	0.034131	2.7	2/15/2023
MML High Yield Fund	FIXED INCOME	TARGA RESOURCES PARTNERS	30790.48	28000	0.032128	5.5	3/1/2030
MML High Yield Fund	FIXED INCOME	TRANSOCEAN POSEIDON LTD	29000	29000	0.030259	6.875	2/1/2027
MML High Yield Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	28985	31000	0.030244	4.2	3/15/2048
MML High Yield Fund	FIXED INCOME	UNITI GRP/UNITI HLD/CSL	26718.75	25000	0.027879	7.875	2/15/2025
MML High Yield Fund	EQUITY	FIELDWOOD ENERGY LLC	14937.57	269	0.015586	0	
MML High Yield Fund	FIXED INCOME	DCP MIDSTREAM OPERATING	11700	10000	0.012208	6.45	11/3/2036
MML High Yield Fund	CASH	US DOLLAR	-8254.44	-8254.44	0.008613	0	
MML High Yield Fund	CASH	CANADIAN DOLLAR	99.4	123.22	0.000104	0	
MML High Yield Fund	EQUITY	FIELDWOOD	13.01	13011	0.000014	0	
MML High Yield Fund	EQUITY	FIELDWOOD ENERGY LLC	3.19	3193	0.000003	0	
MML High Yield Fund	FIXED INCOME	FIELDWOOD ENERGY LLC	0	0	0		4/11/2023
MML Income & Growth Fund	EQUITY	WELLS FARGO + CO	5922120.4	130760	4.600498	0	
MML Income & Growth Fund	EQUITY	MERCK + CO. INC.	5229021.49	67237	4.062076	0	
MML Income & Growth Fund	EQUITY	JPMORGAN CHASE + CO	4437711.74	28531	3.44736	0	
MML Income & Growth Fund	EQUITY	CIGNA CORP	4359480.23	18389	3.386587	0	
MML Income & Growth Fund	EQUITY	PHILLIPS 66	4166646.82	48551	3.236788	0	
MML Income & Growth Fund	EQUITY	GENERAL DYNAMICS CORP	4119693.58	21883	3.200313	0	
MML Income & Growth Fund	EQUITY	CVS HEALTH CORP	4058771.92	48643	3.152987	0	
MML Income & Growth Fund	EQUITY	COMCAST CORP CLASS A	4021107.42	70521	3.123728	0	
MML Income & Growth Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	3992934.55	46805	3.101843	0	
MML Income & Growth Fund	EQUITY	INTL FLAVORS + FRAGRANCES	3961341	26515	3.0773	0	
MML Income & Growth Fund	EQUITY	LOWE S COS INC	3906749.77	20141	3.034892	0	
MML Income & Growth Fund	EQUITY	PROCTER + GAMBLE CO/THE	3886523.72	28804	3.019179	0	
MML Income & Growth Fund	EQUITY	US BANCORP	3724071.93	65369	2.892981	0	
MML Income & Growth Fund	EQUITY	COCA COLA EUROPACIFIC PARTNE	3635722.8	61290	2.824349	0	
MML Income & Growth Fund	EQUITY	DEERE + CO	3621978.99	10269	2.813672	0	
MML Income & Growth Fund	EQUITY	MEDTRONIC PLC	3598528.7	28990	2.795455	0	
MML Income & Growth Fund	EQUITY	UNITEDHEALTH GROUP INC	3592747.68	8972	2.790964	0	
MML Income & Growth Fund	EQUITY	AON PLC CLASS A	3528156.52	14777	2.740788	0	
MML Income & Growth Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	3413447.51	34441	2.651678	0	
MML Income & Growth Fund	EQUITY	JOHNSON + JOHNSON	3341091.94	20281	2.59547	0	
MML Income & Growth Fund	EQUITY	HUBB LTD	3318667.2	20880	2.57805	0	
MML Income & Growth Fund	EQUITY	ORACLE CORP	3223043.04	41406	2.503766	0	
MML Income & Growth Fund	EQUITY	HESS CORP	3565450.24	40832	2.360897	0	
MML Income & Growth Fund	EQUITY	HESS CORP	2995861.88	34309	2.327284	0	
MML Income & Growth Fund	EQUITY	CENTERPOINT ENERGY INC	2903511.28	118414	2.255543	0	
MML Income & Growth Fund	EQUITY	NORTHERN TRUST CORP	2902640.1	25105	2.254866	0	
MML Income & Growth Fund	EQUITY	STANLEY BLACK + DECKER INC	2819227.47	13753	2.190068	0	
MML Income & Growth Fund	EQUITY	MGM GROWTH PROPERTIES LLC A	3066705.28	83744	2.030648	0	
MML Income & Growth Fund	EQUITY	GOLDMAN SACHS GROUP INC	3037378.59	8003	2.011229	0	
MML Income & Growth Fund	EQUITY	ENTERGY CORP	2578840.2	25866	2.003328	0	
MML Income & Growth Fund	EQUITY	AMERICAN EXPRESS CO	2578744.61	15607	2.003253	0	
MML Income & Growth Fund	EQUITY	VERTIV HOLDINGS CO	3013756.2	110394	1.995587	0	
MML Income & Growth Fund	EQUITY	EXELON CORP	2556687	57700	1.986118	0	
MML Income & Growth Fund	EQUITY	SLM CORP	2891143.92	138068	1.914398	0	
MML Income & Growth Fund	EQUITY	LINDE PLC	2426994.5	8395	1.885369	0	
MML Income & Growth Fund	EQUITY	MGM RESORTS INTERNATIONAL	2830979.05	66377	1.87456	0	
MML Income & Growth Fund	EQUITY	AMERICAN EXPRESS CO	2724147.01	16487	1.80382	0	
MML Income & Growth Fund	EQUITY	BROADCOM INC	2715603.8	5695	1.798163	0	
MML Income & Growth Fund	EQUITY	COCA COLA EUROPACIFIC PARTNE	2702085.32	45551	1.789211	0	
MML Income & Growth Fund	EQUITY	SEAWORLD ENTERTAINMENT INC	2690417.62	53873	1.781486	0	
MML Income & Growth Fund	EQUITY	MERCK + CO. INC.	2687575.66	34558	1.779604	0	
MML Income & Growth Fund	EQUITY	JPMORGAN CHASE + CO	2671088.42	17173	1.768687	0	
MML Income & Growth Fund	EQUITY	ELEMENT SOLUTIONS INC	2633920.66	112657	1.744076	0	
MML Income & Growth Fund	EQUITY	ATOTECH LTD	2613046.56	102352	1.730254	0	
MML Income & Growth Fund	EQUITY	MOLSON COORS BEVERAGE CO B	2200269.89	40981	1.709242	0	
MML Income & Growth Fund	EQUITY	DEERE + CO	2569139.64	7284	1.70118	0	
MML Income & Growth Fund	EQUITY	INTL FLAVORS + FRAGRANCES	2568186	17190	1.700549	0	
MML Income & Growth Fund	EQUITY	ASSURANT INC	2148099.72	13754	1.668714	0	
MML Income & Growth Fund	EQUITY	ADVANCE AUTO PARTS INC	2509477.62	12233	1.661674	0	
MML Income & Growth Fund	EQUITY	AECOM	2502596.36	39523	1.657118	0	
MML Income & Growth Fund	EQUITY	T MOBILE US INC	2485717.29	17163	1.645941	0	
MML Income & Growth Fund	EQUITY	UNITEDHEALTH GROUP INC	2479524.48	6192	1.641841	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Income & Growth Fund	EQUITY	COMCAST CORP CLASS A	2475295.22	43411	1.63904	0	
MML Income & Growth Fund	EQUITY	US BANCORP	2459850.66	43178	1.628813	0	
MML Income & Growth Fund	EQUITY	ANTHEM INC	2453828.6	6427	1.624826	0	
MML Income & Growth Fund	EQUITY	DISCOVER FINANCIAL SERVICES	2432515.56	20564	1.610713	0	
MML Income & Growth Fund	EQUITY	PIONEER NATURAL RESOURCES CO	2406758.68	14809	1.593658	0	
MML Income & Growth Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	2372471.1	27810	1.570954	0	
MML Income & Growth Fund	EQUITY	ALTICE USA INC A	2370067.08	69422	1.569362	0	
MML Income & Growth Fund	EQUITY	CENTERPOINT ENERGY INC	2367700.24	96562	1.567795	0	
MML Income & Growth Fund	EQUITY	STANLEY BLACK + DECKER INC	2350210.35	11465	1.556214	0	
MML Income & Growth Fund	EQUITY	VICI PROPERTIES INC	2349082.56	75728	1.555467	0	
MML Income & Growth Fund	EQUITY	CORTEVA INC	2337777.2	52712	1.547981	0	
MML Income & Growth Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	2326997.48	33598	1.540843	0	
MML Income & Growth Fund	EQUITY	GENERAL DYNAMICS CORP	2299407.64	12214	1.522575	0	
MML Income & Growth Fund	EQUITY	HUNT (JB) TRANSPRT SVCS INC	2296454.35	14093	1.520619	0	
MML Income & Growth Fund	EQUITY	MARRIOTT VACATIONS WORLD	2281335.3	14321	1.510608	0	
MML Income & Growth Fund	EQUITY	PHILLIPS 66	2275345.66	26513	1.506642	0	
MML Income & Growth Fund	EQUITY	BECTON DICKINSON AND CO	1924605.66	7914	1.495097	0	
MML Income & Growth Fund	EQUITY	NORTHERN TRUST CORP	2253896.28	19494	1.492439	0	
MML Income & Growth Fund	EQUITY	MICROCHIP TECHNOLOGY INC	2226334.32	14868	1.474188	0	
MML Income & Growth Fund	EQUITY	ALTRIA GROUP INC	1885457.92	39544	1.464686	0	
MML Income & Growth Fund	EQUITY	CORTEVA INC	1867933.3	42118	1.451072	0	
MML Income & Growth Fund	EQUITY	ORACLE CORP	2123708.72	27283	1.406234	0	
MML Income & Growth Fund	EQUITY	LIVANOVA PLC	2085255.12	24792	1.380771	0	
MML Income & Growth Fund	EQUITY	RALPH LAUREN CORP	2081349.27	17667	1.378185	0	
MML Income & Growth Fund	EQUITY	HOWARD HUGHES CORP/THE	2081063.38	21353	1.377996	0	
MML Income & Growth Fund	EQUITY	WILLIS TOWERS WATSON PLC	2073860.32	9016	1.373226	0	
MML Income & Growth Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	1741057.88	25138	1.352511	0	
MML Income & Growth Fund	EQUITY	AMERICAN CAMPUS COMMUNITIES	1997840.64	42762	1.322889	0	
MML Income & Growth Fund	EQUITY	LAS VEGAS SANDS CORP	1988889.43	37747	1.316962	0	
MML Income & Growth Fund	EQUITY	CVS HEALTH CORP	1972187.84	23636	1.305903	0	
MML Income & Growth Fund	EQUITY	VALERO ENERGY CORP	1680515.84	21523	1.30548	0	
MML Income & Growth Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	1932940.8	40608	1.279915	0	
MML Income & Growth Fund	EQUITY	LENNAR CORP A	1603608.35	16141	1.245736	0	
MML Income & Growth Fund	EQUITY	WELLS FARGO + CO	1829081.94	40386	1.211144	0	
MML Income & Growth Fund	EQUITY	MEDTRONIC PLC	1823842.09	14693	1.207674	0	
MML Income & Growth Fund	EQUITY	QUALCOMM INC	1732168.67	12119	1.146972	0	
MML Income & Growth Fund	EQUITY	EXELON CORP	1727691.21	38991	1.144007	0	
MML Income & Growth Fund	EQUITY	CORPORATE OFFICE PROPERTIES	1380802.68	49332	1.072653	0	
MML Income & Growth Fund	EQUITY	JACOBS ENGINEERING GROUP INC	1609312.04	12062	1.065621	0	
MML Income & Growth Fund	EQUITY	ADVANCE AUTO PARTS INC	1370335.2	6680	1.064521	0	
MML Income & Growth Fund	EQUITY	EDISON INTERNATIONAL	1606066.14	27777	1.063472	0	
MML Income & Growth Fund	EQUITY	WABTEC CORP	1307335.5	15885	1.015581	0	
MML Income & Growth Fund	EQUITY	ARAMARK	1514026.25	40645	1.002527	0	
MML Income & Growth Fund	EQUITY	EMERSON ELECTRIC CO	1508946.96	15679	0.999164	0	
MML Income & Growth Fund	EQUITY	ENVISTA HOLDINGS CORP	1501028.98	34738	0.993921	0	
MML Income & Growth Fund	EQUITY	HUMANA INC	1500378.08	3389	0.99349	0	
MML Income & Growth Fund	EQUITY	AERCAP HOLDINGS NV	1483963.38	28978	0.98262	0	
MML Income & Growth Fund	EQUITY	QUANTA SERVICES INC	1464426.33	16169	0.969684	0	
MML Income & Growth Fund	EQUITY	BWX TECHNOLOGIES INC	1448641	24925	0.959231	0	
MML Income & Growth Fund	EQUITY	FIDELITY NATIONAL FINANCIAL	1447956.82	33317	0.958778	0	
MML Income & Growth Fund	EQUITY	CITIGROUP INC	1433890.25	20267	0.949464	0	
MML Income & Growth Fund	EQUITY	CHUBB LTD	1410751.44	8876	0.934142	0	
MML Income & Growth Fund	EQUITY	LENNAR CORP A	1392986.35	14021	0.922379	0	
MML Income & Growth Fund	EQUITY	NAVIENT CORP	1279858.63	66211	0.847471	0	
MML Income & Growth Fund	EQUITY	CORPORATE OFFICE PROPERTIES	1269066.6	45340	0.840324	0	
MML Income & Growth Fund	EQUITY	PROG HOLDINGS INC	1163157.71	24167	0.770196	0	
MML Income & Growth Fund	EQUITY	OWENS CORNING	1147290.1	11719	0.759689	0	
MML Income & Growth Fund	EQUITY	LOWE S COS INC	1102719.45	5685	0.730176	0	
MML Income & Growth Fund	EQUITY	AXIS CAPITAL HOLDINGS LTD	1053911.04	21504	0.697857	0	
MML Income & Growth Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	795734.94	795734.94	0.618153	0	7/1/2021
MML Income & Growth Fund	EQUITY	HOLOGIC INC	903255.36	13538	0.598099	0	
MML Income & Growth Fund	EQUITY	TEXAS INSTRUMENTS INC	835928.1	4347	0.553518	0	
MML Income & Growth Fund	CASH	US DOLLAR	-200310.34	-200310.34	0.132637	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118214 TRS USD R F 1.00000	66735959.71	64759038.52	7.697205	1	8/31/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118214 TRS USD P F .24000	-64759038.52	-64759038.52	7.469191	0.24	8/31/2021

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118132 TRS USD R F 1.00000	56032245.19	55262634.53	6.462658	1	7/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118212 TRS USD R F 1.00000	55613299.74	53965865.42	6.414338	1	8/31/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118132 TRS USD P F .24000	-55262634.53	-53965865.42	6.373893	0.24	7/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118212 TRS USD P F .24000	-53965865.42	-53965865.42	6.224326	0.24	8/31/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118131 TRS USD R F 1.00000	44413751.19	43803722.16	5.122602	1	7/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118131 TRS USD P F 1.24000	-43803722.16	-43803722.16	5.052242	0.24	7/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM119941 TRS USD R F 1.00000	34464679.42	34257581.72	3.975094	1	11/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	BM119941 TRS USD P F .22000	-34257581.72	-34257581.72	3.951208	0.22	11/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	AFFIRM ASSET SECURITIZATION TR	6863979.16	6800000	0.791679	2.1	2/18/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	LENDMARK FUNDING TRUST	6781597.02	6600000	0.782177	2.78	4/20/2028
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	5862587.67	5862587.67	0.67618	0	7/1/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	5822962.02	5350540	0.67161	0.125	10/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	FANNIE MAE CAS	5352747.68	5318798.85	0.617376	2.2415	9/25/2031
MML Inflation-Protected and Income Fund	CASH	US DOLLAR	5079377.21	5079377.21	0.585846	0	
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	WASTE MANAGEMENT INC	4999982.65	5000000	0.576689	0	7/1/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	NEWREZ WAREHOUSE SECURITIZATIO	4673774.15	4667000	0.539065	0.8415	5/25/2055
MML Inflation-Protected and Income Fund	FIXED INCOME	FNA VI LLC	4435006.69	4439770.56	0.511526	1.35	1/10/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	4271906.13	4255802.17	0.492714	1.7915	1/25/2050
MML Inflation-Protected and Income Fund	FIXED INCOME	BRAVO RESIDENTIAL FUNDING TRUS	4188983.65	4159093.91	0.48315	2.666	7/25/2059
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118062 IRS USD R V 12MUSCPI	4147846.96	4000000	0.478405	1	12/24/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	STARWOOD RESIDENTIAL MORTGAGE	4131216.98	4135635.91	0.476487	1.528	5/25/2065
MML Inflation-Protected and Income Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	4006253.2	4000000	0.462074	1.673	5/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118062 IRS USD P F 2.00000	-4000000	-4000000	0.461353	2	12/24/2023
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	EATON CORPORATION GTD	3999881.76	4000000	0.461339	0	7/8/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	TORONTO DOMINION BANK	3999870.88	4000000	0.461338	0	7/14/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	NATL RURAL UTIL COOP	3999792.24	4000000	0.461329	0	7/22/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	VW CR INC	3999629.44	4000000	0.46131	0	7/23/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	FIDELITY NATL INFORMATION SVCS	3999575.32	4000000	0.461304	0	7/26/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	TRAFIGURA SECURITISATION FINAN	3999520	4000000	0.461297	0.80288	3/15/2022
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	DUKE ENERGY CORP	3999284.76	4000000	0.46127	0	8/10/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	AT&T INC	3998616.68	4000000	0.461193	0	9/21/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	AMERICAN HONDA FINAN	3998155.56	4000000	0.46114	0	9/21/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	FANNIE MAE CAS	3932414.45	3916385.86	0.453558	2.0915	7/25/2039
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3891573.04	3496529	0.448847	0.25	7/15/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	3825119.14	3800000	0.441182	2.2415	12/25/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	GRACIE POINT INTERNATIONAL FUN	3733000	3733000	0.430558	0.86038	11/1/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	FIC FUNDING, LLC	3699815.75	3699617.08	0.42673	1.13	4/15/2033
MML Inflation-Protected and Income Fund	FIXED INCOME	KREF 2018 FL1 LTD.	3665684.14	3664534.58	0.422793	1.18175	6/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3544824.13	3258204	0.408854	0.125	4/15/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3238775.38	2949648.4	0.373555	0.375	7/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	3232840.32	3200000	0.37287	2.38	3/15/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3198424.13	2273656	0.3689	3.875	4/15/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3110257.85	2840215.5	0.358732	0.125	7/15/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	3104412.03	2783121	0.358057	0.375	7/15/2027
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	ENBRIDGE (US) INC	2999476.68	3000000	0.345954	0	8/9/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	AMERICAN ELEC PWR INC	2999163.99	3000000	0.345918	0	8/26/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	KEURIG DR PEPPER	2997872.43	3000000	0.345769	0	10/29/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	FANNIE MAE CAS	2970513.34	2950571.31	0.342614	2.3915	8/25/2031
MML Inflation-Protected and Income Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2903013.1	2900000	0.334828	1.6415	7/25/2068
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2835500.83	2296000.5	0.327042	0.75	2/15/2045
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2834189.72	2631706	0.32689	0.625	1/15/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2803522.73	2601500	0.323353	0.125	10/15/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	HOME EQUITY ASSET TRUST	2769293.89	2794048.88	0.319405	0.7065	4/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	AFFIRM INC	2754827.23	2732686.46	0.317737	1.9	1/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2735091.43	2490456	0.315461	0.125	1/15/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	AFFIRM INC	2715868.4	2716779.06	0.313243	1.07	8/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2691682.51	2431528	0.310454	0.375	1/15/2027
MML Inflation-Protected and Income Fund	FIXED INCOME	FREEDOM FINANCIAL	2604235.3	2603917.88	0.300368	0.68	6/19/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	UPSTART SECURITIZATION TRUST	2505274.58	2490646.76	0.288954	1.702	11/20/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2501853.21	2206706.25	0.288559	0.25	2/15/2050
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2470476.76	2282580	0.28494	0.25	1/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	FIC FUNDING, LLC	2466928.88	2466702.44	0.284531	1.53	4/15/2033
MML Inflation-Protected and Income Fund	FIXED INCOME	KREF 2018 FL1 LTD.	2453075	2450000	0.282933	2.63175	6/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2447907.3	2114680	0.282337	0.875	1/15/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	CHASE EDUCATION LOAN TRUST	2408317.48	2445001.55	0.277771	0.246	3/28/2068

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2386666.45	2053736.5	0.275274	2.375	1/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDOM FINANCIAL	2346062.67	2348000	0.270591	1.03	6/19/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	PLANET FITNESS MASTER ISSUER L	2341720.87	2334000	0.27009	4.262	9/5/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2273916.39	2149680	0.262269	0.625	4/15/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	NEW RESIDENTIAL ADVANCE RECEIV	2250626.18	2250000	0.259583	1.4257	8/15/2053
MML Inflation-Protected and Income Fund	EQUITY	SWAP BNP PARIBAS BOC	-2230000	-2230000	0.257204	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	2228136.05	1941070	0.256989	0.75	7/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	ONSLow BAY FINANCIAL LLC	2119963.32	2120000	0.244513	1.357	5/25/2061
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118059 IRS USD R V 12MUSCPI	2064374.34	2000000	0.238101	1	12/24/2022
MML Inflation-Protected and Income Fund	EQUITY	SWAP GOLDMAN SACHS BOC	-2030000	-2030000	0.234137	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	2012968.65	1985000	0.232172	3.53	7/16/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	KREF 2018 FL1 LTD.	2000630.2	2000000	0.230749	1.43175	6/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118059 IRS USD P F 1.97750	-2000000	-2000000	0.230676	1.9775	12/24/2022
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	SEMPRA ENERGY	1999991.56	2000000	0.230675	0	7/1/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	AMCOR FLEXIBLES NORTH AMER	1999888.06	2000000	0.230663	0	7/13/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	ENTERGY CORP	1998895.28	2000000	0.230549	0	10/5/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	CIM TRUST	1791903.71	1788938.72	0.206675	1.04163	8/25/2049
MML Inflation-Protected and Income Fund	FIXED INCOME	AIMCO	1708513.82	1708430.11	0.197057	1.03375	1/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	CARYLE GLOBAL MARKET STRATEGI	1702170.28	1702173.68	0.196325	1.07975	1/18/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1692637.38	1574146	0.195226	0.125	7/15/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	1642137.63	1653620.04	0.189401	0.4965	8/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	1637734.52	1604550.18	0.188893	3	8/20/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	AFFIRM ASSET SECURITIZATION TR	1624011.93	1602862.8	0.187311	3.46	10/15/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	BX COMMERCIAL MORTGAGE TRUST 2	1585204.67	1584214.85	0.182835	2.073	10/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	BX TRUST	1582494.06	1582000	0.182522	1.773	11/15/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1547730.41	1380009	0.178512	0.5	1/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1528653.12	1376422.25	0.176312	0.625	1/15/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	1514622.22	1505000	0.174694	2.1915	9/25/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	STRUCTURED ASSET INVESTMENT LO	1509402.03	1515675.11	0.174092	0.8265	3/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	1497502.2	1500000	0.172719	1.0415	12/25/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	SLC STUDENT LOAN TRUST	1448839.8	1579492.93	0.167107	0.39888	3/15/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	1425986.3	1418758.86	0.164471	2.39	12/17/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1424665.94	1030995	0.164318	1.375	2/15/2044
MML Inflation-Protected and Income Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	1382533.33	1373303.63	0.159459	0.97088	7/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1369144.51	1270284	0.157915	0.5	4/15/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1368659.48	1122463	0.157859	0.75	2/15/2042
MML Inflation-Protected and Income Fund	FIXED INCOME	CENTEX HOME EQUITY	1328567.13	1330852.87	0.153235	0.8115	10/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	1328257.43	1328257.56	0.153199	0.668	1/25/2051
MML Inflation-Protected and Income Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	1264640.81	1275894.97	0.145861	0.3815	8/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	BX TRUST	1261633.89	1261634.52	0.145515	1.673	12/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1195409.63	792441	0.137876	2.125	2/15/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	CARVANA AUTO RECEIVABLES TRUST	1195304.84	1195000	0.137864	1.88	5/10/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	BRAZOS HIGHER EDUCATION AUTHOR	1179904.91	1200000	0.136088	1.596	6/25/2042
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1156675.01	866136	0.133409	1	2/15/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1128417.57	1025470	0.13015	0.125	2/15/2051
MML Inflation-Protected and Income Fund	FIXED INCOME	SOFI ALTERNATIVE TRUST	1124282.09	1055243.82	0.129673	4.557753	1/25/2045
MML Inflation-Protected and Income Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	1117862.49	1105776.35	0.128932	2.74	10/25/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1111197.81	928992	0.128164	0.625	2/15/2043
MML Inflation-Protected and Income Fund	FIXED INCOME	NEW RESIDENTIAL ADVANCE RECEIV	1100393.69	1100000	0.126917	1.823	8/15/2053
MML Inflation-Protected and Income Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	1099409.68	1096361.36	0.126804	0.82088	1/15/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	ONSLow BAY FINANCIAL LLC	1068082.55	1063595.24	0.123191	1.0415	2/25/2060
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	1065652.33	1065096.24	0.12291	0.918	12/25/2050
MML Inflation-Protected and Income Fund	FIXED INCOME	RESIDENTIAL ASSET SECURITIES C	1060800.66	1066141.28	0.122351	0.7365	3/25/2035
MML Inflation-Protected and Income Fund	EQUITY	SWAPS BARCLAYS BOC	-1060000	-1060000	0.122258	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	AFFIRM ASSET SECURITIZATION TR	1016400	1000000	0.11723	3.54	2/18/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	LENDMARK FUNDING TRUST	1011604.8	1000000	0.116677	4.23	4/20/2027
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	1001975.66	742806	0.115566	3.625	4/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	BHMS MORTGAGE TRUST	1000002.5	1000000	0.115338	1.57288	7/15/2035
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	SEMPRA ENERGY	999916	1000000	0.115329	0	7/21/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	SEMPRA ENERGY	999911.39	1000000	0.115328	0	7/22/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	ENTERGY CORP	999704.44	1000000	0.115304	0	8/25/2021
MML Inflation-Protected and Income Fund	CASH EQUIVALENT	ENTERGY CORP	999588.33	1000000	0.115291	0	9/14/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	EDUCATIONAL SERVICES OF AMERIC	996907.3	1000000	0.114981	1.5915	12/25/2058
MML Inflation-Protected and Income Fund	FIXED INCOME	SOFI CONSUMER LOAN PROGRAM TRU	969404.23	946000	0.111809	3.89	5/25/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	961408.1	746106	0.110887	2.5	1/15/2029

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Inflation-Protected and Income Fund	FIXED INCOME	KEYCORP STUDENT LOAN TRUST	953454.23	952826.22	0.10997	0.876	9/27/2038
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	949623.35	807090	0.109528	2	1/15/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	SLC STUDENT LOAN TRUST	938349.28	1044120.23	0.108228	0.34888	12/15/2039
MML Inflation-Protected and Income Fund	FIXED INCOME	STARWOOD MORTGAGE RESIDENTIAL	931161.58	919707.18	0.107399	2.916	9/27/2049
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	919608.91	833040	0.106066	0.125	7/15/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	907237.02	894965.34	0.104639	3.219	7/25/2059
MML Inflation-Protected and Income Fund	FIXED INCOME	PFS FINANCING CORP.	900650.25	900000	0.103879	0.87288	9/15/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	NEW RESIDENTIAL ADVANCE RECEIV	897399.61	894000	0.103504	1.8141	10/15/2052
MML Inflation-Protected and Income Fund	FIXED INCOME	LONG BEACH MORTGAGE LOAN TRUST	887330.74	888605.53	0.102343	0.4115	9/25/2034
MML Inflation-Protected and Income Fund	OPTIONS	BM1106004 SWAPTION	878820.8	22880000	0.101362	0	12/13/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	869022.16	934441.57	0.100231	0.52575	10/25/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	LCM LTD PARTNERSHIP	845014.74	844896.45	0.097462	1.42375	7/15/2027
MML Inflation-Protected and Income Fund	FIXED INCOME	CENTEX HOME EQUITY	828553.51	836496.63	0.095564	0.3915	6/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	STRUCTURED ASSET SECURITIES CO	827373.99	852520.8	0.095428	1.2915	11/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	FIRST FRANKLIN MTG LOAN ASSET	819760.51	835907.48	0.09455	0.2515	11/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	807165.6	824619.58	0.093097	0.27288	6/15/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	800371.37	797513.64	0.092313	3.13	7/16/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	FIRST FRANKLIN MTG LOAN ASSET	798574.67	802187.56	0.092106	0.8115	10/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	OCF CLO LTD	795596	795562.59	0.091763	0.99575	10/26/2047
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	788916.33	716408	0.090992	0.125	1/15/2031
MML Inflation-Protected and Income Fund	FIXED INCOME	OPTEUM MORTGAGE ACCEPTANCE COR	785626.73	792076.05	0.090613	0.7115	11/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	BRAZOS TX HGR EDU AUTH	784590.38	785843.17	0.090493	0.267	6/25/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	ARBOR REALTY COLLATERALIZED LO	780247.34	780000	0.089992	1.22288	6/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	AMERICAN CREDIT ACCEPTANCE REC	750280.63	742894.84	0.086536	3.5	4/14/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	744605.78	854829.55	0.085881	0.30488	3/23/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	DRB PRIME STUDENT LOAN TRUST	741732.93	741432.28	0.08555	0.9415	5/27/2042
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	712346.77	553005	0.082161	0.875	2/15/2047
MML Inflation-Protected and Income Fund	FIXED INCOME	CROSSROADS ASSET TRUST	690766.66	690000	0.079672	0.82	3/20/2024
MML Inflation-Protected and Income Fund	FIXED INCOME	JP MORGAN CHASE COMMERCIAL MOR	681449.79	681022.79	0.078597	1.073	6/15/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	669359.38	620166	0.077203	0.125	4/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	643737.18	477441	0.074247	1	2/15/2049
MML Inflation-Protected and Income Fund	FIXED INCOME	ANGEL OAK MORTGAGE TRUST	639104.7	639565.38	0.073713	3.238	5/25/2059
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	621352.6	620189	0.071666	3.44	4/16/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	612662.6	606256.95	0.070663	3.03	7/25/2049
MML Inflation-Protected and Income Fund	FIXED INCOME	SOFI CONSUMER LOAN PROGRAM TRU	589224.41	589224.41	0.06796	4.77	10/27/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	554835.2	376030	0.063994	3.375	4/15/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	TSY INFL IX N/B	553011.51	370569	0.063783	2.125	2/15/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	DRIVE AUTO RECEIVABLES TRUST	552833.47	548513.43	0.063763	3.78	4/15/2025
MML Inflation-Protected and Income Fund	EQUITY	SWAP CREDIT SUISSE BOC	-550000	-550000	0.063436	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	537576.92	535910.4	0.062003	0.6915	7/26/2066
MML Inflation-Protected and Income Fund	FIXED INCOME	MARLETTE FUNDING TRUST	534021.26	532275.45	0.061593	2.69	9/17/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	521433.02	596946.1	0.060141	0.37575	1/25/2038
MML Inflation-Protected and Income Fund	FIXED INCOME	HOMEBANC MORTGAGE TRUST	512859.07	513979.44	0.059152	0.5715	7/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	511141.83	504000	0.058954	2.818	10/25/2050
MML Inflation-Protected and Income Fund	FIXED INCOME	STRUCTURED ASSET SECURITIES CO	503102.1	510000	0.058027	0.7365	2/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	500880.16	503000	0.057771	1.4	3/25/2052
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118142 IRS USD R V 12MUSCPI	500000	500000	0.057669	1	8/28/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	479818.19	496281.69	0.055341	0.27288	3/15/2042
MML Inflation-Protected and Income Fund	FIXED INCOME	BM118142 IRS USD P F 1.83250	-476198.3	-500000	0.054924	1.8325	8/28/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	KNDL MORTGAGE TRUST	476149.46	476000	0.054918	1.873	5/15/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	EDLINC STUDENT LOAN FUNDING TR	474317.94	468602.4	0.054707	2.1	12/1/2047
MML Inflation-Protected and Income Fund	FIXED INCOME	PNMAC GMSR ISSUER TRUST	440818	440000	0.050843	2.9415	2/25/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	BANC OF AMERICA FUNDING CORPOR	440154.21	442137.64	0.050767	0.53338	7/20/2036
MML Inflation-Protected and Income Fund	OPTIONS	BM1107838 SWAPTION	437502.5	12590000	0.050461	0	1/31/2033
MML Inflation-Protected and Income Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	421466.59	410000	0.048611	1.2415	7/26/2066
MML Inflation-Protected and Income Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	417596.1	410855.24	0.048165	4.18	8/20/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	STRUCTURED ASSET SECURITIES CO	401126.89	408501.15	0.046265	0.2615	1/25/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	394274.12	388000	0.045475	4.53	3/20/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	JP MORGAN STUDENT LOAN TRUST	392577.43	424553.71	0.045279	0.534	6/28/2039
MML Inflation-Protected and Income Fund	FIXED INCOME	LONG BEACH MORTGAGE LOAN TRUST	388076.09	391715	0.04476	0.7715	1/25/2046
MML Inflation-Protected and Income Fund	FIXED INCOME	WORLD OMNI AUTO RECEIVABLES TR	377594.75	377571.15	0.043551	0.30288	2/15/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	SANTANDER DRIVE AUTO RECEIVABL	375991	375926.23	0.043366	0.62	5/15/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	373638.08	375000	0.043095	1.5915	6/25/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	362610.78	353860.9	0.041823	3.77	1/20/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	337738.5	361854.86	0.038954	0.63575	1/25/2040

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	336214.68	367268.48	0.038778	0.76888	12/15/2038
MML Inflation-Protected and Income Fund	FIXED INCOME	COLLEGE LOAN CORPORATION TRUST	333897.34	374313.67	0.038511	0.67375	1/15/2031
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	331944.79	367316	0.038286	0.39575	1/25/2047
MML Inflation-Protected and Income Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	327903.6	320159.86	0.03782	4.75	1/20/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	LAUREL ROAD PRIME STUDENT LOAN	315570.12	313421.21	0.036397	2.34	10/25/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	RESIDENTIAL ASSET MORTGAGE PRO	313345.81	312520.79	0.036141	0.7515	10/25/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	ELFI GRADUATE LOAN PROGRAM	312700.71	314775.52	0.036066	0.8415	8/25/2042
MML Inflation-Protected and Income Fund	FIXED INCOME	CAMB COMMERCIAL MORTGAGE TRUST	309348.4	308865	0.03568	1.823	12/15/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	308215.7	330034.34	0.035549	0.48575	1/25/2055
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	307875.75	332048.02	0.03551	0.38575	10/25/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	JP MORGAN MORTGAGE ACQUISITION	307710.44	312410.94	0.035491	0.3515	3/25/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	EDUCATIONAL SERVICES OF AMERIC	307261.37	309753.4	0.035439	0.8915	10/25/2056
MML Inflation-Protected and Income Fund	FIXED INCOME	FREDDIE MAC STACR	298665.03	298528.07	0.034447	1.318	10/25/2050
MML Inflation-Protected and Income Fund	FIXED INCOME	NP SPE IX LP	297302.22	295656.86	0.03429	2.574	9/20/2049
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	285600.19	312516.76	0.032878	0.37575	1/25/2070
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	262055.3	263365.49	0.030225	0.31575	10/25/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	260239.28	286155.34	0.030016	0.39725	6/25/2041
MML Inflation-Protected and Income Fund	EQUITY	SWAP JP MORGAN BOC	-260000	-260000	0.029988	0	
MML Inflation-Protected and Income Fund	FIXED INCOME	WESTGATE RESORTS	243589.76	239462.97	0.028095	3.38	12/20/2031
MML Inflation-Protected and Income Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	241120.18	240777.34	0.02781	1.27288	12/15/2028
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	238133.61	251478.12	0.027466	0.64575	10/25/2064
MML Inflation-Protected and Income Fund	FIXED INCOME	GOAL CAPITAL FUNDING TRUST	213614.31	213942.45	0.024638	0.847	8/25/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	CHESAPEAKE FUNDING II LLC	212660.75	212578.93	0.024528	0.52288	4/15/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	169576.92	168528.24	0.019559	1.8415	8/25/2036
MML Inflation-Protected and Income Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	167727.01	169088.6	0.019345	0.27288	3/15/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	167561.33	168360.99	0.019326	0.47575	7/25/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	ONEMAIN DIRECT AUTO RECEIVABLE	164269.34	163545.46	0.018947	3.43	12/16/2024
MML Inflation-Protected and Income Fund	OPTIONS	BM1106277 SWAPTION	162946.28	1967000	0.018794	0	12/13/2032
MML Inflation-Protected and Income Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	156662.55	156441.59	0.018069	0.7915	3/26/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	FED HM LN PC POOL 1Q0239	149485.34	142278.24	0.017241	2.328	3/1/2037
MML Inflation-Protected and Income Fund	FIXED INCOME	NELNET PRIVATE EDUCATION LOAN	148635.53	148102.42	0.017143	1.8415	12/26/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	WESTGATE RESORTS	128828	127642.47	0.014859	3.05	12/20/2030
MML Inflation-Protected and Income Fund	FIXED INCOME	ORANGE LAKE TIMESHARE TRUST	127786.69	126406.51	0.014739	2.61	3/8/2029
MML Inflation-Protected and Income Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	117529.44	117487.3	0.013556	1.22288	5/15/2026
MML Inflation-Protected and Income Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	116291.86	116191.6	0.013413	2.13	11/16/2048
MML Inflation-Protected and Income Fund	FIXED INCOME	EXETER AUTOMOBILE RECEIVABLES	109500.3	109418.65	0.01263	1.13	8/15/2023
MML Inflation-Protected and Income Fund	FIXED INCOME	DRB PRIME STUDENT LOAN TRUST	101834.36	102733.16	0.011745	2.0915	4/25/2040
MML Inflation-Protected and Income Fund	FIXED INCOME	FCI FUNDING, LLC	88689.88	87613.23	0.010229	3.63	2/18/2031
MML Inflation-Protected and Income Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	84904.42	86658.45	0.009793	0.27288	9/15/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	CCG RECEIVABLES TRUST	81815.07	81520.24	0.009436	3.09	12/15/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	SOFI CONSUMER LOAN PROGRAM TRU	80762.59	80762.59	0.009315	3.26	8/25/2025
MML Inflation-Protected and Income Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	79680.06	80054.21	0.00919	0.27288	12/15/2041
MML Inflation-Protected and Income Fund	FIXED INCOME	EARNEST STUDENT LOAN PROGRAM L	79413.26	83435.46	0.009159	2.1415	2/26/2035
MML Inflation-Protected and Income Fund	FIXED INCOME	OSCAR US FUNDING TRUST	62344.87	62208	0.007191	2.49	8/10/2022
MML Inflation-Protected and Income Fund	FIXED INCOME	MVVW OWNER TRUST	54038.56	53026.32	0.006233	2.42	12/20/2034
MML Inflation-Protected and Income Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	53817.18	53416.88	0.006207	3.02	2/25/2027
MML Inflation-Protected and Income Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	26426.9	26369.37	0.003048	3.05	5/15/2026
MML Inflation-Protected and Income Fund	FUTURE	US LONG BOND(CBT) SEP21	0	4000000	0.003028	0	9/21/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	24876.28	24614.96	0.002869	4.35	2/25/2046
MML Inflation-Protected and Income Fund	FUTURE	US ULTRA BOND CBT SEP21	0	-1900000	0.00211	0	9/21/2021
MML Inflation-Protected and Income Fund	FUTURE	US 10YR ULTRA FUT SEP21	0	-1000000	0.000558	0	9/21/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	LOUISIANA ST PUBLIC FACS AUTH	3106.9	3103.54	0.000358	1.07575	4/26/2027
MML Inflation-Protected and Income Fund	FUTURE	US 2YR NOTE (CBT) SEP21	0	18400000	0.000249	0	9/30/2021
MML Inflation-Protected and Income Fund	FIXED INCOME	ASSET BACKED SECURITIES CORP H	1307.75	1308.3	0.000151	0.2615	3/25/2036
MML Inflation-Protected and Income Fund	FUTURE	US 5YR NOTE (CBT) SEP21	0	-2400000	0.000121	0	9/30/2021
MML International Equity Fund	EQUITY	LOYDS BANKING GROUP PLC	7227924.48	11173000	4.214813	0	
MML International Equity Fund	EQUITY	INTESA SANPAOLO	6886613.63	2495100	4.015784	0	
MML International Equity Fund	EQUITY	BAYER AG REG	6474700.24	106594	3.775586	0	
MML International Equity Fund	EQUITY	BAYERISCHE MOTOREN WERKE AG	6446178.92	60850	3.758954	0	
MML International Equity Fund	EQUITY	DAIMLER AG REGISTERED SHARES	6262321.2	70103	3.651741	0	
MML International Equity Fund	EQUITY	BNP PARIBAS	6192019.87	98876	3.610747	0	
MML International Equity Fund	EQUITY	ALLIANZ SE REG	5984065.71	24000	3.489482	0	
MML International Equity Fund	EQUITY	GLENORE PLC	5841349.01	1364044	3.40626	0	
MML International Equity Fund	EQUITY	CREDIT SUISSE GROUP AG REG	5652904.25	540109	3.296373	0	
MML International Equity Fund	EQUITY	CONTINENTAL AG	5625516.71	38255	3.280402	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML International Equity Fund	EQUITY	CNH INDUSTRIAL NV	5099790.81		308653	2.973836	0
MML International Equity Fund	EQUITY	NASPERS LTD N SHS	4481920.24		21335	2.613538	0
MML International Equity Fund	EQUITY	FRESENIUS MEDICAL CARE AG +	4070366.71		49000	2.373549	0
MML International Equity Fund	EQUITY	ACCOR SA	3658131.93		97900	2.133163	0
MML International Equity Fund	EQUITY	LIBERTY GLOBAL PLC A	3395000		125000	1.979723	0
MML International Equity Fund	EQUITY	EXOR NV	3121493.74		39000	1.820234	0
MML International Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	3087109.22		3087109.22	1.800183	7/1/2021
MML International Equity Fund	EQUITY	SAP SE	3075924.46		21800	1.793661	0
MML International Equity Fund	EQUITY	NOVARTIS AG REG	2871060.99		31500	1.674199	0
MML International Equity Fund	EQUITY	THYSSENKRUPP AG	2830599.95		271574	1.650605	0
MML International Equity Fund	EQUITY	NATWEST GROUP PLC	2766049.23		984400	1.612964	0
MML International Equity Fund	EQUITY	TOYOTA MOTOR CORP	2653847.51		30400	1.547536	0
MML International Equity Fund	EQUITY	HENNES + MAURITZ AB B SHS	2624993.01		110618	1.53071	0
MML International Equity Fund	EQUITY	AXIS BANK LTD	2508228.79		248642	1.462621	0
MML International Equity Fund	EQUITY	GRUPO TELEVISIA SA SPON ADR	2493288		174600	1.453909	0
MML International Equity Fund	EQUITY	PUBLICIS GROUPE	2457648.86		38405	1.433126	0
MML International Equity Fund	EQUITY	ROCHE HOLDING AG GENUSSCHEIN	2447774.58		6495	1.427368	0
MML International Equity Fund	EQUITY	OPEN TEXT CORP	2397543.89		47212	1.398077	0
MML International Equity Fund	EQUITY	HOLCIM LTD	2349403.12		39159	1.370005	0
MML International Equity Fund	EQUITY	NAVER CORP	2289808.95		6175	1.335254	0
MML International Equity Fund	EQUITY	CHENOVUS ENERGY INC	2282016.7		238515	1.33071	0
MML International Equity Fund	EQUITY	SCHRODERS PLC	2247959.91		46200	1.310851	0
MML International Equity Fund	EQUITY	WPP PLC	2243123.16		165692	1.30803	0
MML International Equity Fund	EQUITY	AMADEUS IT GROUP SA	2236376.89		31800	1.304096	0
MML International Equity Fund	EQUITY	ANHEUSER BUSCH INBEV SA/NV	2210837.52		30700	1.289204	0
MML International Equity Fund	EQUITY	VALO	2168806.4		72010	1.264694	0
MML International Equity Fund	EQUITY	RYANAIR HOLDINGS PLC SP ADR	2111177.1		19510	1.231089	0
MML International Equity Fund	EQUITY	ORICA LTD	2109987.71		211762	1.230395	0
MML International Equity Fund	EQUITY	PRUDENTIAL PLC	2106096.44		111000	1.228126	0
MML International Equity Fund	EQUITY	CAPGEMINI SE	2024823.3		10530	1.180733	0
MML International Equity Fund	EQUITY	VOLVO AB B SHS	1900840.3		78970	1.108435	0
MML International Equity Fund	EQUITY	SKF AB B SHARES	1846732.79		72491	1.076884	0
MML International Equity Fund	EQUITY	DANONE	1633927.37		23200	0.95279	0
MML International Equity Fund	EQUITY	ALIBABA GROUP HOLDING LTD	1619503		57160	0.944379	0
MML International Equity Fund	EQUITY	ALIBABA GROUP HOLDING SP ADR	1605602.4		7080	0.936273	0
MML International Equity Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	1445601.17		11940	0.842972	0
MML International Equity Fund	EQUITY	COMPASS GROUP PLC	1440520.05		68300	0.840009	0
MML International Equity Fund	EQUITY	BRAMBLES LTD	1435133.29		167300	0.836868	0
MML International Equity Fund	EQUITY	UPM KYMMENE OYJ	1422439.48		37600	0.829466	0
MML International Equity Fund	EQUITY	SWATCH GROUP AG/THE BR	1295676.66		3775	0.755547	0
MML International Equity Fund	EQUITY	KOMATSU LTD	1110608.02		44700	0.647628	0
MML International Equity Fund	EQUITY	FRESENIUS SE + CO KGAA	1090572.1		20900	0.635944	0
MML International Equity Fund	EQUITY	RESTAURANT BRANDS INTERN	1089036		16900	0.635049	0
MML International Equity Fund	EQUITY	AMP LTD	1007140.97		1189994	0.587293	0
MML International Equity Fund	EQUITY	ROLLS ROYCE HOLDINGS PLC	947125.78		690380	0.552297	0
MML International Equity Fund	EQUITY	ESSILORLUXOTTICA	932100.12		5048	0.543535	0
MML International Equity Fund	EQUITY	SMITHS GROUP PLC	916570.2		41600	0.534479	0
MML International Equity Fund	EQUITY	HENKEL AG + CO KGAA	911517.59		9900	0.531532	0
MML International Equity Fund	EQUITY	BANK MANDIRI PERSERO TBK PT	819350.72		2017700	0.477787	0
MML International Equity Fund	EQUITY	BUNZL PLC	591894.5		17900	0.345151	0
MML International Equity Fund	EQUITY	HENKEL AG + CO KGAA VORZUG	348412.03		3300	0.203169	0
MML International Equity Fund	EQUITY	DANONE	266914.1		3800	0.155645	0
MML International Equity Fund	FIXED INCOME	CSG GUERNSEY VII LTD	241772.49		200000	0.140985	3 11/12/2021
MML International Equity Fund	FIXED INCOME	CSG GUERNSEY VII LTD	239697.16		198000	0.139774	3 11/12/2021
MML International Equity Fund	EQUITY	LIBERTY GLOBAL PLC C	173056		6400	0.100914	0
MML International Equity Fund	EQUITY	SAMSUNG ELECTRONICS CO LTD	75259.11		1050	0.043886	0
MML International Equity Fund	EQUITY	BAYER AG REG	30436.26		500	0.017748	0
MML International Equity Fund	CASH	EURO CURRENCY	24950.07		21041.59	0.014549	0
MML International Equity Fund	EQUITY	THYSSENKRUPP AG	5190.62		500	0.003027	0
MML International Equity Fund	CASH	CANADIAN DOLLAR	4291.01		5319.14	0.002502	0
MML International Equity Fund	CASH	SWISS FRANC	-1355.54		-1254.21	0.00079	0
MML International Equity Fund	CASH	INDIAN RUPEE	616.57		45830	0.00036	0
MML International Equity Fund	CASH	AUSTRALIAN DOLLAR	3.53		4.71	0.000002	0
MML International Equity Fund	CASH	INDONESIAN RUPIAH	0		0.28	0	0
MML International Equity Fund	CASH	SOUTH KOREAN WON	0.66		745	0	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML International Equity Fund	CASH	POUND STERLING		0.79	0.57	0	0
MML Large Cap Growth Fund	EQUITY	AMAZON.COM INC	10165672.8		2955	6.801349	0
MML Large Cap Growth Fund	EQUITY	FACEBOOK INC CLASS A	9564111.26		27506	6.398874	0
MML Large Cap Growth Fund	EQUITY	NVIDIA CORP	9109938.6		11386	6.095009	0
MML Large Cap Growth Fund	EQUITY	VISA INC CLASS A SHARES	8129453.76		34768	5.439015	0
MML Large Cap Growth Fund	EQUITY	AUTODESK INC	6572712.3		22517	4.397477	0
MML Large Cap Growth Fund	EQUITY	BOEING CO/THE	6510282.56		27176	4.355708	0
MML Large Cap Growth Fund	EQUITY	MICROSOFT CORP	6272960.4		23156	4.196928	0
MML Large Cap Growth Fund	EQUITY	ALIBABA GROUP HOLDING SP ADR	5961139.08		26286	3.988303	0
MML Large Cap Growth Fund	EQUITY	DEERE + CO	5857102.26		16606	3.918697	0
MML Large Cap Growth Fund	EQUITY	ORACLE CORP	5814959.36		74704	3.890502	0
MML Large Cap Growth Fund	EQUITY	SALESFORCE.COM INC	5338765.12		21856	3.571904	0
MML Large Cap Growth Fund	EQUITY	ALPHABET INC CL C	5238208.8		2090	3.504626	0
MML Large Cap Growth Fund	EQUITY	ALPHABET INC CL A	5078923.2		2080	3.398056	0
MML Large Cap Growth Fund	EQUITY	WALT DISNEY CO/THE	4825413.81		27453	3.228446	0
MML Large Cap Growth Fund	EQUITY	MONSTER BEVERAGE CORP	4490400.6		49156	3.004305	0
MML Large Cap Growth Fund	EQUITY	NOVARTIS AG SPONSORED ADR	4427603.48		48527	2.96229	0
MML Large Cap Growth Fund	EQUITY	ILLUMINA INC	3868964.96		8176	2.588533	0
MML Large Cap Growth Fund	EQUITY	STARBUCKS CORP	3802769.91		34011	2.544245	0
MML Large Cap Growth Fund	EQUITY	REGENERON PHARMACEUTICALS	3719317.86		6659	2.488412	0
MML Large Cap Growth Fund	EQUITY	EXPEDITORS INTL WASH INC	3683173.8		29093	2.464229	0
MML Large Cap Growth Fund	EQUITY	ROCHE HOLDINGS LTD SPONS ADR	3637495.9		77410	2.433669	0
MML Large Cap Growth Fund	EQUITY	QUALCOMM INC	2891759.76		20232	1.934733	0
MML Large Cap Growth Fund	EQUITY	CISCO SYSTEMS INC	2465825		46525	1.649762	0
MML Large Cap Growth Fund	EQUITY	SCHLUMBERGER LTD	2440122.3		76230	1.632565	0
MML Large Cap Growth Fund	EQUITY	SEI INVESTMENTS COMPANY	1955525.32		31556	1.308345	0
MML Large Cap Growth Fund	EQUITY	COLGATE PALMOLIVE CO	1907576.15		23449	1.276265	0
MML Large Cap Growth Fund	EQUITY	INTUITIVE SURGICAL INC	1904574.44		2071	1.274257	0
MML Large Cap Growth Fund	EQUITY	WORKDAY INC CLASS A	1860500.82		7793	1.244769	0
MML Large Cap Growth Fund	EQUITY	FACTSET RESEARCH SYSTEMS INC	1845855		5500	1.23497	0
MML Large Cap Growth Fund	EQUITY	CERNER CORP	1831679.6		23435	1.225486	0
MML Large Cap Growth Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	1755770.19	1755770.19		1.174699	7/1/2021
MML Large Cap Growth Fund	EQUITY	YUM BRANDS INC	1689905.73		14691	1.130632	0
MML Large Cap Growth Fund	EQUITY	YUM CHINA HOLDINGS INC	1441732.5		21762	0.964592	0
MML Large Cap Growth Fund	EQUITY	NOVO NORDISK A/S SPONS ADR	1383126.47		16511	0.925382	0
MML Large Cap Growth Fund	EQUITY	VERTEX PHARMACEUTICALS INC	1028917.89		5103	0.688398	0
MML Large Cap Growth Fund	EQUITY	AUTOMATIC DATA PROCESSING	993298.62		5001	0.664567	0
MML Managed Bond Fund	FIXED INCOME	FNMA TBA 30 YR 3	36466900.6	34975000		3.168918	3 7/14/2051
MML Managed Bond Fund	FIXED INCOME	US TREASURY N/B	26642376.54	21300000		2.315182	3.5 2/15/2039
MML Managed Bond Fund	FIXED INCOME	FNMA TBA 15 YR 2	26207641.26	25400000		2.277404	2 7/19/2036
MML Managed Bond Fund	FIXED INCOME	US TREASURY N/B	25536876.96	25700000		2.219116	0.125 2/15/2024
MML Managed Bond Fund	FIXED INCOME	US TREASURY N/B	23060812.25	22250000		2.003949	2.25 8/15/2049
MML Managed Bond Fund	FIXED INCOME	FNMA TBA 30 YR 2	20420937.5	20200000		1.774548	2 7/14/2051
MML Managed Bond Fund	FIXED INCOME	US TREASURY N/B	17193683.93	17450000		1.494105	0.5 2/28/2026
MML Managed Bond Fund	FIXED INCOME	FNMA TBA 30 YR 3.5	15713226.56	14925000		1.365455	3.5 7/14/2051
MML Managed Bond Fund	FIXED INCOME	GNMA II TBA 30 YR 3.5	15360137.5	14620000		1.334773	3.5 7/21/2051
MML Managed Bond Fund	FIXED INCOME	BGME TRUST	12455530.17	12518000		1.082367	2.99449 1/10/2043
MML Managed Bond Fund	CASH EQUIVALENT	DUKE ENERGY CORP	11997854.28	12000000		1.042595	0 8/10/2021
MML Managed Bond Fund	CASH EQUIVALENT	AGILENT TECH INC	9999965	10000000		0.868982	0 7/1/2021
MML Managed Bond Fund	CASH EQUIVALENT	EATON CORPORATION GTD	9999704.4	10000000		0.868959	0 7/8/2021
MML Managed Bond Fund	CASH EQUIVALENT	TORONTO DOMINION BANK	9999677.2	10000000		0.868957	0 7/14/2021
MML Managed Bond Fund	CASH EQUIVALENT	FIDELITY NATL INFORMATION SVCS	9998938.3	10000000		0.868893	0 7/26/2021
MML Managed Bond Fund	CASH EQUIVALENT	AT&T INC	9996541.7	10000000		0.868684	0 9/21/2021
MML Managed Bond Fund	CASH EQUIVALENT	AMERICAN HONDA FINAN	9996166.7	10000000		0.868652	0 9/7/2021
MML Managed Bond Fund	CASH	US DOLLAR	9286151.7	9286151.7		0.806952	0
MML Managed Bond Fund	CASH EQUIVALENT	TRANSCANADA PIPELINES LTD	7998810	8000000		0.695084	0 8/4/2021
MML Managed Bond Fund	CASH EQUIVALENT	SUNCOR ENERGY INC	7997452	8000000		0.694966	0 9/1/2021
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL MA6409	7753153.05	7399626.99		0.673737	3 1/20/2050
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL MA6283	7688998.72	7336209.92		0.668162	3 11/20/2049
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL RA2483	7516886.98	7111641.47		0.653206	3.5 6/1/2050
MML Managed Bond Fund	FIXED INCOME	FNMA POOL CA6096	7002178.67	6583804.86		0.608479	3.5 6/1/2050
MML Managed Bond Fund	FIXED INCOME	FNMA POOL MA1356	6366966.76	5902860.27		0.55328	3.5 2/1/2043
MML Managed Bond Fund	CASH EQUIVALENT	VW CR INC	5999468.34	6000000		0.521345	0 7/22/2021
MML Managed Bond Fund	FIXED INCOME	GNMA II TBA 30 YR 3	5921064.6	5675000		0.514531	3 7/21/2051
MML Managed Bond Fund	FIXED INCOME	GNMA II TBA 30 YR 2.5	5694648.3	5500000		0.494856	2.5 7/21/2051

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	NMLT TRUST	5418205.02	5400000	0.470834	2.711	5/25/2056
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL RA4255	5409659.68	5334585.52	0.470091	2	1/1/2051
MML Managed Bond Fund	FIXED INCOME	JBS FINANCE LUXEMBOURG	5298357	5300000	0.460419	3.625	1/15/2032
MML Managed Bond Fund	FIXED INCOME	AT+T INC	5180104.78	5153000	0.450143	3.55	9/15/2055
MML Managed Bond Fund	FIXED INCOME	BOEING CO	5076827.13	5060000	0.441169	1.433	2/4/2024
MML Managed Bond Fund	CASH EQUIVALENT	WASTE MANAGEMENT INC	4999982.65	5000000	0.434491	0	7/1/2021
MML Managed Bond Fund	CASH EQUIVALENT	SEMPRA ENERGY	4999580	5000000	0.434456	0	7/21/2021
MML Managed Bond Fund	CASH EQUIVALENT	SEMPRA ENERGY	4999556.95	5000000	0.434454	0	7/22/2021
MML Managed Bond Fund	FIXED INCOME	ALLSTATE CORP	4638075	4260000	0.403042	5.75	8/15/2053
MML Managed Bond Fund	FIXED INCOME	AVENTURA MALL TRUST	4514069.36	4270000	0.392266	4.249397	7/5/2040
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL MA4321	4492642	4232443.64	0.390404	3.5	3/20/2047
MML Managed Bond Fund	FIXED INCOME	ANHEUSER BUSCH CO/INBEV	4385534.03	3475000	0.381096	4.9	2/1/2046
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL MA6038	4358117.29	4148262.1	0.378714	3	7/20/2049
MML Managed Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	4115465.21	3727000	0.357628	4.75	3/8/2044
MML Managed Bond Fund	FIXED INCOME	AMERICAN INTL GROUP	4114603.9	3587000	0.357553	5.75	4/1/2048
MML Managed Bond Fund	FIXED INCOME	US TREASURY N/B	4095080	4000000	0.355856	1.625	8/15/2029
MML Managed Bond Fund	FIXED INCOME	MHC COMMERCIAL MORTGAGE TRUST	4005002.8	4000000	0.348029	2.173842	4/15/2038
MML Managed Bond Fund	FIXED INCOME	SANTANDER DRIVE AUTO RECEIVABL	4004082.4	4000000	0.347949	1.35	7/15/2027
MML Managed Bond Fund	CASH EQUIVALENT	RECKITT BENCKISER TREAS	3999155.56	4000000	0.347521	0	8/9/2021
MML Managed Bond Fund	CASH EQUIVALENT	ENTERGY CORP	3998838.88	4000000	0.347493	0	8/24/2021
MML Managed Bond Fund	CASH EQUIVALENT	KEURIG DR PEPPER	3998100	4000000	0.347429	0	9/28/2021
MML Managed Bond Fund	FIXED INCOME	BX TRUST	3995497.49	3995499.49	0.347203	1.673	12/15/2036
MML Managed Bond Fund	FIXED INCOME	ATHENE HOLDING LTD	3973710.63	3140000	0.345309	6.15	4/3/2030
MML Managed Bond Fund	FIXED INCOME	CARMAX AUTO OWNER TRUST	3929343.21	3900000	0.341454	1.75	4/15/2027
MML Managed Bond Fund	FIXED INCOME	SAMMONS FINANCIAL GROUP	3920509.68	3805000	0.340686	3.35	4/16/2031
MML Managed Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	3873240	730800	0.336579	1	1/25/2041
MML Managed Bond Fund	FIXED INCOME	FNMA POOL CA1909	3832100.19	3552244.76	0.333004	4.5	6/1/2048
MML Managed Bond Fund	FIXED INCOME	SIXTH STREET SPECIALTY	3794941.69	3575000	0.329775	3.875	11/1/2024
MML Managed Bond Fund	FIXED INCOME	VASA TRUST	3762127.55	3761000	0.326923	2.173	7/15/2039
MML Managed Bond Fund	FIXED INCOME	EXTENDED STAY AMERICA TRUST	3715023.85	3700000	0.32283	1	7/15/2038
MML Managed Bond Fund	FIXED INCOME	WAVE USA	3685960.37	3708605.86	0.320304	3.597	9/15/2044
MML Managed Bond Fund	FIXED INCOME	BANK OF NOVA SCOTIA	3664375	3575000	0.318429	4.65	12/31/2099
MML Managed Bond Fund	FIXED INCOME	BPCE SA	3652482.02	3635000	0.317395	1.652	10/6/2026
MML Managed Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	3639956.68	3640000	0.316307	2.397	6/25/2066
MML Managed Bond Fund	FIXED INCOME	MORGAN STANLEY	3625203.52	3200000	0.315025	4.35	9/8/2026
MML Managed Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	3528567.05	3587000	0.306627	2.851548	2/15/2054
MML Managed Bond Fund	FIXED INCOME	SOFI ALTERNATIVE TRUST	3522750.55	3306430.63	0.306122	4.557753	1/25/2045
MML Managed Bond Fund	FIXED INCOME	COLD STORAGE TRUST	3453370.3	3440466.83	0.300093	2.17288	11/15/2037
MML Managed Bond Fund	FIXED INCOME	AMTRUST FINANCIAL SERVIC	3401064.49	3370000	0.295547	6.125	8/15/2023
MML Managed Bond Fund	FIXED INCOME	TRINITY RAIL LEASING L.P.	3396016.82	3289000	0.295109	3.1	10/18/2049
MML Managed Bond Fund	FIXED INCOME	CREDIT SUISSE AG	3390140.16	3069000	0.294598	6.5	8/8/2023
MML Managed Bond Fund	FIXED INCOME	BUSINESS JET SECURITIES, LLC	3323616.11	3297002.7	0.288817	2.162	4/15/2036
MML Managed Bond Fund	FIXED INCOME	AIRCASTE LTD	3312740.65	3095000	0.287872	4.4	9/25/2023
MML Managed Bond Fund	FIXED INCOME	SLG OFFICE TRUST	3288866.7	3349000	0.285798	2.85061	7/15/2041
MML Managed Bond Fund	FIXED INCOME	WESTLAKE AUTOMOBILE RECEIVABLE	3219538.97	3226000	0.279773	2.33	8/17/2026
MML Managed Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	3209367.53	3250000	0.278889	1.4915	4/25/2067
MML Managed Bond Fund	FIXED INCOME	ANTARES HOLDINGS	3189538.31	2945000	0.277166	6	8/15/2023
MML Managed Bond Fund	FIXED INCOME	CROWN CASTLE TOWERS LLC	3106487.45	2750000	0.269949	4.241	7/15/2048
MML Managed Bond Fund	FIXED INCOME	BLACKROCK TCP CAP CORP	3094733.73	2910000	0.268928	3.9	8/23/2024
MML Managed Bond Fund	FIXED INCOME	BP CAPITAL MARKETS PLC	3088500	2900000	0.268386	4.375	12/31/2099
MML Managed Bond Fund	FIXED INCOME	DISCOVER BANK	3085545.75	2905000	0.268129	4.682	8/9/2028
MML Managed Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	3082927	2781000	0.267902	4.25	8/18/2025
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	3076807.03	3015813.71	0.26737	1.3415	6/25/2065
MML Managed Bond Fund	FIXED INCOME	GLOBAL ATLANTIC	3069027	3060000	0.266694	1	10/15/2051
MML Managed Bond Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	3062422.16	2924000	0.26612	4.15	6/1/2025
MML Managed Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	3055901.75	2908000	0.265553	4.728508	10/10/2047
MML Managed Bond Fund	FIXED INCOME	BRIGHTHOUSE FINANCIAL IN	3034993.44	2492000	0.263736	5.625	5/15/2030
MML Managed Bond Fund	FIXED INCOME	IMPERIAL BRANDS FIN PLC	2997031.04	2764000	0.260437	3.875	7/26/2029
MML Managed Bond Fund	FIXED INCOME	VEREIT OPERATING PARTNER	2981247.19	2790000	0.259066	3.1	12/15/2029
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2974039.26	2950000	0.258439	4.04	12/15/2059
MML Managed Bond Fund	FIXED INCOME	BLACKROCK TCP CAP CORP	2965306.76	2870000	0.257681	4.125	8/11/2022
MML Managed Bond Fund	FIXED INCOME	HERCULES CAPITAL INC	2956534.8	2910000	0.256918	4.625	10/23/2022
MML Managed Bond Fund	FIXED INCOME	PRUDENTIAL FINANCIAL INC	2862230.65	2440000	0.248723	5.7	9/15/2048
MML Managed Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	2819912.25	2695000	0.245046	5.25	8/15/2022
MML Managed Bond Fund	FIXED INCOME	MIZRAHI TEFAHOT BANK LTD	2807800	2780000	0.243994	3.077	4/7/2031

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	ELMWOOD CLO II LTD.	2802520	2800000	0.243535	1.33825	4/20/2034
MML Managed Bond Fund	FIXED INCOME	EL PUERTO DE LIVERPOOL	2800125	2620000	0.243327	3.95	10/2/2024
MML Managed Bond Fund	FIXED INCOME	AXIS SPECIALTY FINAN PLC	2770000.88	2500000	0.240709	4	12/6/2027
MML Managed Bond Fund	FIXED INCOME	BHMS MORTGAGE TRUST	2760006.9	2760000	0.23984	1.57288	7/15/2035
MML Managed Bond Fund	FIXED INCOME	BGME TRUST	2732455.88	2800000	0.237446	2.99449	1/10/2043
MML Managed Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE III L	2718964.59	2765941.9	0.236274	3.425	11/15/2039
MML Managed Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	2700547.83	2491000	0.234673	4.25	4/15/2026
MML Managed Bond Fund	FIXED INCOME	THRUST ENGINE LEASING	2699897.13	2700000	0.234617	4.163	7/15/2040
MML Managed Bond Fund	FIXED INCOME	WEIR GROUP PLC (THE)	2677050.52	2665000	0.232632	2.2	5/13/2026
MML Managed Bond Fund	FIXED INCOME	BAT CAPITAL CORP	2673732.3	2365000	0.232343	4.7	4/2/2027
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2652987.9	2620000	0.230541	2.52	7/15/2069
MML Managed Bond Fund	FIXED INCOME	DROP MORTGAGE TRUST 2021 FILE	2637219.04	2629000	0.22917	2.32	4/15/2026
MML Managed Bond Fund	FIXED INCOME	ASSOC BANC CORP	2623512.51	2411000	0.227979	4.25	1/15/2025
MML Managed Bond Fund	FIXED INCOME	NEWREZ WAREHOUSE SECURITIZATIO	2605999.22	2606000	0.226457	1.4915	5/25/2055
MML Managed Bond Fund	EQUITY	SWAPS BARCLAYS BOC	-2595000	-2595000	0.225502	0	
MML Managed Bond Fund	FIXED INCOME	VITERRA FINANCE BV	2587882.57	2565000	0.224883	3.2	4/21/2031
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL RA4245	2569800.91	2538831.98	0.223312	2	12/1/2050
MML Managed Bond Fund	FIXED INCOME	HCA INC	2550892.5	2550000	0.221669	3.5	7/15/2051
MML Managed Bond Fund	FIXED INCOME	VIVINT SOLAR FINANCING LLC	2542677.47	2395714.07	0.220955	7.37	4/30/2048
MML Managed Bond Fund	FIXED INCOME	ATHENE GLOBAL FUNDING	2540167.09	2505000	0.220737	2.673	6/7/2031
MML Managed Bond Fund	FIXED INCOME	NORDEA BANK ABP	2532311.04	2208000	0.220054	6.625	12/31/2099
MML Managed Bond Fund	FIXED INCOME	FIRST REPUBLIC BANK	2514552.78	2050000	0.218511	4.375	8/1/2046
MML Managed Bond Fund	FIXED INCOME	TRINITY RAIL LEASING L.P.	2490872.85	2420000	0.216453	4.62	6/17/2048
MML Managed Bond Fund	FIXED INCOME	CNO FINANCIAL GROUP INC	2490844.28	2094000	0.216451	5.25	5/30/2029
MML Managed Bond Fund	FIXED INCOME	TRITON CONTAINER	2483929.8	2475000	0.21585	2.05	4/15/2026
MML Managed Bond Fund	FIXED INCOME	GOODGREEN TRUST	2473805.44	2413710.56	0.21497	2.76	4/15/2055
MML Managed Bond Fund	FIXED INCOME	REPUBLIC OF COLOMBIA	2461659.2	2080000	0.213914	6.125	1/18/2041
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2452759.93	2370000	0.213141	1.5915	6/25/2065
MML Managed Bond Fund	FIXED INCOME	RRAM	2450014.7	2450000	0.212903	1.27375	1/15/2030
MML Managed Bond Fund	FIXED INCOME	STARWOOD MORTGAGE RESIDENTIAL	2447962.06	2448000	0.212724	2.491	6/25/2056
MML Managed Bond Fund	FIXED INCOME	BARCLAYS COMMERCIAL MORTGAGE S	2439983.48	2250000	0.212031	4.408717	8/5/2038
MML Managed Bond Fund	FIXED INCOME	SPIRIT REALTY LP	2425861.02	2280000	0.210804	3.2	1/15/2027
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2425554.1	23252000	0.210777	2.95	4/15/2069
MML Managed Bond Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2418629.77	2418629.77	0.210175	0	7/1/2021
MML Managed Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	2411500.25	2500000	0.209556	3.09402	4/15/2054
MML Managed Bond Fund	FIXED INCOME	GENERAL MOTORS CO	2381762.56	1890000	0.206972	6.8	10/1/2027
MML Managed Bond Fund	FIXED INCOME	STRUCTURED ASSET SECURITIES CO	2339471.29	2410576.05	0.203296	1.2915	11/25/2035
MML Managed Bond Fund	FIXED INCOME	ENSTAR FINANCE LLC	2334750	2200000	0.202886	5.75	9/1/2040
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2332328.37	2330000	0.202676	1.4415	2/25/2070
MML Managed Bond Fund	FIXED INCOME	CIFC FUNDING LTD	2330638.42	2330000	0.202529	1.36975	11/16/2030
MML Managed Bond Fund	FIXED INCOME	NP SPE LP	2326021.15	2260000	0.202128	4.219	10/21/2047
MML Managed Bond Fund	FIXED INCOME	JACKSON PARK TRUST	2325785.07	2300000	0.202107	3.131	10/14/2039
MML Managed Bond Fund	FIXED INCOME	EQT CORP	2313900	2160000	0.201074	3.9	10/1/2027
MML Managed Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	2309292.32	2244000	0.200674	3.81	12/28/2048
MML Managed Bond Fund	FIXED INCOME	PLANET FITNESS MASTER ISSUER L	2307163.98	2287170	0.200489	3.858	12/5/2049
MML Managed Bond Fund	FIXED INCOME	DUPONT DE NEMOURS INC	2305977.33	1750000	0.200386	5.319	11/15/2038
MML Managed Bond Fund	FIXED INCOME	TIMKEN CO	2297691.92	2055000	0.199666	4.5	12/15/2028
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2264571.63	2249000	0.196788	3.67	2/15/2068
MML Managed Bond Fund	FIXED INCOME	HOST HOTELS + RESORTS LP	2226978.99	2120000	0.193521	3.5	9/15/2030
MML Managed Bond Fund	FIXED INCOME	BENCHMARK MORTGAGE TRUST	2224759.24	2200000	0.193328	2.851548	2/15/2054
MML Managed Bond Fund	FIXED INCOME	ARES FINANCE CO LLC	2224617.7	2080000	0.193316	4	10/8/2024
MML Managed Bond Fund	FIXED INCOME	MICROSOFT CORP	2190751.89	2064000	0.190373	2.921	3/17/2052
MML Managed Bond Fund	FIXED INCOME	SYNGENTA FINANCE NV	2179790.54	2065000	0.18942	4.441	4/24/2023
MML Managed Bond Fund	FIXED INCOME	MANHATTAN WEST	2170643.88	2122000	0.188626	2.41281	9/10/2039
MML Managed Bond Fund	OPTIONS	BM1105949 SWAPTION	2154801	56100000	0.187249	0	12/13/2032
MML Managed Bond Fund	FIXED INCOME	STORE CAPITAL CORP	2141280.99	1881000	0.186074	4.625	3/15/2029
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	2123634.39	1550000	0.184541	6.11	1/29/2037
MML Managed Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	2119153.52	2150000	0.184151	3.45	10/25/2067
MML Managed Bond Fund	FIXED INCOME	AVNET INC	2094754.07	2100000	0.182031	3	5/15/2031
MML Managed Bond Fund	FIXED INCOME	SUTTONPARK STRUCTURED SETTLEME	2094375.9	1877366.59	0.181998	4.19	1/15/2071
MML Managed Bond Fund	FIXED INCOME	AMERICAN TOWER TRUST I	2093643.25	1910000	0.181934	3.652	3/15/2048
MML Managed Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	2091525	2370000	0.18175	6.25	12/31/2099
MML Managed Bond Fund	FIXED INCOME	GOLUB CAPITAL BDC	2084671.76	1998000	0.181155	3.375	4/15/2024
MML Managed Bond Fund	FIXED INCOME	CITIGROUP INC	2075925.66	1525000	0.180395	6.625	6/15/2032
MML Managed Bond Fund	FIXED INCOME	PLAINS ALL AMERICAN PIPE	2071104	2345000	0.179976	6.125	12/31/2099

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	BROOKFIELD FINANCE INC	2064703.69	1752000	0.17942	4.85	3/29/2029
MML Managed Bond Fund	FIXED INCOME	BLUE OWL FINANCE LLC	2060829.15	2070000	0.179083	3.125	6/10/2031
MML Managed Bond Fund	FIXED INCOME	FNMA POOL MA3029	2060816.03	1953870.54	0.179082	3	6/1/2032
MML Managed Bond Fund	FIXED INCOME	SLAM 2021 1 LLC	2059244.2	2059000	0.178945	2.434	6/15/2046
MML Managed Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	2046353.75	1485000	0.177825	6.484	10/23/2045
MML Managed Bond Fund	FIXED INCOME	CARMAX AUTO OWNER TRUST	2045309.37	1974000	0.177734	2.85	1/15/2026
MML Managed Bond Fund	FIXED INCOME	LABRADOR AVIATION FINANCE LIMI	2041831.89	2062829.43	0.177432	4.3	1/15/2042
MML Managed Bond Fund	FIXED INCOME	CLEAR CREEK CLO LTD	2040359.04	2040000	0.177304	1.38825	10/20/2030
MML Managed Bond Fund	FIXED INCOME	BROOKFIELD FINANCE INC	2039597.89	1765000	0.177238	4.35	4/15/2030
MML Managed Bond Fund	FIXED INCOME	RENAISSANCERE FINANCE	2034040.42	1860000	0.176755	3.45	7/1/2027
MML Managed Bond Fund	FIXED INCOME	EXTENDED STAY AMERICA TRUST	2014369.2	2000000	0.175046	1	7/15/2038
MML Managed Bond Fund	FIXED INCOME	SOCIETE GENERALE	2006020.2	2010000	0.17432	1.792	6/9/2027
MML Managed Bond Fund	FIXED INCOME	ADAMS OUTDOOR ADVERTISING	2003042.9	1868535.09	0.174061	4.81	11/15/2048
MML Managed Bond Fund	FIXED INCOME	AIMCO	2000166	2000000	0.173811	2.63375	7/22/2032
MML Managed Bond Fund	CASH EQUIVALENT	EVERGY KANSAS	1999993	2000000	0.173796	0	7/1/2021
MML Managed Bond Fund	CASH EQUIVALENT	VW CR INC	1999849.06	2000000	0.173784	0	7/19/2021
MML Managed Bond Fund	CASH EQUIVALENT	VW CR INC	1999832	2000000	0.173782	0	7/21/2021
MML Managed Bond Fund	CASH EQUIVALENT	VW CR INC	1999272.78	2000000	0.173734	0	9/8/2021
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AD6996	1982009.87	1744164.44	0.172234	5	7/1/2040
MML Managed Bond Fund	FIXED INCOME	BANK	1970725.26	2100000	0.171253	3.015504	12/15/2053
MML Managed Bond Fund	FIXED INCOME	LIFE FINANCIAL SERVICES TRUST	1941048.23	1935000	0.168674	1.823	3/15/2038
MML Managed Bond Fund	FIXED INCOME	ECMC GROUP STUDENT LOAN TRUST	1918927.63	1898604.21	0.166752	0.8915	9/25/2068
MML Managed Bond Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	1903687.97	1759847.7	0.165428	3.26	9/15/2072
MML Managed Bond Fund	FIXED INCOME	BX TRUST	1902371.39	1900000	0.165313	1.9	6/15/2038
MML Managed Bond Fund	FIXED INCOME	ONEMAIN DIRECT AUTO RECEIVABLE	1891535.13	1774000	0.164372	3.95	11/14/2028
MML Managed Bond Fund	FIXED INCOME	BX COMMERCIAL MORTGAGE TRUST 2	1891375.62	1890194.63	0.164358	2.073	10/15/2036
MML Managed Bond Fund	FIXED INCOME	BX TRUST	1876585.87	1876000	0.163072	1.773	11/15/2035
MML Managed Bond Fund	FIXED INCOME	ENTERPRISE PRODUCTS OPER	1862356.36	1775000	0.161836	5.25	8/16/2077
MML Managed Bond Fund	FIXED INCOME	OVINTIV EXPLORATION INC	1860146.44	1650000	0.161644	5.375	1/1/2026
MML Managed Bond Fund	FIXED INCOME	ARES CAPITAL CORP	1840521.03	1850000	0.159938	2.15	7/15/2026
MML Managed Bond Fund	FIXED INCOME	ENSTAR GROUP LTD	1838822.94	1600000	0.159791	4.95	6/1/2029
MML Managed Bond Fund	FIXED INCOME	MPLX LP	1808015	1775000	0.157114	6.875	12/31/2099
MML Managed Bond Fund	FIXED INCOME	NEUBERGER BERMAN CLO LTD	1801094.4	1800000	0.156512	1.85	7/15/2034
MML Managed Bond Fund	FIXED INCOME	MACH I	1777104.34	1777244.92	0.154428	3.474	10/15/2039
MML Managed Bond Fund	FIXED INCOME	CARVANA AUTO RECEIVABLES TRUST	1746612.44	1749000	0.151778	1.82	12/10/2027
MML Managed Bond Fund	FIXED INCOME	CENTERPOINT ENERGY RESOU	1744703.39	1250000	0.151612	6.625	11/1/2037
MML Managed Bond Fund	FIXED INCOME	RENEW FINANCIAL	1733652.37	1732026.52	0.150652	2.06	11/20/2056
MML Managed Bond Fund	FIXED INCOME	WALT DISNEY COMPANY/THE	1718667.77	1515000	0.14935	3.6	1/13/2051
MML Managed Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	1716971.83	1410000	0.149202	5.95	1/15/2027
MML Managed Bond Fund	FIXED INCOME	GLENORE FUNDING LLC	1715518.87	1565000	0.149076	4.625	4/29/2024
MML Managed Bond Fund	FIXED INCOME	CROWN CASTLE TOWERS LLC	1703441.31	1700000	0.148026	3.222	5/15/2042
MML Managed Bond Fund	FIXED INCOME	PATTERSON UTI ENERGY INC	1701503.5	1680000	0.147858	3.95	2/1/2028
MML Managed Bond Fund	FIXED INCOME	EATON VANCE CDO LTD	1700107.1	1700000	0.147737	1.93375	10/15/2030
MML Managed Bond Fund	FIXED INCOME	CARVANA AUTO RECEIVABLES TRUST	1688368.01	1625000	0.146717	3.07	7/15/2025
MML Managed Bond Fund	FIXED INCOME	GLOBAL ATLANTIC FIN CO	1686253.77	1675000	0.146533	3.125	6/15/2031
MML Managed Bond Fund	FIXED INCOME	UTAH ACQUISITION SUB	1678749.09	1375000	0.145881	5.25	6/15/2046
MML Managed Bond Fund	FIXED INCOME	BARCLAYS COMMERCIAL MORTGAGE S	1673467.65	1610000	0.145422	4.408717	8/5/2038
MML Managed Bond Fund	FIXED INCOME	MSCI INC	1671891	1630000	0.145285	3.625	11/1/2031
MML Managed Bond Fund	FIXED INCOME	ENTERGY ARKANSAS LLC	1671587.96	1765000	0.145258	2.65	6/15/2051
MML Managed Bond Fund	FIXED INCOME	KREF 2018 FL1 LTD.	1671573.14	1670000	0.145257	2.08175	6/15/2036
MML Managed Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	1667374.69	1145000	0.144892	6.75	10/1/2037
MML Managed Bond Fund	FIXED INCOME	VALLEY NATIONAL BANCORP	1666421.27	1530000	0.144809	5.125	9/27/2023
MML Managed Bond Fund	FIXED INCOME	MADISON PARK FUNDING LTD	1665036.63	1665000	0.144689	1.78375	7/15/2030
MML Managed Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	1660724.82	1610000	0.144314	3.25	2/15/2027
MML Managed Bond Fund	FIXED INCOME	NOV INC	1641388.9	1570000	0.142634	3.6	12/1/2029
MML Managed Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	1629151.03	1550000	0.141571	4.5	3/15/2023
MML Managed Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	1628699	1767622.07	0.141531	0.46575	1/25/2044
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	1614439.94	1530000	0.140292	4.22	6/16/2042
MML Managed Bond Fund	FIXED INCOME	DUKE ENERGY CORP	1603261.2	1500000	0.139321	3.75	9/1/2046
MML Managed Bond Fund	FIXED INCOME	MHC COMMERCIAL MORTGAGE TRUST	1601501.76	1600000	0.139168	1.673842	4/15/2038
MML Managed Bond Fund	FIXED INCOME	AMCOR FLEXIBLES NORTH AM	1599017.64	1566000	0.138952	2.69	5/25/2031
MML Managed Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	1589408.58	1714197.9	0.138117	0.38575	10/25/2040
MML Managed Bond Fund	FIXED INCOME	ARES FINANCE CO	1586981.25	1585000	0.137906	4.125	6/30/2051
MML Managed Bond Fund	FIXED INCOME	SVB FINANCIAL GROUP	1583601.54	1560000	0.137613	2.1	5/15/2028
MML Managed Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	1578206.67	1125000	0.137144	5.6	7/15/2041

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	ABBVIE INC	1574297.93	1260000	0.136804	4.7	5/14/2045
MML Managed Bond Fund	FIXED INCOME	OXFORD FINANCE FUNDING TRUST	1567259.14	1536000	0.136192	3.101	2/15/2026
MML Managed Bond Fund	FIXED INCOME	BX COMMERCIAL MORTGAGE TRUST 2	1566669.46	1565204.27	0.136141	1.873	10/15/2038
MML Managed Bond Fund	FIXED INCOME	APOLLO MANAGEMENT HOLDIN	1563318.75	1505000	0.13585	4.95	1/14/2050
MML Managed Bond Fund	FIXED INCOME	ARES CAPITAL CORP	1557903.77	1450000	0.135379	4.2	6/10/2024
MML Managed Bond Fund	FIXED INCOME	MARATHON PETROLEUM CORP	1555759.07	1120000	0.135193	6.5	3/1/2041
MML Managed Bond Fund	FIXED INCOME	WAVE 2017 1 LLC	1537306.15	1937473.23	0.13359	6.656	11/15/2042
MML Managed Bond Fund	FIXED INCOME	NBN CO LTD	1533137.45	1495000	0.133227	2.625	5/5/2031
MML Managed Bond Fund	FIXED INCOME	CPT MORTGAGE TRUST	1528859.63	1556000	0.132856	3.096693	11/13/2039
MML Managed Bond Fund	FIXED INCOME	WEA FINANCE LLC	1528319.6	1480000	0.132809	2.875	1/15/2027
MML Managed Bond Fund	FIXED INCOME	APPALACHIAN POWER CO	1528243.93	1250000	0.132802	4.5	3/1/2049
MML Managed Bond Fund	FIXED INCOME	SANTOS FINANCE LTD	1526741.27	1490000	0.132671	3.649	4/29/2031
MML Managed Bond Fund	FIXED INCOME	KNDL MORTGAGE TRUST	1505472.57	1505000	0.130823	1.873	5/15/2036
MML Managed Bond Fund	FIXED INCOME	VALE OVERSEAS LIMITED	1505125	1250000	0.130793	6.25	8/10/2026
MML Managed Bond Fund	FIXED INCOME	EXPEDIA GROUP INC	1503839.61	1330000	0.130681	4.625	8/1/2027
MML Managed Bond Fund	FIXED INCOME	MAGNETITE CLO LTD	1501027.5	1500000	0.130437	1.93375	7/15/2030
MML Managed Bond Fund	FIXED INCOME	ANCHORAGE CAPITAL CLO LTD	1500000	1500000	0.130348	2.03825	7/20/2031
MML Managed Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	1495384.6	1258000	0.129947	6.6	3/15/2046
MML Managed Bond Fund	FIXED INCOME	ROCKFORD TOWER CLO LTD	1492093.5	1500000	0.129661	1.73825	4/20/2034
MML Managed Bond Fund	FIXED INCOME	NOV INC	1490892.38	1506000	0.129556	3.95	12/1/2042
MML Managed Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	1469022.5	1375000	0.127656	4.199	3/10/2047
MML Managed Bond Fund	FIXED INCOME	AERCAP IRELAND CAP/GLOBA	1468840.97	1370000	0.12764	4.5	9/15/2023
MML Managed Bond Fund	FIXED INCOME	J.G. WENTWORTH XLII LLC	1466813.84	1299919.4	0.127464	3.96	10/15/2075
MML Managed Bond Fund	FIXED INCOME	SBA TOWER TRUST	1459536.74	1441000	0.126832	1.884	7/15/2050
MML Managed Bond Fund	FIXED INCOME	PIONEER AIRCRAFT FINANCE LIMIT	1457997.55	1461745.76	0.126698	3.967	6/15/2044
MML Managed Bond Fund	FIXED INCOME	GLOBAL AIR LEASE CO LTD	1457454.35	1449648	0.126651	6.5	9/15/2024
MML Managed Bond Fund	FIXED INCOME	APOLLO AVIATION SECURITIZATION	1456137.26	1473796.59	0.126536	3.351	1/16/2040
MML Managed Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	1438200	1410000	0.124977	3.087	1/9/2023
MML Managed Bond Fund	FIXED INCOME	SPIRIT REALTY LP	1430743.28	1290000	0.124329	4	7/15/2029
MML Managed Bond Fund	FIXED INCOME	MORGAN STANLEY	1427137.27	1345000	0.124016	3.217	4/22/2042
MML Managed Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	1409424.51	1403929.67	0.122477	3.17	11/20/2037
MML Managed Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	1409300	1360000	0.122466	4.14	2/15/2023
MML Managed Bond Fund	FIXED INCOME	CANYON CAPITAL CLO LTD	1402979.2	1400000	0.121917	1.55375	10/15/2032
MML Managed Bond Fund	FIXED INCOME	SPIRIT AIR 2015 1 PTT A	1397640.79	1337117.89	0.121453	4.1	10/1/2029
MML Managed Bond Fund	FIXED INCOME	AXIS SPECIALTY FINANCE	1394426	1315000	0.121173	4.9	1/15/2040
MML Managed Bond Fund	FIXED INCOME	USF+G CAPITAL I	1393623.54	885000	0.121104	8.5	12/15/2045
MML Managed Bond Fund	FIXED INCOME	EDLING STUDENT LOAN FUNDING TR	1386467.84	1369760.87	0.120482	2.1	12/1/2047
MML Managed Bond Fund	FIXED INCOME	GOODGREEN TRUST	1373722.62	1312992.39	0.119374	3.23	10/15/2052
MML Managed Bond Fund	FIXED INCOME	TIME WARNER CABLE LLC	1372276.54	985000	0.119249	6.75	6/15/2039
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	1368743.67	1264097.39	0.118942	4.67	9/20/2048
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	1367495.5	1150000	0.118833	4.244	4/24/2038
MML Managed Bond Fund	FIXED INCOME	LAZARD GROUP LLC	1367187.96	1253000	0.118807	3.625	3/1/2027
MML Managed Bond Fund	FIXED INCOME	MARINER FINANCE ISSUANCE TRUST	1357980.54	1336000	0.118006	2.33	3/20/2036
MML Managed Bond Fund	FIXED INCOME	BARCLAYS COMMERCIAL MORTGAGE S	1353129.41	1370000	0.117585	4.408717	8/5/2038
MML Managed Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	1348046.11	1330000	0.117143	2.317	4/25/2066
MML Managed Bond Fund	FIXED INCOME	STORE MASTER FUNDING LLC	1336602.04	1285214.29	0.116149	4.29	10/20/2048
MML Managed Bond Fund	FIXED INCOME	WENDYS FUNDING LLC	1335739.47	1340000	0.116074	2.37	6/15/2051
MML Managed Bond Fund	FIXED INCOME	CITY OF HOPE/THE	1314169.45	1050000	0.114199	4.378	8/15/2048
MML Managed Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	1313363.95	1281000	0.114129	4.46	12/28/2048
MML Managed Bond Fund	FIXED INCOME	GCI FUNDING I LLC	1310662.42	1311000	0.113895	2.38	6/18/2046
MML Managed Bond Fund	FIXED INCOME	HPS LOAN MANAGEMENT	1300796.9	1300000	0.113037	1.50375	7/22/2032
MML Managed Bond Fund	FIXED INCOME	TELEFONICA EMISIONES SAU	1298566.63	1105000	0.112843	4.665	3/6/2038
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	1295264.33	1255000	0.112556	2.592	4/29/2031
MML Managed Bond Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	1291552.58	1271000	0.112234	4.53	3/20/2023
MML Managed Bond Fund	FIXED INCOME	HARBOR PARK CLO LTD	1290130.29	1290000	0.11211	1.88825	1/20/2031
MML Managed Bond Fund	FIXED INCOME	THRUST ENGINE LEASING	1289963.62	1290000	0.112096	6.121	7/15/2040
MML Managed Bond Fund	FIXED INCOME	NISOURCE INC	1287156.39	950000	0.111852	5.8	2/1/2042
MML Managed Bond Fund	FIXED INCOME	DISCOVERY COMMUNICATIONS	1281729.66	1210000	0.11138	4	9/15/2055
MML Managed Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	1275070.67	1000000	0.110802	6.125	12/15/2045
MML Managed Bond Fund	FIXED INCOME	PNMAC GMSR ISSUER TRUST	1272361.06	1270000	0.110566	2.9415	2/25/2023
MML Managed Bond Fund	FIXED INCOME	NISOURCE INC	1270858.94	1035000	0.110436	4.8	2/15/2044
MML Managed Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	1267795.91	1195000	0.11017	4.7	6/15/2044
MML Managed Bond Fund	FIXED INCOME	TACO BELL FUNDING, LLC	1254287.18	1111500	0.108996	4.94	11/25/2048
MML Managed Bond Fund	FIXED INCOME	MOLSON COORS BEVERAGE	1253302.19	1124000	0.10891	4.2	7/15/2046
MML Managed Bond Fund	FIXED INCOME	BRIGHTHOUSE FINANCIAL IN	1250856	1125000	0.108697	4.7	6/22/2047

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	OAK STREET INVESTMENT GRADE NE	1244771.04	1200000	0.108169	3.39	11/20/2050
MML Managed Bond Fund	FIXED INCOME	ENTERPRISE PRODUCTS OPER	1243624.05	1205000	0.108069	5.375	2/15/2078
MML Managed Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	1231267.11	1150000	0.106995	3.8	9/15/2030
MML Managed Bond Fund	FIXED INCOME	LEIDOS INC	1229281.2	1260000	0.106823	2.3	2/15/2031
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	1221805.67	1090000	0.106173	4.183	11/25/2027
MML Managed Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE II LL	1221579.76	1242391.18	0.106153	3.721	7/15/2039
MML Managed Bond Fund	FIXED INCOME	CVS PASS THROUGH TRUST	1221237.82	1009266.44	0.106124	5.926	1/10/2034
MML Managed Bond Fund	FIXED INCOME	AVIATION CAPITAL GROUP	1220833.49	1220000	0.106089	1.95	1/30/2026
MML Managed Bond Fund	FIXED INCOME	HALLIBURTON CO	1219147.39	1000000	0.105942	5	11/15/2045
MML Managed Bond Fund	FIXED INCOME	VIACOMCBS INC	1216271.91	1008000	0.105692	4.95	1/15/2031
MML Managed Bond Fund	FIXED INCOME	AXIS SPECIALTY FINANCE	1212482.98	1110000	0.105363	3.9	7/15/2029
MML Managed Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	1211737.35	909000	0.105298	5.375	11/2/2043
MML Managed Bond Fund	FIXED INCOME	REYNOLDS AMERICAN INC	1206818.56	985000	0.104871	5.85	8/15/2045
MML Managed Bond Fund	FIXED INCOME	CASTLELAKE AIRCRAFT SECURITZA	1200472.26	1202118.68	0.104319	3.967	4/15/2039
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	1198318.58	1190000	0.104132	3.9	1/15/2043
MML Managed Bond Fund	FIXED INCOME	MADISON PARK XLIV	1190077.35	1190000	0.103416	1.92288	1/23/2031
MML Managed Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	1182727.05	1257000	0.102777	2.987	10/30/2056
MML Managed Bond Fund	FIXED INCOME	CARLYLE FINANCE SUB LLC	1182554.91	1100000	0.102762	3.5	9/19/2029
MML Managed Bond Fund	FIXED INCOME	GOODGREEN TRUST	1173313.47	1105766.09	0.101959	3.86	10/15/2054
MML Managed Bond Fund	FIXED INCOME	EDUCATIONAL SERVICES OF AMERIC	1172094.84	1200000	0.101853	1.5915	6/25/2048
MML Managed Bond Fund	FIXED INCOME	CASTLELAKE AIRCRAFT STRUCTURED	1169224.93	1173432.86	0.101604	4.125	6/15/2043
MML Managed Bond Fund	FIXED INCOME	STEELE CREEK CLO LTD	1158324.57	1170000	0.100657	2.45513	8/18/2031
MML Managed Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	1158079.79	1147000	0.100635	2.411	4/25/2064
MML Managed Bond Fund	FIXED INCOME	GLENCORE FINANCE CANADA	1154502.66	894000	0.100325	5.55	10/25/2042
MML Managed Bond Fund	FIXED INCOME	BUSINESS JET SECURITIES, LLC	1154232.54	1150561.1	0.100301	5.067	4/15/2036
MML Managed Bond Fund	FIXED INCOME	WIND RIVER CLO LTD	1150024.15	1150000	0.099935	1.93375	7/15/2030
MML Managed Bond Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	1139118.75	1155000	0.098988	4.95	10/1/2029
MML Managed Bond Fund	FIXED INCOME	VOYA FINANCIAL INC	1138452.22	1080000	0.09893	4.7	1/23/2048
MML Managed Bond Fund	FIXED INCOME	MARRIOTT INTERNATIONAL	1133546	1115000	0.098503	2.85	4/15/2031
MML Managed Bond Fund	FIXED INCOME	SANTANDER REVOLVING AUTO LOAN	1128332.85	1087000	0.09805	3.45	1/26/2032
MML Managed Bond Fund	FIXED INCOME	COMCAST CORP	1122652.58	880000	0.097557	4.75	3/1/2044
MML Managed Bond Fund	FIXED INCOME	CIGNA CORP	1116696.88	880000	0.097039	4.8	7/15/2046
MML Managed Bond Fund	FIXED INCOME	EDVESTINU PRIVATE EDUCATION LO	1109057.82	1063167.68	0.096375	3.58	11/25/2038
MML Managed Bond Fund	FIXED INCOME	WILLIS ENGINE SECURITIZATION T	1107894.57	1115375.06	0.096274	4.75	9/15/2043
MML Managed Bond Fund	FIXED INCOME	ENTERGY LOUISIANA LLC	1102249.92	1005000	0.095784	4.95	1/15/2045
MML Managed Bond Fund	FIXED INCOME	PRUDENTIAL FINANCIAL INC	1100115.51	1025000	0.095598	5.625	6/15/2043
MML Managed Bond Fund	FIXED INCOME	TECK RESOURCES LIMITED	1086852.93	850000	0.094446	6	8/15/2040
MML Managed Bond Fund	FIXED INCOME	OIVINTIV EXPLORATION INC	1085663.52	975000	0.094343	5.625	7/1/2024
MML Managed Bond Fund	FIXED INCOME	CVS PASS THROUGH TRUST	1084834.63	855936.4	0.09427	7.507	1/10/2032
MML Managed Bond Fund	FIXED INCOME	EDUCATIONAL SERVICES OF AMERIC	1083056.48	1100000	0.094116	1.5915	10/25/2056
MML Managed Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	1077770.1	995000	0.093657	4.25	3/14/2024
MML Managed Bond Fund	FIXED INCOME	ANTARES HOLDINGS	1077508.96	1035000	0.093634	3.95	7/15/2026
MML Managed Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	1075292.3	1000000	0.093441	4.433356	5/10/2048
MML Managed Bond Fund	FIXED INCOME	GLENCORE FUNDING LLC	1072305	975000	0.093182	3.875	10/27/2027
MML Managed Bond Fund	FIXED INCOME	DELTA AIR LINES/SKYMILES	1053453.54	980000	0.091544	4.5	10/20/2025
MML Managed Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	1051581.64	1000000	0.091381	2.956	5/13/2031
MML Managed Bond Fund	FIXED INCOME	MFT TRUST	1051487.13	1003000	0.091373	3.59259	2/10/2042
MML Managed Bond Fund	FIXED INCOME	BRISTOL MYERS SQUIBB CO	1049287.29	830000	0.091181	4.35	11/15/2047
MML Managed Bond Fund	FIXED INCOME	MARKEL CORP	1039275	930000	0.090311	6	12/31/2099
MML Managed Bond Fund	FIXED INCOME	CENOVUS ENERGY INC	1039161.17	765000	0.090302	6.75	11/15/2039
MML Managed Bond Fund	FIXED INCOME	O REILLY AUTOMOTIVE INC	1037165.84	900000	0.090128	4.2	4/1/2030
MML Managed Bond Fund	FIXED INCOME	SAUDI ARABIAN OIL CO	1034684.65	925000	0.089913	4.25	4/16/2039
MML Managed Bond Fund	FIXED INCOME	FIRSTENERGY TRANSMISSION	1031499.08	880000	0.089636	4.55	4/1/2049
MML Managed Bond Fund	FIXED INCOME	BARCLAYS PLC	1029168.06	920000	0.089433	4.337	1/10/2028
MML Managed Bond Fund	FIXED INCOME	ORACLE CORP	1029121.36	1000000	0.089429	3.6	4/1/2050
MML Managed Bond Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	1025177.27	990000	0.089086	4.21	7/25/2040
MML Managed Bond Fund	FIXED INCOME	NORFOLK SOUTHERN CORP	1017634.8	860000	0.088431	4.05	8/15/2052
MML Managed Bond Fund	FIXED INCOME	METLIFE CAPITAL TRUST IV	1009562.5	725000	0.087729	7.875	12/15/2067
MML Managed Bond Fund	FIXED INCOME	VIACOMCBS INC	1007561.12	872000	0.087556	4.2	5/19/2032
MML Managed Bond Fund	FIXED INCOME	CPT MORTGAGE TRUST	1006576.71	982000	0.08747	3.096693	11/13/2039
MML Managed Bond Fund	FIXED INCOME	OAK HILL CREDIT PARTNERS	1001355	1000000	0.087016	1.55238	10/22/2032
MML Managed Bond Fund	FIXED INCOME	AVERY POINT CLO LTD	1000255	1000000	0.086921	3.78375	1/15/2028
MML Managed Bond Fund	FIXED INCOME	THRUST ENGINE LEASING	999999.8	1000000	0.086898	7.386	7/15/2040
MML Managed Bond Fund	CASH EQUIVALENT	NATL RURAL UTIL COOP	999948.06	1000000	0.086894	0	7/22/2021
MML Managed Bond Fund	CASH EQUIVALENT	FIDELITY NATL INFORMATION SVCS	999950.89	1000000	0.086894	0	7/13/2021

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	CASH EQUIVALENT	AT&T INC	999937.89	1000000	0.086893	0	7/13/2021
MML Managed Bond Fund	CASH EQUIVALENT	ENTERGY CORP	999588.33	1000000	0.086863	0	9/14/2021
MML Managed Bond Fund	CASH EQUIVALENT	AMERICAN HONDA FINAN	999533.33	1000000	0.086858	0	9/22/2021
MML Managed Bond Fund	CASH EQUIVALENT	AMERICAN HONDA FINAN	999538.89	1000000	0.086858	0	9/21/2021
MML Managed Bond Fund	CASH EQUIVALENT	GEN DYNAMICS CORP	999275.56	1000000	0.086836	0	12/7/2021
MML Managed Bond Fund	FIXED INCOME	MADISON PARK FUNDING LTD	998115	1000000	0.086735	2.1879	1/22/2031
MML Managed Bond Fund	FIXED INCOME	CMS ENERGY CORP	997130.74	780000	0.086649	4.875	3/1/2044
MML Managed Bond Fund	FIXED INCOME	DEVON ENERGY CORPORATION	991978.64	800000	0.086201	5.6	7/15/2041
MML Managed Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	989590	875000	0.085994	4.5	4/22/2029
MML Managed Bond Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	984285	951000	0.085533	4.85	7/15/2026
MML Managed Bond Fund	FIXED INCOME	JP MORGAN MORTGAGE TRUST	978070.57	958298.95	0.084993	3.497647	1/25/2047
MML Managed Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	977890.6	885000	0.084977	4.2	4/15/2027
MML Managed Bond Fund	FIXED INCOME	GENERAL MOTORS CO	976244.93	800000	0.084834	5.15	4/1/2038
MML Managed Bond Fund	FIXED INCOME	MFT TRUST	969131.91	919000	0.084216	3.358	2/10/2042
MML Managed Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	967830.94	914636.16	0.084103	4.18	4/15/2047
MML Managed Bond Fund	FIXED INCOME	KIMCO REALTY CORP	959084.5	800000	0.083343	4.45	9/1/2047
MML Managed Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	951786.61	1060000	0.082709	3.703	10/15/2045
MML Managed Bond Fund	FIXED INCOME	SMITHFIELD FOODS INC	951769.9	943000	0.082707	3	10/15/2030
MML Managed Bond Fund	FIXED INCOME	522 FUNDING CLO LTD	950000	950000	0.082554	2.181	10/20/2031
MML Managed Bond Fund	FIXED INCOME	MKT 2020 525M MORTGAGE TRUST	949635.9	976000	0.082522	3.03862	2/12/2040
MML Managed Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	946696.65	940000	0.082266	1.5915	10/25/2058
MML Managed Bond Fund	FIXED INCOME	AMAZON.COM INC	946078.24	775000	0.082213	4.05	8/22/2047
MML Managed Bond Fund	FIXED INCOME	ITC HOLDINGS CORP	942926.53	895000	0.081939	2.95	5/14/2030
MML Managed Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE I LIM	926596.13	913223.88	0.08052	4.458	12/15/2038
MML Managed Bond Fund	FIXED INCOME	STORE MASTER FUNDING LLC	925444.56	920000	0.08042	2.86	6/20/2051
MML Managed Bond Fund	FIXED INCOME	DROP MORTGAGE TRUST 2021 FILE	911973.41	908000	0.079249	2.82	4/15/2026
MML Managed Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	910200.6	685000	0.079095	6.75	9/27/2034
MML Managed Bond Fund	FIXED INCOME	CBAM CLO MANAGEMENT	900183.6	900000	0.078225	2.28375	1/15/2031
MML Managed Bond Fund	FIXED INCOME	WIND RIVER CLO LTD	900077.4	900000	0.078215	1.97563	11/1/2031
MML Managed Bond Fund	FIXED INCOME	KKR FINANCIAL CLO LTD	900027	900000	0.078211	1.25888	3/15/2031
MML Managed Bond Fund	FIXED INCOME	CAMB COMMERCIAL MORTGAGE TRUST	899922.27	898516	0.078202	1.823	12/15/2037
MML Managed Bond Fund	FIXED INCOME	SIXTH STREET SPECIALTY	897421.21	885000	0.077985	2.5	8/1/2026
MML Managed Bond Fund	FIXED INCOME	TEACHERS INSUR + ANNUITY	897285.54	750000	0.077973	4.27	5/15/2047
MML Managed Bond Fund	FIXED INCOME	GOLUB CAPITAL BDC	886589.32	880000	0.077043	2.5	8/24/2026
MML Managed Bond Fund	FIXED INCOME	ZAXBY S FUNDING LLC	885919.83	875000	0.076985	3.238	7/30/2051
MML Managed Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL I TRUST	872315	760000	0.075803	4.62	7/15/2051
MML Managed Bond Fund	FIXED INCOME	LAZARD GROUP LLC	870667.16	755000	0.07566	4.5	9/19/2028
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	869078.51	842064.57	0.075522	3.57	9/20/2047
MML Managed Bond Fund	FIXED INCOME	JBS USA/FOOD/FINANCE	867862.88	776000	0.075416	5.5	1/15/2030
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AL8173	863989.43	760517.99	0.075079	5	2/1/2044
MML Managed Bond Fund	FIXED INCOME	VALE OVERSEAS LIMITED	863547.3	630000	0.075041	6.875	11/21/2036
MML Managed Bond Fund	FIXED INCOME	ANTARES HOLDINGS	858433.34	720000	0.074597	8.5	5/18/2025
MML Managed Bond Fund	FIXED INCOME	BRIGHTHOUSE FINANCIAL IN	853969.52	785000	0.074209	3.7	6/22/2027
MML Managed Bond Fund	FIXED INCOME	PUGET ENERGY INC	849332.4	840000	0.073806	2.379	6/15/2028
MML Managed Bond Fund	FIXED INCOME	FNMA POOL MA3090	845150.16	801291.32	0.073442	3	8/1/2032
MML Managed Bond Fund	FIXED INCOME	CSX CORP	841377.89	650000	0.073114	4.75	11/15/2048
MML Managed Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	829913.34	823579.85	0.072118	3.66	10/15/2044
MML Managed Bond Fund	FIXED INCOME	KIMCO REALTY CORP	805337.06	710000	0.069983	4.125	12/1/2046
MML Managed Bond Fund	FIXED INCOME	NEVADA POWER CO	799369.71	550000	0.069464	6.65	4/1/2036
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AS1304	798881.86	747285.39	0.069422	3.5	12/1/2028
MML Managed Bond Fund	FIXED INCOME	CVS HEALTH CORP	781741.96	560000	0.067932	6.125	9/15/2039
MML Managed Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	779536.47	765000	0.067741	3.9	6/1/2052
MML Managed Bond Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	779000	760000	0.067694	4.5	6/15/2023
MML Managed Bond Fund	FIXED INCOME	AERCAP IRELAND CAP/GLOBA	756909.62	645000	0.065774	6.5	7/15/2025
MML Managed Bond Fund	FIXED INCOME	ICG US CLO LTD	752160	750000	0.065362	1.55575	10/26/2032
MML Managed Bond Fund	FIXED INCOME	CEDAR FUNDING LTD	749069.25	750000	0.065093	1.16825	4/20/2031
MML Managed Bond Fund	FIXED INCOME	KKR GROUP FINAN CO VIII	743466.11	710000	0.064606	3.5	8/25/2050
MML Managed Bond Fund	FIXED INCOME	QWEST CORP	742218.75	725000	0.064498	6.75	12/1/2021
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	734528.14	716298.35	0.063829	3.19	9/20/2048
MML Managed Bond Fund	FIXED INCOME	COMCAST CORP	734100.17	630000	0.063792	3.969	11/1/2047
MML Managed Bond Fund	FIXED INCOME	PACIFIC GAS + ELECTRIC	727167.13	775000	0.06319	2.5	2/1/2031
MML Managed Bond Fund	FIXED INCOME	OVINTIV INC	724631.98	545000	0.062969	6.5	2/1/2038
MML Managed Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	721039.5	755000	0.062657	2.875	11/20/2050
MML Managed Bond Fund	FIXED INCOME	COLLEGE LOAN CORPORATION TRUST	720773.1	900000	0.062634	1.627	1/25/2047
MML Managed Bond Fund	FIXED INCOME	BAT CAPITAL CORP	720187.2	725000	0.062583	2.259	3/25/2028

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	707083.51	683825.51	0.061444	3.08	9/20/2042
MML Managed Bond Fund	FIXED INCOME	APPLE INC	687886.68	700000	0.059776	2.65	5/11/2050
MML Managed Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	683963.27	673380.69	0.059435	2.32	7/20/2037
MML Managed Bond Fund	FIXED INCOME	GOODGREEN TRUST	669638.85	633144.77	0.058191	3.74	10/15/2052
MML Managed Bond Fund	FIXED INCOME	BANC OF AMERICA MERRILL LYNCH	669172.08	670000	0.05815	1.423	9/15/2034
MML Managed Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	653994.25	665000	0.056831	5.35	2/12/2028
MML Managed Bond Fund	FIXED INCOME	LEIDOS INC	652929.75	575000	0.056739	4.375	5/15/2030
MML Managed Bond Fund	FIXED INCOME	CANADIAN PACIFIC RAILWAY	645635.39	648000	0.056105	2.05	3/5/2030
MML Managed Bond Fund	FIXED INCOME	MARINER FINANCE ISSUANCE TRUST	643094.31	637000	0.055884	2.96	3/20/2036
MML Managed Bond Fund	FIXED INCOME	EDUCATIONAL FUNDING OF THE SOU	637054.5	625000	0.055359	3.87575	4/25/2046
MML Managed Bond Fund	FIXED INCOME	BUSINESS JET SECURITIES, LLC	635761.89	624340.82	0.055247	2.981	11/15/2035
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	632992.28	400000	0.055006	7.75	5/14/2038
MML Managed Bond Fund	FIXED INCOME	GENERAL MOTORS CO	629922.73	565000	0.054739	4.2	10/1/2027
MML Managed Bond Fund	FIXED INCOME	GATX CORP	629127.5	660000	0.05467	1.9	6/1/2031
MML Managed Bond Fund	FIXED INCOME	MADISON PARK FUNDING LTD	620094.24	620000	0.053885	2.38975	10/18/2030
MML Managed Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	616841.55	585000	0.053603	6.5	3/13/2027
MML Managed Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	615317.97	550000	0.05347	4.25	10/21/2025
MML Managed Bond Fund	FIXED INCOME	TANGER PROPERTIES LP	612116	579000	0.053192	3.875	12/1/2023
MML Managed Bond Fund	FIXED INCOME	FNMA POOL FM4017	610352.52	580106.02	0.053039	3.5	8/1/2050
MML Managed Bond Fund	FIXED INCOME	CVS HEALTH CORP	591170.13	455000	0.051372	5.05	3/25/2048
MML Managed Bond Fund	FIXED INCOME	BAT CAPITAL CORP	585532.24	540000	0.050882	4.758	9/6/2049
MML Managed Bond Fund	FIXED INCOME	PRUDENTIAL FINANCIAL INC	581458.16	550000	0.050528	5.875	9/15/2042
MML Managed Bond Fund	FIXED INCOME	DISCOVERY COMMUNICATIONS	577562.39	490000	0.050189	4.65	5/15/2050
MML Managed Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	571068.01	570000	0.049625	2.223	5/15/2036
MML Managed Bond Fund	FIXED INCOME	NEW YORK LIFE INSURANCE	569956.04	510000	0.049528	3.75	5/15/2050
MML Managed Bond Fund	FIXED INCOME	BACARDI LTD	557367.81	450000	0.048434	5.15	5/15/2038
MML Managed Bond Fund	FIXED INCOME	OHA LOAN FUNDING LTD	551112.65	550000	0.047891	1.49588	11/15/2032
MML Managed Bond Fund	FIXED INCOME	DRB PRIME STUDENT LOAN TRUST	549823.24	547784.93	0.047779	3.02	8/25/2042
MML Managed Bond Fund	FIXED INCOME	SPIRIT REALTY LP	549449.49	515000	0.047746	3.4	1/15/2030
MML Managed Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	546902.63	53879.55	0.047525	5.2	9/20/2035
MML Managed Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	546130.86	475000	0.047458	4.271	7/23/2029
MML Managed Bond Fund	FIXED INCOME	SPIRIT REALTY LP	545868.93	550000	0.047435	2.7	2/15/2032
MML Managed Bond Fund	FIXED INCOME	HIGHWOODS REALTY LP	532496.57	475000	0.046273	4.125	3/15/2028
MML Managed Bond Fund	FIXED INCOME	CF HIPPOLYTA ISSUER LLC	530797.99	522045.22	0.046126	2.28	7/15/2060
MML Managed Bond Fund	FIXED INCOME	CITIGROUP INC	514079.71	450000	0.044673	4.45	9/29/2027
MML Managed Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	511700	595000	0.044466	6.375	1/23/2045
MML Managed Bond Fund	FIXED INCOME	OAK HILL CREDIT PARTNERS	500861.5	500000	0.043524	2.87238	10/22/2032
MML Managed Bond Fund	FIXED INCOME	BENEFIT STREET PARTNERS CLO LT	500442	500000	0.043488	2.13375	10/15/2032
MML Managed Bond Fund	FIXED INCOME	DELL INT LLC / EMC CORP	497404.64	325000	0.043224	8.1	7/15/2036
MML Managed Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	494273.6	468997.05	0.042952	3.25	2/15/2050
MML Managed Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	491385.68	375000	0.042701	6.65	1/15/2037
MML Managed Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	483778.14	531955.43	0.04204	0.39725	6/25/2041
MML Managed Bond Fund	FIXED INCOME	MKT 2020 525M MORTGAGE TRUST	481611.53	475000	0.041851	3.03862	2/12/2040
MML Managed Bond Fund	FIXED INCOME	HELIOS ISSUER, LLC	465077.93	428026.97	0.040415	4.87	7/20/2048
MML Managed Bond Fund	FIXED INCOME	UNITED AIR 2018 1 B PTT	452612.69	438325.81	0.039331	4.6	9/1/2027
MML Managed Bond Fund	FIXED INCOME	WELLS FARGO COMMERCIAL MORTGAG	450668.44	400000	0.039162	4.556	6/16/2051
MML Managed Bond Fund	FIXED INCOME	MAGNETITE CLO LTD	450136.35	450000	0.039116	2.83825	7/20/2033
MML Managed Bond Fund	FIXED INCOME	GENERAL ELECTRIC CO	447075.17	298000	0.03885	6.875	1/10/2039
MML Managed Bond Fund	FIXED INCOME	MOLSON COORS BEVERAGE	442076.86	360000	0.038416	5	5/1/2042
MML Managed Bond Fund	FIXED INCOME	PSMC TRUST	429737.41	426780.16	0.037344	3.5	6/25/2048
MML Managed Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	415719.81	397336.67	0.036125	3.81	2/15/2050
MML Managed Bond Fund	FIXED INCOME	COMCAST CORP	403751.39	265000	0.035085	6.95	8/15/2037
MML Managed Bond Fund	FIXED INCOME	HIGHER EDUCATION FUNDING	402324.75	450000	0.034961	1.796	1/1/2044
MML Managed Bond Fund	FIXED INCOME	GE CAPITAL INTL FUNDING	402088.65	335000	0.034941	4.418	11/15/2035
MML Managed Bond Fund	FIXED INCOME	BALLYROCK LTD	397730.4	400000	0.034562	3.30525	11/20/2030
MML Managed Bond Fund	FIXED INCOME	VEREIT OPERATING PARTNER	397261.5	365000	0.034521	3.4	1/15/2028
MML Managed Bond Fund	FIXED INCOME	BRE GRAND ISLANDER TIMESHARE I	393895.13	392874.56	0.034229	2.94	5/25/2029
MML Managed Bond Fund	FIXED INCOME	HIGHER EDUCATION FUNDING	393536.7	450000	0.034198	0	1/1/2044
MML Managed Bond Fund	FIXED INCOME	AGL CLO 7 LTD	375000	375000	0.032587	1.98375	7/15/2031
MML Managed Bond Fund	FIXED INCOME	STORE CAPITAL CORP	372852.21	370000	0.0324	2.75	11/18/2030
MML Managed Bond Fund	FIXED INCOME	WAVE 2017 1 LLC	372674.02	380185.19	0.032385	3.844	11/15/2042
MML Managed Bond Fund	FIXED INCOME	EATON VANCE CDO LTD	351051.4	350000	0.030506	2.98375	10/15/2030
MML Managed Bond Fund	FIXED INCOME	FLATIRON CLO LTD	350468.3	350000	0.030455	2.05588	11/16/2032
MML Managed Bond Fund	FIXED INCOME	ELMWOOD CLO III LTD	350267.75	350000	0.030438	2.13375	10/15/2032
MML Managed Bond Fund	FIXED INCOME	BEAR STEARNS COMMERCIAL MORTGA	349958.79	353542.4	0.030411	5.513	1/12/2045

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AD6437	330105.34	290491.99	0.028686	5	6/1/2040
MML Managed Bond Fund	FIXED INCOME	CARLYLE GLOBAL MARKET STRATEGI	329995.71	330000	0.028676	3.034	7/28/2028
MML Managed Bond Fund	FIXED INCOME	AT+T INC	329807.4	328000	0.02866	3.5	9/15/2053
MML Managed Bond Fund	OPTIONS	BM1106210 SWAPTION	306508	3700000	0.026635	0	12/13/2032
MML Managed Bond Fund	FIXED INCOME	WELLS FARGO MORTGAGE BACKED SE	298378.66	293885.27	0.025929	4	11/25/2048
MML Managed Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	265803.24	243760.8	0.023098	4.45	6/20/2042
MML Managed Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	262511.85	243582.47	0.022812	4.01	6/22/2043
MML Managed Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	258586.29	229000	0.022471	4.375	11/23/2026
MML Managed Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	256605.32	266379.31	0.022299	1.145	3/22/2032
MML Managed Bond Fund	FIXED INCOME	FLATIRON CLO LTD	250717	250000	0.021787	2.85588	11/16/2032
MML Managed Bond Fund	FIXED INCOME	CANYON CAPITAL CLO LTD	250367.5	250000	0.021757	2.93375	10/15/2032
MML Managed Bond Fund	FIXED INCOME	OCP CLO LTD	250072	250000	0.021731	1.28825	7/20/2031
MML Managed Bond Fund	FUTURE	US ULTRA BOND CBT SEP21	0	22200000	0.021703	0	9/21/2021
MML Managed Bond Fund	FIXED INCOME	FULTON FINANCIAL CORP	230358.23	226000	0.020018	3.6	3/16/2022
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	221041.59	212267.33	0.019208	3.28	9/20/2048
MML Managed Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	215344.51	190000	0.018713	5.5	1/15/2026
MML Managed Bond Fund	FIXED INCOME	HERO FUNDING TRUST	177297.67	170730.73	0.015407	4.07	9/20/2048
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AT0169	161732.48	152315.54	0.014054	3	3/1/2043
MML Managed Bond Fund	FIXED INCOME	FNMA POOL MA1368	152716.69	143824.7	0.013271	3	3/1/2043
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR2174	150513.84	141750.11	0.013079	3	4/1/2043
MML Managed Bond Fund	FIXED INCOME	SPIRIT REALTY LP	148387.5	133000	0.012895	4.45	9/15/2026
MML Managed Bond Fund	FIXED INCOME	FCI FUNDING, LLC	142957.56	141222.12	0.012423	3.63	2/18/2031
MML Managed Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	135310	140000	0.011758	6.625	6/15/2035
MML Managed Bond Fund	FIXED INCOME	GENERAL ELECTRIC CO	130442.19	113000	0.011335	4.125	10/9/2042
MML Managed Bond Fund	FIXED INCOME	STRUCTURED RECEIVABLES FINANCE	123117.66	118145.65	0.010699	3.73	8/15/2036
MML Managed Bond Fund	FIXED INCOME	MVVW OWNER TRUST	122814.91	120514.36	0.010672	4.42	12/20/2034
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AP8668	110029.42	103622.91	0.009561	3	12/1/2042
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AB7397	97240.07	91578.23	0.00845	3	12/1/2042
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AB7401	81009.25	76292.45	0.00704	3	12/1/2042
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AL3215	79407.2	74783.68	0.0069	3	2/1/2043
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91344	70265.94	66040.93	0.006106	3.5	11/1/2030
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR4109	69362.85	65324.17	0.006028	3	2/1/2043
MML Managed Bond Fund	FUTURE	US 10YR ULTRA FUT SEP21	0	-12400000	0.005219	0	9/21/2021
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91148	54416.33	48624.99	0.004729	5.5	1/1/2028
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AA3980	44712.25	41567.36	0.003885	4.5	4/1/2028
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AD0836	43529.76	38909.47	0.003783	5.5	11/1/2028
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR5391	43362.76	40837.95	0.003768	3	1/1/2043
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AB8809	40384.15	38032.77	0.003509	3	3/1/2043
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91424	40166.89	37685.29	0.00349	3.5	1/1/2032
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR4432	35152.31	33105.55	0.003055	3	3/1/2043
MML Managed Bond Fund	FIXED INCOME	FREDDIE MAC STACR	33531.37	33519.15	0.002914	1.4415	3/25/2029
MML Managed Bond Fund	FIXED INCOME	FREDDIE MAC	28772.68	25568.48	0.0025	7	8/15/2029
MML Managed Bond Fund	FUTURE	US LONG BOND(CBT) SEP21	0	4100000	0.002338	0	9/21/2021
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91251	23391.94	21294.14	0.002033	4.5	6/1/2029
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR1975	23312.86	21955.46	0.002026	3	12/1/2042
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91026	22516.51	20148.29	0.001957	5.5	4/1/2027
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL J13972	21090.06	19741.2	0.001833	3.5	1/1/2026
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91176	20017.41	17877.04	0.001739	5.5	5/1/2028
MML Managed Bond Fund	FIXED INCOME	FNMA POOL A08180	15538.9	14634.14	0.00135	3	9/1/2042
MML Managed Bond Fund	FIXED INCOME	FNMA POOL 775539	13614.12	13132.22	0.001183	1.891	5/1/2034
MML Managed Bond Fund	FIXED INCOME	BANC OF AMERICA MORTGAGE SECUR	13399.9	13609.57	0.001164	3.062494	8/25/2034
MML Managed Bond Fund	FUTURE	US 5YR NOTE (CBT) SEP21	0	21200000	0.001151	0	9/30/2021
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C90939	12851.5	11515.92	0.001117	5.5	12/1/2025
MML Managed Bond Fund	FUTURE	US 2YR NOTE (CBT) SEP21	0	85600000	0.000872	0	9/30/2021
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL D97258	9823.9	8790.65	0.000854	5.5	4/1/2027
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL D97417	9634.27	8608.63	0.000837	5.5	10/1/2027
MML Managed Bond Fund	FIXED INCOME	FNMA POOL AR0306	7165.03	6747.84	0.000623	3	1/1/2043
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91217	5951.17	5314.84	0.000517	5.5	11/1/2028
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 491089	5876.13	5422.93	0.000511	7	12/15/2028
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 581417	4630.66	4080.79	0.000402	7	7/15/2032
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91239	3698.98	3367.25	0.000321	4.5	3/1/2029
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 500928	3288.94	2873.2	0.000286	7	5/15/2029
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR DEC24	0	-10000000	0.000261	0	12/16/2024
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91074	2503.8	2237.33	0.000218	5.5	8/1/2027
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 493723	2422.86	2108.11	0.000211	7	8/15/2029

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL 008746		2095.53	2063.2	0.000182	2.125 11/20/2025
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 488634		2015.48	1777.8	0.000175	7 5/15/2029
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 352022		1623.26	1543.28	0.000141	7 11/15/2023
MML Managed Bond Fund	FIXED INCOME	FED HM LN PC POOL C91128		1341.23	1198.49	0.000117	5.5 12/1/2027
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 499410		1189.42	1035.72	0.000103	7 7/15/2029
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 510083		789.92	694.23	0.000069	7 7/15/2029
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR DEC23		0	-3750000	0.000049	0 12/18/2023
MML Managed Bond Fund	FIXED INCOME	GNMA II POOL 080136		510.74	500.5	0.000044	2.125 11/20/2027
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR SEP22		0	-3500000	0.00003	0 9/19/2022
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR MAR23		0	-3000000	0.000026	0 3/13/2023
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 480539		210	186.88	0.000018	7 4/15/2029
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR SEP21		0	-4250000	0.000018	0 9/13/2021
MML Managed Bond Fund	FUTURE	90DAY EUR FUTR MAR22		0	-3750000	0.000016	0 3/14/2022
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 374440		139.44	133.07	0.000012	7 11/15/2023
MML Managed Bond Fund	FIXED INCOME	GNMA POOL 371146		28.12	27.5	0.000002	7 9/15/2023
MML Managed Bond Fund	CASH	EURO CURRENCY		1.03	0.87	0	0
MML Managed Volatility Fund	EQUITY	APPLE INC		8449473.28	61693	5.730723	0
MML Managed Volatility Fund	EQUITY	MICROSOFT CORP		8022703.5	29615	5.441273	0
MML Managed Volatility Fund	EQUITY	AMAZON.COM INC		5800109.76	1686	3.933834	0
MML Managed Volatility Fund	EQUITY	FACEBOOK INC CLASS A		3275428.2	9420	2.221508	0
MML Managed Volatility Fund	EQUITY	ALPHABET INC CL C		2872242.72	1146	1.948054	0
MML Managed Volatility Fund	EQUITY	ALPHABET INC CL A		2820267.45	1155	1.912802	0
MML Managed Volatility Fund	EQUITY	BERKSHIRE HATHAWAY INC CL B		2069114.4	7445	1.403345	0
MML Managed Volatility Fund	EQUITY	TESLA INC		2059491	3030	1.396818	0
MML Managed Volatility Fund	EQUITY	NVIDIA CORP		1959444.9	2449	1.328963	0
MML Managed Volatility Fund	EQUITY	JPMORGAN CHASE + CO		1851392.62	11903	1.255678	0
MML Managed Volatility Fund	EQUITY	JOHNSON + JOHNSON		1703741.08	10342	1.155536	0
MML Managed Volatility Fund	EQUITY	VISA INC CLASS A SHARES		1553266.26	6643	1.053479	0
MML Managed Volatility Fund	EQUITY	UNITEDHEALTH GROUP INC		1483229.76	3704	1.005977	0
MML Managed Volatility Fund	EQUITY	PAYPAL HOLDINGS INC		1345180.2	4615	0.912347	0
MML Managed Volatility Fund	EQUITY	HOME DEPOT INC		1332322.42	4178	0.903627	0
MML Managed Volatility Fund	EQUITY	PROCTER + GAMBLE CO/THE		1296542.37	9609	0.87936	0
MML Managed Volatility Fund	EQUITY	WALT DISNEY CO/THE		1255349.34	7142	0.851421	0
MML Managed Volatility Fund	EQUITY	MASTERCARD INC A		1254084.15	3435	0.850563	0
MML Managed Volatility Fund	EQUITY	BANK OF AMERICA CORP		1221809.82	29634	0.828673	0
MML Managed Volatility Fund	EQUITY	ADOBE INC		1096903.72	1873	0.743958	0
MML Managed Volatility Fund	EQUITY	EXXON MOBIL CORP		1048389.6	16620	0.711054	0
MML Managed Volatility Fund	EQUITY	COMCAST CORP CLASS A		1027158.28	18014	0.696654	0
MML Managed Volatility Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO		1011048.51	1011048.51	0.685728	0 7/1/2021
MML Managed Volatility Fund	EQUITY	NETFLIX INC		920670.03	1743	0.62443	0
MML Managed Volatility Fund	EQUITY	VERIZON COMMUNICATIONS INC		917995.52	16384	0.622616	0
MML Managed Volatility Fund	EQUITY	INTEL CORP		890717.24	15866	0.604115	0
MML Managed Volatility Fund	EQUITY	SALESFORCE.COM INC		888654.26	3638	0.602716	0
MML Managed Volatility Fund	EQUITY	CISCO SYSTEMS INC		875772	16524	0.593979	0
MML Managed Volatility Fund	EQUITY	PFIZER INC		865396.84	22099	0.586942	0
MML Managed Volatility Fund	EQUITY	COCA COLA CO/THE		820091.16	15156	0.556214	0
MML Managed Volatility Fund	EQUITY	PEPSICO INC		808711.86	5458	0.548496	0
MML Managed Volatility Fund	EQUITY	ABBOTT LABORATORIES		808148.03	6971	0.548114	0
MML Managed Volatility Fund	EQUITY	AT+ INC		805696.1	27995	0.546451	0
MML Managed Volatility Fund	EQUITY	CHEVRON CORP		794557.64	7586	0.538896	0
MML Managed Volatility Fund	EQUITY	ABBVIE INC		780257.28	6927	0.529197	0
MML Managed Volatility Fund	EQUITY	NIKE INC CL B		779247.56	5044	0.528512	0
MML Managed Volatility Fund	EQUITY	THERMO FISHER SCIENTIFIC INC		775874.86	1538	0.526225	0
MML Managed Volatility Fund	EQUITY	MERCK + CO. INC.		771167.32	9916	0.523032	0
MML Managed Volatility Fund	EQUITY	BROADCOM INC		762944	1600	0.517455	0
MML Managed Volatility Fund	EQUITY	WALMART INC		759956.78	5389	0.515429	0
MML Managed Volatility Fund	EQUITY	ACCENTURE PLC CL A		742576.01	2519	0.503641	0
MML Managed Volatility Fund	EQUITY	WELLS FARGO + CO		735871.92	16248	0.499094	0
MML Managed Volatility Fund	EQUITY	ELI LILLY + CO		717250	3125	0.486464	0
MML Managed Volatility Fund	EQUITY	TEXAS INSTRUMENTS INC		699587.4	3638	0.474484	0
MML Managed Volatility Fund	EQUITY	COSTCO WHOLESALE CORP		684904.77	1731	0.464526	0
MML Managed Volatility Fund	EQUITY	MCDONALD S CORP		675645.75	2925	0.458246	0
MML Managed Volatility Fund	EQUITY	DANAHER CORP		667679.68	2488	0.452843	0
MML Managed Volatility Fund	EQUITY	MEDTRONIC PLC		654165.1	5270	0.443677	0
MML Managed Volatility Fund	EQUITY	QUALCOMM INC		632608.18	4426	0.429057	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	PHILIP MORRIS INTERNATIONAL	610715.82		6162	0.414208	0
MML Managed Volatility Fund	EQUITY	UNITED PARCEL SERVICE CL B	595210.14		2862	0.403692	0
MML Managed Volatility Fund	EQUITY	HONEYWELL INTERNATIONAL INC	593341.75		2705	0.402425	0
MML Managed Volatility Fund	EQUITY	LINDE PLC	588029.4		2034	0.398822	0
MML Managed Volatility Fund	EQUITY	BRISTOL MYERS SQUIBB CO	584340.9		8745	0.39632	0
MML Managed Volatility Fund	EQUITY	CITIGROUP INC	575056		8128	0.390023	0
MML Managed Volatility Fund	EQUITY	UNION PACIFIC CORP	570498.42		2594	0.386932	0
MML Managed Volatility Fund	EQUITY	NEXTERA ENERGY INC	569678.72		7774	0.386376	0
MML Managed Volatility Fund	EQUITY	ORACLE CORP	554687.84		7126	0.376208	0
MML Managed Volatility Fund	EQUITY	AMGEN INC	548437.5		2250	0.371969	0
MML Managed Volatility Fund	EQUITY	LOWE S COS INC	537878.81		2773	0.364808	0
MML Managed Volatility Fund	EQUITY	MORGAN STANLEY	534094.25		5825	0.362241	0
MML Managed Volatility Fund	EQUITY	INTUIT INC	530854.11		1083	0.360044	0
MML Managed Volatility Fund	EQUITY	BOEING CO/THE	521761.68		2178	0.353877	0
MML Managed Volatility Fund	EQUITY	STARBUCKS CORP	520810.98		4658	0.353232	0
MML Managed Volatility Fund	EQUITY	INTL BUSINESS MACHINES CORP	519075.19		3541	0.352055	0
MML Managed Volatility Fund	EQUITY	APPLIED MATERIALS INC	511358.4		3591	0.346821	0
MML Managed Volatility Fund	EQUITY	RAYTHEON TECHNOLOGIES CORP	506656.09		5939	0.343632	0
MML Managed Volatility Fund	EQUITY	GOLDMAN SACHS GROUP INC	505154.43		1331	0.342613	0
MML Managed Volatility Fund	EQUITY	BLACKROCK INC	492608.11		563	0.334104	0
MML Managed Volatility Fund	EQUITY	AMERICAN TOWER CORP	475176.26		1759	0.322281	0
MML Managed Volatility Fund	EQUITY	CATERPILLAR INC	471168.95		2165	0.319563	0
MML Managed Volatility Fund	EQUITY	TARGET CORP	467525.16		1934	0.317092	0
MML Managed Volatility Fund	EQUITY	GENERAL ELECTRIC CO	462795.18		34383	0.313884	0
MML Managed Volatility Fund	EQUITY	3M CO	456054.48		2296	0.309312	0
MML Managed Volatility Fund	EQUITY	ADVANCED MICRO DEVICES	451333.65		4805	0.30611	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-451030		-3700	0.305904	8/20/2021
MML Managed Volatility Fund	EQUITY	SCHWAB (CHARLES) CORP	432782.64		5944	0.293528	0
MML Managed Volatility Fund	EQUITY	CVS HEALTH CORP	432636.4		5185	0.293429	0
MML Managed Volatility Fund	EQUITY	DEERE + CO	429953.49		1219	0.291609	0
MML Managed Volatility Fund	EQUITY	INTUITIVE SURGICAL INC	428552.24		466	0.290659	0
MML Managed Volatility Fund	EQUITY	AMERICAN EXPRESS CO	427450.01		2587	0.289911	0
MML Managed Volatility Fund	EQUITY	SERVICENOW INC	426450.8		776	0.289234	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-426096		-3600	0.288993	9/17/2021
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-395345		-3700	0.268137	8/20/2021
MML Managed Volatility Fund	EQUITY	S+P GLOBAL INC	391979.75		955	0.265854	0
MML Managed Volatility Fund	EQUITY	CHARTER COMMUNICATIONS INC A	389583		540	0.264229	0
MML Managed Volatility Fund	EQUITY	MICRON TECHNOLOGY INC	376971.28		4436	0.255675	0
MML Managed Volatility Fund	EQUITY	ANTHEM INC	369964.2		969	0.250922	0
MML Managed Volatility Fund	EQUITY	LAM RESEARCH CORP	368296.2		566	0.249791	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-368280		-3600	0.24978	9/17/2021
MML Managed Volatility Fund	EQUITY	LOCKHEED MARTIN CORP	360189.2		952	0.244293	0
MML Managed Volatility Fund	EQUITY	BOOKING HOLDINGS INC	354470.58		162	0.240414	0
MML Managed Volatility Fund	EQUITY	PROLOGIS INC	353928.33		2961	0.240046	0
MML Managed Volatility Fund	EQUITY	ZOETIS INC	350170.44		1879	0.237498	0
MML Managed Volatility Fund	EQUITY	FIDELITY NATIONAL INFO SERV	348791.54		2462	0.236562	0
MML Managed Volatility Fund	EQUITY	ALTRIA GROUP INC	347777.92		7294	0.235875	0
MML Managed Volatility Fund	EQUITY	MONDELEZ INTERNATIONAL INC A	343919.52		5508	0.233258	0
MML Managed Volatility Fund	EQUITY	GILEAD SCIENCES INC	342991.66		4981	0.232629	0
MML Managed Volatility Fund	EQUITY	AUTOMATIC DATA PROCESSING	336462.28		1694	0.2282	0
MML Managed Volatility Fund	EQUITY	STRYKER CORP	336350.35		1295	0.228124	0
MML Managed Volatility Fund	EQUITY	T MOBILE US INC	334557.3		2310	0.226908	0
MML Managed Volatility Fund	EQUITY	CROWN CASTLE INTL CORP	332060.2		1702	0.225215	0
MML Managed Volatility Fund	EQUITY	CONOCOPHILLIPS	320699.4		5266	0.217509	0
MML Managed Volatility Fund	EQUITY	PNC FINANCIAL SERVICES GROUP	320667.56		1681	0.217488	0
MML Managed Volatility Fund	EQUITY	TJX COMPANIES INC	320649.52		4756	0.217476	0
MML Managed Volatility Fund	EQUITY	CIGNA CORP	318385.01		1343	0.21594	0
MML Managed Volatility Fund	EQUITY	US BANCORP	308549.52		5416	0.209269	0
MML Managed Volatility Fund	EQUITY	CME GROUP INC	303069		1425	0.205552	0
MML Managed Volatility Fund	EQUITY	DUKE ENERGY CORP	299121.6		3030	0.202875	0
MML Managed Volatility Fund	EQUITY	GENERAL MOTORS CO	297447.59		5027	0.201739	0
MML Managed Volatility Fund	EQUITY	TRUIST FINANCIAL CORP	296314.5		5339	0.200971	0
MML Managed Volatility Fund	EQUITY	ACTIVISION BLIZZARD INC	291760.08		3057	0.197882	0
MML Managed Volatility Fund	EQUITY	ESTEE LAUDER COMPANIES CL A	290407.04		913	0.196964	0
MML Managed Volatility Fund	EQUITY	FEDEX CORP	288186.78		966	0.195458	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	MARSH + MCLENNAN COS	285721.08		2031	0.193786	0
MML Managed Volatility Fund	EQUITY	EQUINIX INC	282515.2		352	0.191612	0
MML Managed Volatility Fund	EQUITY	HUBB LTD	282436.38		1777	0.191558	0
MML Managed Volatility Fund	EQUITY	CSX CORP	281598.24		8778	0.19099	0
MML Managed Volatility Fund	EQUITY	BECTON DICKINSON AND CO	279911.69		1151	0.189846	0
MML Managed Volatility Fund	EQUITY	COLGATE PALMOLIVE CO	275532.45		3387	0.186876	0
MML Managed Volatility Fund	EQUITY	ILLUMINA INC	273988.59		579	0.185828	0
MML Managed Volatility Fund	EQUITY	CAPITAL ONE FINANCIAL CORP	271480.95		1755	0.184128	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-271136		-3700	0.183894	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-265475		-3700	0.180054	0
MML Managed Volatility Fund	EQUITY	INTERCONTINENTAL EXCHANGE IN	263988.8		2224	0.179046	0
MML Managed Volatility Fund	EQUITY	NORFOLK SOUTHERN CORP	263817.54		994	0.17893	0
MML Managed Volatility Fund	EQUITY	AUTODESK INC	255704.4		876	0.173428	0
MML Managed Volatility Fund	EQUITY	ILLINOIS TOOL WORKS	255081.96		1141	0.173005	0
MML Managed Volatility Fund	EQUITY	SHERWIN WILLIAMS CO/THE	252561.15		927	0.171296	0
MML Managed Volatility Fund	EQUITY	AIR PRODUCTS + CHEMICALS INC	251720		875	0.170725	0
MML Managed Volatility Fund	EQUITY	EDWARDS LIFESCIENCES CORP	250846.54		2422	0.170133	0
MML Managed Volatility Fund	EQUITY	ANALOG DEVICES INC	249115.52		1447	0.168959	0
MML Managed Volatility Fund	EQUITY	FISERV INC	243388.53		2277	0.165074	0
MML Managed Volatility Fund	EQUITY	SOUTHERN CO/THE	242705.61		4011	0.164611	0
MML Managed Volatility Fund	EQUITY	BOSTON SCIENTIFIC CORP	239284.96		5596	0.162291	0
MML Managed Volatility Fund	EQUITY	DOMINION ENERGY INC	234467.59		3187	0.159024	0
MML Managed Volatility Fund	EQUITY	REGENERON PHARMACEUTICALS	234028.26		419	0.158726	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	234000		5000	0.158707	0
MML Managed Volatility Fund	EQUITY	EATON CORP PLC	232938.96		1572	0.157987	0
MML Managed Volatility Fund	EQUITY	MOODY S CORP	230467.32		636	0.156311	0
MML Managed Volatility Fund	EQUITY	PROGRESSIVE CORP	230007.82		2342	0.155999	0
MML Managed Volatility Fund	EQUITY	FORD MOTOR CO	229587		15450	0.155714	0
MML Managed Volatility Fund	EQUITY	EMERSON ELECTRIC CO	228088.8		2370	0.154698	0
MML Managed Volatility Fund	EQUITY	NXP SEMICONDUCTORS NV	226497.72		1101	0.153619	0
MML Managed Volatility Fund	EQUITY	HUMANA INC	224016.32		506	0.151936	0
MML Managed Volatility Fund	EQUITY	GLOBAL PAYMENTS INC	218484.1		1165	0.148183	0
MML Managed Volatility Fund	EQUITY	TWITTER INC	217301.98		3158	0.147382	0
MML Managed Volatility Fund	EQUITY	WASTE MANAGEMENT INC	216610.06		1546	0.146912	0
MML Managed Volatility Fund	EQUITY	AON PLC CLASS A	215839.04		904	0.146389	0
MML Managed Volatility Fund	EQUITY	FREEMONT MCMORAN INC	213976.26		5766	0.145126	0
MML Managed Volatility Fund	EQUITY	IDEXX LABORATORIES INC	212832.35		337	0.14435	0
MML Managed Volatility Fund	EQUITY	HCA HEALTHCARE INC	210874.8		1020	0.143023	0
MML Managed Volatility Fund	EQUITY	NORTHROP GRUMMAN CORP	210425.97		579	0.142718	0
MML Managed Volatility Fund	EQUITY	VERTEX PHARMACEUTICALS INC	207074.01		1027	0.140445	0
MML Managed Volatility Fund	EQUITY	COLLAB INC	204528.21		993	0.138718	0
MML Managed Volatility Fund	EQUITY	BIogen INC	203606.76		588	0.138093	0
MML Managed Volatility Fund	EQUITY	NEWMONT CORP	202372.34		3193	0.137256	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-199800		-3700	0.135511	0
MML Managed Volatility Fund	EQUITY	DOLLAR GENERAL CORP	197780.46		914	0.134142	0
MML Managed Volatility Fund	EQUITY	JOHNSON CONTROLS INTERNATION	195115.09		2843	0.132334	0
MML Managed Volatility Fund	EQUITY	ROPER TECHNOLOGIES INC	194192.6		413	0.131708	0
MML Managed Volatility Fund	EQUITY	KLA CORP	192580.74		594	0.130615	0
MML Managed Volatility Fund	EQUITY	EOG RESOURCES INC	192496.08		2307	0.130557	0
MML Managed Volatility Fund	EQUITY	DOW INC	188384.56		2977	0.127769	0
MML Managed Volatility Fund	EQUITY	IQVIA HOLDINGS INC	183193.92		756	0.124248	0
MML Managed Volatility Fund	EQUITY	EBAY INC	181071.59		2579	0.122809	0
MML Managed Volatility Fund	EQUITY	SCHLUMBERGER LTD	179672.13		5613	0.12186	0
MML Managed Volatility Fund	EQUITY	PUBLIC STORAGE	178910.55		595	0.121343	0
MML Managed Volatility Fund	EQUITY	AGILENT TECHNOLOGIES INC	177519.81		1201	0.1204	0
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-176379		-3700	0.119626	0
MML Managed Volatility Fund	EQUITY	L3HARRIS TECHNOLOGIES INC	176162.25		815	0.119479	0
MML Managed Volatility Fund	EQUITY	GENERAL DYNAMICS CORP	175270.06		931	0.118874	0
MML Managed Volatility Fund	EQUITY	EXELON CORP	174758.64		3944	0.118527	0
MML Managed Volatility Fund	EQUITY	ROSS STORES INC	174220		1405	0.118162	0
MML Managed Volatility Fund	EQUITY	ALIGN TECHNOLOGY INC	174135		285	0.118104	0
MML Managed Volatility Fund	EQUITY	MSCI INC	173784.08		326	0.117866	0
MML Managed Volatility Fund	EQUITY	TE CONNECTIVITY LTD	173474.43		1283	0.117656	0
MML Managed Volatility Fund	EQUITY	TRANE TECHNOLOGIES PLC	173459.88		942	0.117646	0
MML Managed Volatility Fund	EQUITY	KIMBERLY CLARK CORP	173378.88		1296	0.117592	0
MML Managed Volatility Fund							

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	T ROWE PRICE GROUP INC	172431.87	871	0.116949	0	
MML Managed Volatility Fund	EQUITY	METLIFE INC	171111.15	2859	0.116053	0	
MML Managed Volatility Fund	EQUITY	CENTENE CORP	169489.32	2324	0.114953	0	
MML Managed Volatility Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	168987.06	109	0.114613	0	
MML Managed Volatility Fund	EQUITY	AMERICAN ELECTRIC POWER	167995.74	1986	0.11394	0	
MML Managed Volatility Fund	EQUITY	SIMON PROPERTY GROUP INC	167536.32	1284	0.113629	0	
MML Managed Volatility Fund	EQUITY	APTIV PLC	167084.46	1062	0.113322	0	
MML Managed Volatility Fund	EQUITY	DIGITAL REALTY TRUST INC	166408.76	1106	0.112864	0	
MML Managed Volatility Fund	EQUITY	DEXCOM INC	164395	385	0.111498	0	
MML Managed Volatility Fund	EQUITY	IHS MARKIT LTD	164145.62	1457	0.111329	0	
MML Managed Volatility Fund	EQUITY	DUPONT DE NEMOURS INC	163876.97	2117	0.111147	0	
MML Managed Volatility Fund	EQUITY	SYNOPSIS INC	163819.26	594	0.111108	0	
MML Managed Volatility Fund	EQUITY	PRUDENTIAL FINANCIAL INC	163234.71	1593	0.110711	0	
MML Managed Volatility Fund	EQUITY	BANK OF NEW YORK MELLON CORP	162911.4	3180	0.110492	0	
MML Managed Volatility Fund	EQUITY	ELECTRONIC ARTS INC	162096.41	1127	0.109939	0	
MML Managed Volatility Fund	EQUITY	AMERICAN INTERNATIONAL GROUP	161316.4	3389	0.10941	0	
MML Managed Volatility Fund	EQUITY	PPG INDUSTRIES INC	161281.5	950	0.109387	0	
MML Managed Volatility Fund	EQUITY	O REILLY AUTOMOTIVE INC	160237.43	283	0.108679	0	
MML Managed Volatility Fund	EQUITY	BAXTER INTERNATIONAL INC	159953.5	1987	0.108486	0	
MML Managed Volatility Fund	EQUITY	ALEXION PHARMACEUTICALS INC	159092.86	866	0.107902	0	
MML Managed Volatility Fund	EQUITY	MICROCHIP TECHNOLOGY INC	157825.96	1054	0.107043	0	
MML Managed Volatility Fund	EQUITY	CARRIER GLOBAL CORP	156929.4	3229	0.106435	0	
MML Managed Volatility Fund	EQUITY	SEMPRA ENERGY	156856.32	1184	0.106385	0	
MML Managed Volatility Fund	EQUITY	MARATHON PETROLEUM CORP	156004.44	2582	0.105808	0	
MML Managed Volatility Fund	EQUITY	SYSCO CORP	155577.75	2001	0.105518	0	
MML Managed Volatility Fund	EQUITY	CONSTELLATION BRANDS INC A	155302.96	664	0.105332	0	
MML Managed Volatility Fund	EQUITY	AMPHENOL CORP CL A	154743.42	2262	0.104952	0	
MML Managed Volatility Fund	EQUITY	PARKER HANNIFIN CORP	151098.12	492	0.10248	0	
MML Managed Volatility Fund	EQUITY	WALGREENS BOOTS ALLIANCE INC	150885.48	2868	0.102336	0	
MML Managed Volatility Fund	EQUITY	ALLSTATE CORP	149745.12	1148	0.101562	0	
MML Managed Volatility Fund	EQUITY	CADENCE DESIGN SYS INC	149407.44	1092	0.101333	0	
MML Managed Volatility Fund	EQUITY	PHILLIPS 66	148039.5	1725	0.100405	0	
MML Managed Volatility Fund	EQUITY	PIONEER NATURAL RESOURCES CO	146430.52	901	0.099314	0	
MML Managed Volatility Fund	EQUITY	TRAVELERS COS INC/THE	146416.38	978	0.099305	0	
MML Managed Volatility Fund	EQUITY	INTL FLAVORS + FRAGRANCES	145515.6	974	0.098694	0	
MML Managed Volatility Fund	EQUITY	MARRIOTT INTERNATIONAL CL A	145257.28	1064	0.098518	0	
MML Managed Volatility Fund	EQUITY	COGNIZANT TECH SOLUTIONS A	144476.36	2086	0.097989	0	
MML Managed Volatility Fund	EQUITY	CUMMINS INC	143604.09	589	0.097397	0	
MML Managed Volatility Fund	EQUITY	MOTOROLA SOLUTIONS INC	143337.85	661	0.097217	0	
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	143300	5000	0.097191	0	9/17/2021
MML Managed Volatility Fund	EQUITY	XCEL ENERGY INC	142564.32	2164	0.096692	0	
MML Managed Volatility Fund	EQUITY	RESMED INC	140762.92	571	0.09547	0	
MML Managed Volatility Fund	EQUITY	KINDER MORGAN INC	140206.93	7691	0.095093	0	
MML Managed Volatility Fund	EQUITY	HP INC	139779.7	4630	0.094803	0	
MML Managed Volatility Fund	EQUITY	GENERAL MILLS INC	139773.42	2294	0.094799	0	
MML Managed Volatility Fund	EQUITY	XILINX INC	139577.6	965	0.094666	0	
MML Managed Volatility Fund	EQUITY	TRANSDIGM GROUP INC	139167.35	215	0.094388	0	
MML Managed Volatility Fund	EQUITY	DISCOVER FINANCIAL SERVICES	138990.75	1175	0.094268	0	
MML Managed Volatility Fund	EQUITY	YUM BRANDS INC	138381.09	1203	0.093855	0	
MML Managed Volatility Fund	EQUITY	PAYCHEX INC	138309.7	1289	0.093806	0	
MML Managed Volatility Fund	EQUITY	WELLTOWER INC	135951.6	1636	0.092207	0	
MML Managed Volatility Fund	EQUITY	SBA COMMUNICATIONS CORP	135766.2	426	0.092081	0	
MML Managed Volatility Fund	EQUITY	MONSTER BEVERAGE CORP	135654.75	1485	0.092006	0	
MML Managed Volatility Fund	EQUITY	ARCHER DANIELS MIDLAND CO	135259.2	2232	0.091737	0	
MML Managed Volatility Fund	EQUITY	HILTON WORLDWIDE HOLDINGS INC	133285.1	1105	0.090399	0	
MML Managed Volatility Fund	EQUITY	STANLEY BLACK + DECKER INC	133243.5	650	0.09037	0	
MML Managed Volatility Fund	EQUITY	AFLAC INC	130769.42	2437	0.088692	0	
MML Managed Volatility Fund	EQUITY	CINTAS CORP	130644	342	0.088607	0	
MML Managed Volatility Fund	EQUITY	ROCKWELL AUTOMATION INC	130425.12	456	0.088459	0	
MML Managed Volatility Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC	130425.02	811	0.088459	0	
MML Managed Volatility Fund	EQUITY	CORTEVA INC	130078.55	2933	0.088224	0	
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	129438	5100	0.087789	0	9/17/2021
MML Managed Volatility Fund	EQUITY	FIRST REPUBLIC BANK/CA	129334.47	691	0.087719	0	
MML Managed Volatility Fund	EQUITY	FORTINET INC	128860.79	541	0.087398	0	
MML Managed Volatility Fund	EQUITY	METTLER TOLEDO INTERNATIONAL	127451.28	92	0.086442	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	SKYWORKS SOLUTIONS INC	127130.25	663	0.086224	0	
MML Managed Volatility Fund	EQUITY	OTIS WORLDWIDE CORP	127070.58	1554	0.086184	0	
MML Managed Volatility Fund	EQUITY	WILLIAMS COS INC	126909	4780	0.086074	0	
MML Managed Volatility Fund	EQUITY	VALERO ENERGY CORP	125943.04	1613	0.085419	0	
MML Managed Volatility Fund	EQUITY	AMETEK INC	124422	932	0.084387	0	
MML Managed Volatility Fund	EQUITY	CORNING INC	124172.4	3036	0.084218	0	
MML Managed Volatility Fund	EQUITY	SOUTHWEST AIRLINES CO	124124.42	2338	0.084185	0	
MML Managed Volatility Fund	EQUITY	AUTOZONE INC	123854.26	83	0.084002	0	
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	-122840	-3700	0.083314	0	7/16/2021
MML Managed Volatility Fund	EQUITY	PACCAR INC	121737	1364	0.082566	0	
MML Managed Volatility Fund	EQUITY	PUBLIC SERVICE ENTERPRISE GP	120316.36	2014	0.081603	0	
MML Managed Volatility Fund	EQUITY	ANSYS INC	119735.7	345	0.081209	0	
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	119500	5000	0.081049	0	9/17/2021
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	118800	4400	0.080574	0	9/17/2021
MML Managed Volatility Fund	EQUITY	SVB FINANCIAL GROUP	118519.59	213	0.080384	0	
MML Managed Volatility Fund	EQUITY	MCKESSON CORP	117803.84	616	0.079899	0	
MML Managed Volatility Fund	EQUITY	EQUIFAX INC	116880.88	488	0.079273	0	
MML Managed Volatility Fund	EQUITY	FASTENAL CO	116272	2236	0.07886	0	
MML Managed Volatility Fund	EQUITY	STATE STREET CORP	116014.8	1410	0.078685	0	
MML Managed Volatility Fund	EQUITY	DR HORTON INC	115854.34	1282	0.078576	0	
MML Managed Volatility Fund	EQUITY	WILLIS TOWERS WATSON PLC	115470.04	502	0.078316	0	
MML Managed Volatility Fund	EQUITY	AMERIPRISE FINANCIAL INC	113489.28	456	0.076972	0	
MML Managed Volatility Fund	EQUITY	KROGER CO	113320.98	2958	0.076858	0	
MML Managed Volatility Fund	EQUITY	MAXIM INTEGRATED PRODUCTS	112945.92	1072	0.076604	0	
MML Managed Volatility Fund	EQUITY	CBRE GROUP INC A	112820.68	1316	0.076519	0	
MML Managed Volatility Fund	EQUITY	AVALONBAY COMMUNITIES INC	112692.6	540	0.076432	0	
MML Managed Volatility Fund	EQUITY	EVERSOURCE ENERGY	111934.8	1395	0.075918	0	
MML Managed Volatility Fund	EQUITY	ZEBRA TECHNOLOGIES CORP CL A	111722.39	211	0.075774	0	
MML Managed Volatility Fund	EQUITY	KEYSIGHT TECHNOLOGIES IN	111638.43	723	0.075717	0	
MML Managed Volatility Fund	EQUITY	NUCOR CORP	110895.08	1156	0.075213	0	
MML Managed Volatility Fund	EQUITY	ARTHUR J GALLAGHER + CO	110523.12	789	0.074961	0	
MML Managed Volatility Fund	EQUITY	VERISK ANALYTICS INC	110073.6	630	0.074656	0	
MML Managed Volatility Fund	EQUITY	WEC ENERGY GROUP INC	109408.5	1230	0.074205	0	
MML Managed Volatility Fund	EQUITY	EQUITY RESIDENTIAL	109032	1416	0.073949	0	
MML Managed Volatility Fund	EQUITY	AMERICAN WATER WORKS CO INC	108507.52	704	0.073594	0	
MML Managed Volatility Fund	EQUITY	LABORATORY CRP OF AMER HLDGS	108133.2	392	0.07334	0	
MML Managed Volatility Fund	EQUITY	DELTA AIR LINES INC	108063.48	2498	0.073292	0	
MML Managed Volatility Fund	EQUITY	LENNAR CORP A	107894.1	1086	0.073177	0	
MML Managed Volatility Fund	EQUITY	WEST PHARMACEUTICAL SERVICES	107370.9	299	0.072823	0	
MML Managed Volatility Fund	EQUITY	VIACOMCBS INC CLASS B	106446	2355	0.072195	0	
MML Managed Volatility Fund	EQUITY	KRAFT HEINZ CO/THE	105864.88	2596	0.071801	0	
MML Managed Volatility Fund	EQUITY	COPART INC	104673.02	794	0.070993	0	
MML Managed Volatility Fund	EQUITY	OCCIDENTAL PETROLEUM CORP	104066.56	3328	0.070582	0	
MML Managed Volatility Fund	EQUITY	ETSY INC	103949.2	505	0.070502	0	
MML Managed Volatility Fund	EQUITY	FIFTH THIRD BANCORP	103717.99	2713	0.070345	0	
MML Managed Volatility Fund	EQUITY	VF CORP	103534.48	1262	0.070221	0	
MML Managed Volatility Fund	EQUITY	KANSAS CITY SOUTHERN	102863.31	363	0.069765	0	
MML Managed Volatility Fund	EQUITY	GENERAC HOLDINGS INC	102542.05	247	0.069548	0	
MML Managed Volatility Fund	EQUITY	REALTY INCOME CORP	101378.06	1519	0.068758	0	
MML Managed Volatility Fund	EQUITY	BALL CORP	100707.86	1243	0.068304	0	
MML Managed Volatility Fund	EQUITY	SYNCHRONY FINANCIAL	100533.44	2072	0.068185	0	
MML Managed Volatility Fund	EQUITY	WEYERHAEUSER CO	100506.4	2920	0.068167	0	
MML Managed Volatility Fund	EQUITY	LYONDELLBASELL INDU CL A	100092.51	973	0.067886	0	
MML Managed Volatility Fund	EQUITY	BEST BUY CO INC	98767.82	859	0.066988	0	
MML Managed Volatility Fund	EQUITY	OLD DOMINION FREIGHT LINE	98220.6	387	0.066617	0	
MML Managed Volatility Fund	EQUITY	DTE ENERGY COMPANY	97718.4	754	0.066276	0	
MML Managed Volatility Fund	EQUITY	ONEOK INC	97314.36	1749	0.066002	0	
MML Managed Volatility Fund	EQUITY	CDW CORP/DE	96581.45	553	0.065505	0	
MML Managed Volatility Fund	EQUITY	HERSHEY CO/THE	95973.18	551	0.065092	0	
MML Managed Volatility Fund	EQUITY	NORTHERN TRUST CORP	95039.64	822	0.064459	0	
MML Managed Volatility Fund	EQUITY	UNITED RENTALS INC	94745.97	297	0.06426	0	
MML Managed Volatility Fund	EQUITY	CERNER CORP	94651.76	1211	0.064196	0	
MML Managed Volatility Fund	EQUITY	INTERNATIONAL PAPER CO	94356.09	1539	0.063996	0	
MML Managed Volatility Fund	EQUITY	DOLLAR TREE INC	94226.5	947	0.063908	0	
MML Managed Volatility Fund	EQUITY	VULCAN MATERIALS CO	94171.87	541	0.063871	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	CONSOLIDATED EDISON INC	94096.64	94096.64	1312	0.06382	0
MML Managed Volatility Fund	EQUITY	ENPHASE ENERGY INC	93467.67	93467.67	509	0.063393	0
MML Managed Volatility Fund	EQUITY	HESS CORP	93432.4	93432.4	1070	0.063369	0
MML Managed Volatility Fund	EQUITY	FORTIVE CORP	92196.28	92196.28	1322	0.062531	0
MML Managed Volatility Fund	EQUITY	ALEXANDRIA REAL ESTATE EQUIT	91697.76	91697.76	504	0.062193	0
MML Managed Volatility Fund	EQUITY	EXPEDIA GROUP INC	90367.92	90367.92	552	0.061291	0
MML Managed Volatility Fund	EQUITY	REPUBLIC SERVICES INC	90318.21	90318.21	821	0.061257	0
MML Managed Volatility Fund	EQUITY	TERADYNE INC	89753.2	89753.2	670	0.060874	0
MML Managed Volatility Fund	EQUITY	VERISIGN INC	89482.17	89482.17	393	0.06069	0
MML Managed Volatility Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	88431.19	88431.19	1427	0.059977	0
MML Managed Volatility Fund	EQUITY	GARMIN LTD	87941.12	87941.12	608	0.059645	0
MML Managed Volatility Fund	EQUITY	TYSON FOODS INC CL A	87479.36	87479.36	1186	0.059332	0
MML Managed Volatility Fund	EQUITY	WESTERN DIGITAL CORP	87325.59	87325.59	1227	0.059227	0
MML Managed Volatility Fund	EQUITY	AMEREN CORPORATION	86683.32	86683.32	1083	0.058792	0
MML Managed Volatility Fund	EQUITY	MCCORMICK + CO NON VTG SHRS	86200.32	86200.32	976	0.058464	0
MML Managed Volatility Fund	EQUITY	QORVO INC	85890.35	85890.35	439	0.058254	0
MML Managed Volatility Fund	EQUITY	TRACTOR SUPPLY COMPANY	85587.6	85587.6	460	0.058048	0
MML Managed Volatility Fund	EQUITY	PPL CORP	85308.5	85308.5	3050	0.057859	0
MML Managed Volatility Fund	EQUITY	MARTIN MARIETTA MATERIALS	84786.21	84786.21	241	0.057505	0
MML Managed Volatility Fund	EQUITY	CAESARS ENTERTAINMENT INC	84452.5	84452.5	814	0.057279	0
MML Managed Volatility Fund	EQUITY	EDISON INTERNATIONAL	84128.1	84128.1	1455	0.057059	0
MML Managed Volatility Fund	EQUITY	CLOROX COMPANY	83838.06	83838.06	466	0.056862	0
MML Managed Volatility Fund	EQUITY	TRIMBLE INC	83712.09	83712.09	1023	0.056776	0
MML Managed Volatility Fund	EQUITY	EXPEDITORS INTL WASH INC	83556	83556	660	0.056671	0
MML Managed Volatility Fund	EQUITY	WATERS CORP	83292.01	83292.01	241	0.056492	0
MML Managed Volatility Fund	EQUITY	VENTAS INC	83251.8	83251.8	1458	0.056464	0
MML Managed Volatility Fund	EQUITY	ENTERGY CORP	83249.5	83249.5	835	0.056463	0
MML Managed Volatility Fund	EQUITY	FLEETCOR TECHNOLOGIES INC	83219.5	83219.5	325	0.056442	0
MML Managed Volatility Fund	EQUITY	FIRSTENERGY CORP	82606.2	82606.2	2220	0.056026	0
MML Managed Volatility Fund	EQUITY	XYLEM INC	82412.52	82412.52	687	0.055895	0
MML Managed Volatility Fund	EQUITY	EXTRA SPACE STORAGE INC	82401.46	82401.46	503	0.055888	0
MML Managed Volatility Fund	EQUITY	NASDAQ INC	82274.4	82274.4	468	0.055801	0
MML Managed Volatility Fund	EQUITY	CARMAX INC	82139.4	82139.4	636	0.05571	0
MML Managed Volatility Fund	EQUITY	TAKE TWO INTERACTIVE SOFTWRE	81960.26	81960.26	463	0.055588	0
MML Managed Volatility Fund	EQUITY	CARNIVAL CORP	81689.64	81689.64	3099	0.055405	0
MML Managed Volatility Fund	EQUITY	DOVER CORP	81625.2	81625.2	542	0.055361	0
MML Managed Volatility Fund	EQUITY	HUNTINGTON BANCSHARES INC	80582.69	80582.69	5647	0.054654	0
MML Managed Volatility Fund	EQUITY	ALBEMARLE CORP	80186.96	80186.96	476	0.054386	0
MML Managed Volatility Fund	EQUITY	HALLIBURTON CO	80180.16	80180.16	3468	0.054381	0
MML Managed Volatility Fund	EQUITY	GARTNER INC	79926	79926	330	0.054209	0
MML Managed Volatility Fund	EQUITY	CHURCH + DWIGHT CO INC	79851.14	79851.14	937	0.054158	0
MML Managed Volatility Fund	EQUITY	COOPER COS INC/THE	79650.27	79650.27	201	0.054022	0
MML Managed Volatility Fund	EQUITY	ESSEX PROPERTY TRUST INC	78902.63	78902.63	263	0.053514	0
MML Managed Volatility Fund	EQUITY	WW GRAINGER INC	78402	78402	179	0.053175	0
MML Managed Volatility Fund	EQUITY	BROADRIDGE FINANCIAL SOLUTIO	77211.34	77211.34	478	0.052367	0
MML Managed Volatility Fund	EQUITY	ARISTA NETWORKS INC	77172.03	77172.03	213	0.052341	0
MML Managed Volatility Fund	EQUITY	AKAMAI TECHNOLOGIES INC	76839.4	76839.4	659	0.052115	0
MML Managed Volatility Fund	EQUITY	HEWLETT PACKARD ENTERPRISE	76530.42	76530.42	5249	0.051906	0
MML Managed Volatility Fund	EQUITY	TELEDYNE TECHNOLOGIES INC	75808.23	75808.23	181	0.051416	0
MML Managed Volatility Fund	EQUITY	KEYCORP	75537.7	75537.7	3658	0.051232	0
MML Managed Volatility Fund	EQUITY	M + T BANK CORP	75270.58	75270.58	518	0.051051	0
MML Managed Volatility Fund	EQUITY	DUKE REALTY CORP	75002.4	75002.4	1584	0.050869	0
MML Managed Volatility Fund	EQUITY	CITIZENS FINANCIAL GROUP	74447.01	74447.01	1623	0.050493	0
MML Managed Volatility Fund	EQUITY	CHARLES RIVER LABORATORIES	73244.16	73244.16	198	0.049677	0
MML Managed Volatility Fund	EQUITY	TELEFLEX INC	73125.78	73125.78	182	0.049596	0
MML Managed Volatility Fund	EQUITY	REGIONS FINANCIAL CORP	73031.42	73031.42	3619	0.049532	0
MML Managed Volatility Fund	EQUITY	DARDEN RESTAURANTS INC	72995	72995	500	0.049508	0
MML Managed Volatility Fund	EQUITY	ULTA BEAUTY INC	72957.47	72957.47	211	0.049482	0
MML Managed Volatility Fund	EQUITY	ROYAL CARIBBEAN CRUISES LTD	72829.12	72829.12	854	0.049395	0
MML Managed Volatility Fund	EQUITY	HEALTHPEAK PROPERTIES INC	72805.23	72805.23	2187	0.049379	0
MML Managed Volatility Fund	EQUITY	MID AMERICA APARTMENT COMM	72589.02	72589.02	431	0.049232	0
MML Managed Volatility Fund	EQUITY	CATALENT INC	71575.44	71575.44	662	0.048545	0
MML Managed Volatility Fund	EQUITY	STERIS PLC	71379.8	71379.8	346	0.048412	0
MML Managed Volatility Fund	EQUITY	DOMINO S PIZZA INC	71372.97	71372.97	153	0.048408	0
MML Managed Volatility Fund	EQUITY	AMCOR PLC	71120.76	71120.76	6206	0.048237	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	POOL CORP	71092.3	155	0.048217	0	
MML Managed Volatility Fund	EQUITY	TYLER TECHNOLOGIES INC	71022.09	157	0.04817	0	
MML Managed Volatility Fund	EQUITY	MARKETAXESS HOLDINGS INC	70929.27	153	0.048107	0	
MML Managed Volatility Fund	EQUITY	NETAPP INC	70774.3	865	0.048002	0	
MML Managed Volatility Fund	EQUITY	INGERSOLL RAND INC	70774.5	1450	0.048002	0	
MML Managed Volatility Fund	EQUITY	MGM RESORTS INTERNATIONAL	70671.05	1657	0.047932	0	
MML Managed Volatility Fund	EQUITY	AES CORP	70571.49	2707	0.047864	0	
MML Managed Volatility Fund	EQUITY	CELANESE CORP	70342.4	464	0.047709	0	
MML Managed Volatility Fund	EQUITY	QUEST DIAGNOSTICS INC	70340.01	533	0.047707	0	
MML Managed Volatility Fund	EQUITY	JACOBS ENGINEERING GROUP INC	70312.34	527	0.047688	0	
MML Managed Volatility Fund	EQUITY	PERKINELMER INC	70102.14	454	0.047546	0	
MML Managed Volatility Fund	EQUITY	DEVON ENERGY CORP	69734.91	2389	0.047297	0	
MML Managed Volatility Fund	EQUITY	VIATRIS INC	69706.62	4878	0.047277	0	
MML Managed Volatility Fund	EQUITY	HOLOGIC INC	69455.52	1041	0.047107	0	
MML Managed Volatility Fund	EQUITY	GENUINE PARTS CO	69179.09	547	0.04692	0	
MML Managed Volatility Fund	EQUITY	CONAGRA BRANDS INC	68867.34	1893	0.046708	0	
MML Managed Volatility Fund	EQUITY	PAYCOM SOFTWARE INC	67968.89	187	0.046099	0	
MML Managed Volatility Fund	EQUITY	BOSTON PROPERTIES INC	67951.87	593	0.046087	0	
MML Managed Volatility Fund	EQUITY	CINCINNATI FINANCIAL CORP	67406.36	578	0.045717	0	
MML Managed Volatility Fund	EQUITY	SEAGATE TECHNOLOGY HOLDINGS	67090.59	763	0.045503	0	
MML Managed Volatility Fund	EQUITY	LAS VEGAS SANDS CORP	67074.37	1273	0.045492	0	
MML Managed Volatility Fund	EQUITY	AVERY DENNISON CORP	66856.32	318	0.045344	0	
MML Managed Volatility Fund	EQUITY	BAKER HUGHES CO	66826.14	2922	0.045324	0	
MML Managed Volatility Fund	EQUITY	L BRANDS INC	66583.44	924	0.045159	0	
MML Managed Volatility Fund	EQUITY	DIAMONDBACK ENERGY INC	66380.23	707	0.045021	0	
MML Managed Volatility Fund	EQUITY	CMS ENERGY CORP	65578.8	1110	0.044478	0	
MML Managed Volatility Fund	EQUITY	OMNICOM GROUP	65111.86	814	0.044161	0	
MML Managed Volatility Fund	EQUITY	NVR INC	64652.9	13	0.04385	0	
MML Managed Volatility Fund	EQUITY	MONOLITHIC POWER SYSTEMS INC	64606.85	173	0.043819	0	
MML Managed Volatility Fund	EQUITY	AMERISOURCEBERGEN CORP	64572.36	564	0.043795	0	
MML Managed Volatility Fund	EQUITY	PRINCIPAL FINANCIAL GROUP	64516.99	1021	0.043758	0	
MML Managed Volatility Fund	EQUITY	UNITED AIRLINES HOLDINGS INC	64264.41	1229	0.043586	0	
MML Managed Volatility Fund	EQUITY	NORTONLIFELOCK INC	63504.26	2333	0.043071	0	
MML Managed Volatility Fund	EQUITY	KELLOGG CO	63493.71	987	0.043064	0	
MML Managed Volatility Fund	EQUITY	IDEX CORP	62934.3	286	0.042684	0	
MML Managed Volatility Fund	EQUITY	CARDINAL HEALTH INC	62913.18	1102	0.04267	0	
MML Managed Volatility Fund	EQUITY	INCYTE CORP	60825.99	723	0.041254	0	
MML Managed Volatility Fund	EQUITY	RAYMOND JAMES FINANCIAL INC	60403.5	465	0.040968	0	
MML Managed Volatility Fund	EQUITY	EASTMAN CHEMICAL CO	59309	508	0.040225	0	
MML Managed Volatility Fund	EQUITY	PTC INC	59046.68	418	0.040047	0	
MML Managed Volatility Fund	EQUITY	CITRIX SYSTEMS INC	58283.19	497	0.03953	0	
MML Managed Volatility Fund	EQUITY	MASCO CORP	57437.25	975	0.038956	0	
MML Managed Volatility Fund	EQUITY	TEXTRON INC	57216.64	832	0.038806	0	
MML Managed Volatility Fund	EQUITY	UDR INC	57061.7	1165	0.038701	0	
MML Managed Volatility Fund	EQUITY	LKQ CORP	56947.54	1157	0.038624	0	
MML Managed Volatility Fund	EQUITY	WHIRLPOOL CORP	56903.22	261	0.038594	0	
MML Managed Volatility Fund	EQUITY	CENTERPOINT ENERGY INC	56837.36	2318	0.038549	0	
MML Managed Volatility Fund	EQUITY	WABTEC CORP	56293.2	684	0.03818	0	
MML Managed Volatility Fund	EQUITY	BROWN FORMAN CORP CLASS B	55905.24	746	0.037917	0	
MML Managed Volatility Fund	OPTIONS	S-P 500 INDEX	55800	5000	0.037845	0	
MML Managed Volatility Fund	EQUITY	LUMEN TECHNOLOGIES INC	54767.7	4030	0.037145	0	8/20/2021
MML Managed Volatility Fund	EQUITY	ABIOMED INC	54619.25	175	0.037045	0	
MML Managed Volatility Fund	EQUITY	PULTEGROUP INC	54351.72	996	0.036863	0	
MML Managed Volatility Fund	EQUITY	DENTSPLY SIRONA INC	54277.08	858	0.036813	0	
MML Managed Volatility Fund	EQUITY	WESTROCK CO	54177.96	1018	0.036745	0	
MML Managed Volatility Fund	EQUITY	BIO RAD LABORATORIES A	53476.07	83	0.036269	0	
MML Managed Volatility Fund	EQUITY	WYNN RESORTS LTD	53445.1	437	0.036248	0	
MML Managed Volatility Fund	EQUITY	AMERICAN AIRLINES GROUP INC	53385.57	2517	0.036208	0	
MML Managed Volatility Fund	EQUITY	HORMEL FOODS CORP	53098	1112	0.036013	0	
MML Managed Volatility Fund	EQUITY	PACKAGING CORP OF AMERICA	53084.64	392	0.036004	0	
MML Managed Volatility Fund	EQUITY	FMC CORP	52909.8	489	0.035885	0	
MML Managed Volatility Fund	EQUITY	LEIDOS HOLDINGS INC	52673.1	521	0.035725	0	
MML Managed Volatility Fund	EQUITY	ALLIANT ENERGY CORP	52525.92	942	0.035625	0	
MML Managed Volatility Fund	EQUITY	JM SMUCKER CO/THE	52475.85	405	0.035591	0	
MML Managed Volatility Fund	EQUITY	EVERGY INC	52030.23	861	0.035289	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	ADVANCE AUTO PARTS INC	51900.42	253	0.035201	0	
MML Managed Volatility Fund	EQUITY	HOWMET AEROSPACE INC	51877.35	1505	0.035185	0	
MML Managed Volatility Fund	EQUITY	HUNT (JB) TRANSPRT SVCS INC	51818.1	318	0.035145	0	
MML Managed Volatility Fund	EQUITY	INTERPUBLIC GROUP OF COS INC	51724.08	1592	0.035081	0	
MML Managed Volatility Fund	EQUITY	TAPESTRY INC	51089	1175	0.03465	0	
MML Managed Volatility Fund	EQUITY	SNAP ON INC	50718.61	227	0.034399	0	
MML Managed Volatility Fund	EQUITY	FORTUNE BRANDS HOME + SECURI	50502.27	507	0.034252	0	
MML Managed Volatility Fund	EQUITY	IRON MOUNTAIN INC	50318.48	1189	0.034128	0	
MML Managed Volatility Fund	OPTIONS	S+P 500 INDEX	49644	3600	0.03367	0	8/20/2021
MML Managed Volatility Fund	EQUITY	CBOE GLOBAL MARKETS INC	49524.8	416	0.033589	0	
MML Managed Volatility Fund	EQUITY	QUANTA SERVICES INC	48907.8	540	0.033171	0	
MML Managed Volatility Fund	EQUITY	LAMB WESTON HOLDINGS INC	48073.36	596	0.032605	0	
MML Managed Volatility Fund	EQUITY	C.H. ROBINSON WORLDWIDE INC	47771.7	510	0.0324	0	
MML Managed Volatility Fund	EQUITY	LIVE NATION ENTERTAINMENT IN	47648.96	544	0.032317	0	
MML Managed Volatility Fund	EQUITY	HASBRO INC	47260	500	0.032053	0	
MML Managed Volatility Fund	EQUITY	JACK HENRY + ASSOCIATES INC	47254.39	289	0.03205	0	
MML Managed Volatility Fund	EQUITY	PENTAIR PLC	47175.51	699	0.031996	0	
MML Managed Volatility Fund	EQUITY	UNIVERSAL HEALTH SERVICES B	47150.46	322	0.031979	0	
MML Managed Volatility Fund	EQUITY	FS NETWORKS INC	47038.32	252	0.031903	0	
MML Managed Volatility Fund	EQUITY	ATMOS ENERGY CORP	46421.13	483	0.031484	0	
MML Managed Volatility Fund	EQUITY	HOST HOTELS + RESORTS INC	46416.44	2716	0.031481	0	
MML Managed Volatility Fund	EQUITY	ALLEGIION PLC	46386.9	333	0.031461	0	
MML Managed Volatility Fund	EQUITY	LOEWS CORP	44594.4	816	0.030245	0	
MML Managed Volatility Fund	EQUITY	PENN NATIONAL GAMING INC	44517.18	582	0.030193	0	
MML Managed Volatility Fund	EQUITY	MOHAWK INDUSTRIES INC	44395.89	231	0.030111	0	
MML Managed Volatility Fund	EQUITY	LINCOLN NATIONAL CORP	44365.04	706	0.03009	0	
MML Managed Volatility Fund	EQUITY	BORGWARNER INC	43783.08	902	0.029695	0	
MML Managed Volatility Fund	EQUITY	NEWELL BRANDS INC	43375.13	1579	0.029419	0	
MML Managed Volatility Fund	EQUITY	NORWEGIAN CRUISE LINE HOLDIN	43232.7	1470	0.029322	0	
MML Managed Volatility Fund	EQUITY	MOSAIC CO/THE	42663.67	1337	0.028936	0	
MML Managed Volatility Fund	EQUITY	EVEREST RE GROUP LTD	42589.69	169	0.028886	0	
MML Managed Volatility Fund	EQUITY	HENRY SCHEIN INC	42510.87	573	0.028832	0	
MML Managed Volatility Fund	EQUITY	WR BERKLEY CORP	42499.53	571	0.028825	0	
MML Managed Volatility Fund	EQUITY	MARATHON OIL CORP	42412.68	3114	0.028766	0	
MML Managed Volatility Fund	EQUITY	DISH NETWORK CORP A	41883.6	1002	0.028407	0	
MML Managed Volatility Fund	EQUITY	ROBERT HALF INTL INC	41726.93	469	0.028301	0	
MML Managed Volatility Fund	EQUITY	CF INDUSTRIES HOLDINGS INC	41725.95	811	0.0283	0	
MML Managed Volatility Fund	EQUITY	MOLSON COORS BEVERAGE CO B	41663.44	776	0.028258	0	
MML Managed Volatility Fund	EQUITY	INVESCO LTD	40522.68	1516	0.027484	0	
MML Managed Volatility Fund	EQUITY	WESTERN UNION CO	40519.08	1764	0.027481	0	
MML Managed Volatility Fund	EQUITY	SMITH (A.O.) CORP	40353.6	560	0.027369	0	
MML Managed Volatility Fund	EQUITY	CAMPBELL SOUP CO	39982.43	877	0.027117	0	
MML Managed Volatility Fund	EQUITY	DXC TECHNOLOGY CO	39913.5	1025	0.027071	0	
MML Managed Volatility Fund	EQUITY	PINNACLE WEST CAPITAL	39509.54	482	0.026797	0	
MML Managed Volatility Fund	EQUITY	REGENCY CENTERS CORP	39082.7	610	0.026507	0	
MML Managed Volatility Fund	EQUITY	SEALED AIR CORP	37979.25	641	0.025759	0	
MML Managed Volatility Fund	EQUITY	COMERICA INC	37810.2	530	0.025644	0	
MML Managed Volatility Fund	EQUITY	ASSURANT INC	37483.2	240	0.025422	0	
MML Managed Volatility Fund	EQUITY	NRG ENERGY INC	37237.2	924	0.025256	0	
MML Managed Volatility Fund	EQUITY	HUNTINGTON INGALLS INDUSTRIE	36459.75	173	0.024728	0	
MML Managed Volatility Fund	EQUITY	DAVITA INC	36249.43	301	0.024586	0	
MML Managed Volatility Fund	EQUITY	FRANKLIN RESOURCES INC	36052.73	1127	0.024452	0	
MML Managed Volatility Fund	EQUITY	FOX CORP CLASS A	35719.06	962	0.024226	0	
MML Managed Volatility Fund	EQUITY	JUNIPER NETWORKS INC	35418.25	1295	0.024022	0	
MML Managed Volatility Fund	EQUITY	KIMCO REALTY CORP	35340.75	1695	0.023969	0	
MML Managed Volatility Fund	EQUITY	NISOURCE INC	35059.5	1431	0.023779	0	
MML Managed Volatility Fund	EQUITY	FOX CORP CLASS B	33580.8	954	0.022776	0	
MML Managed Volatility Fund	EQUITY	APA CORP	33483.24	1548	0.022709	0	
MML Managed Volatility Fund	EQUITY	ALASKA AIR GROUP INC	33110.19	549	0.022456	0	
MML Managed Volatility Fund	EQUITY	NIELSEN HOLDINGS PLC	32712.42	1326	0.022187	0	
MML Managed Volatility Fund	EQUITY	ROLLINS INC	32353.2	946	0.021943	0	
MML Managed Volatility Fund	EQUITY	IPG PHOTONICS CORP	32247.81	153	0.021872	0	
MML Managed Volatility Fund	EQUITY	GLOBE LIFE INC	31908.75	335	0.021642	0	
MML Managed Volatility Fund	EQUITY	ZIONS BANCORP NA	31663.14	599	0.021475	0	
MML Managed Volatility Fund	CASH	CANADIAN DOLLAR	30685.1	38037.25	0.020812	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Managed Volatility Fund	EQUITY	ORGANON + CO	30381.04		1004	0.020605	0
MML Managed Volatility Fund	EQUITY	FEDERAL REALTY INVST TRUST	29292.5		250	0.019867	0
MML Managed Volatility Fund	EQUITY	PVH CORP	29264.48		272	0.019848	0
MML Managed Volatility Fund	EQUITY	CABOT OIL + GAS CORP	28791.54		1649	0.019527	0
MML Managed Volatility Fund	EQUITY	NEWS CORP CLASS A	28269.69		1097	0.019173	0
MML Managed Volatility Fund	EQUITY	LEGGETT + PLATT INC	28029.21		541	0.01901	0
MML Managed Volatility Fund	EQUITY	VORNADO REALTY TRUST	27395.29		587	0.01858	0
MML Managed Volatility Fund	EQUITY	DISCOVERY INC A	27151.8		885	0.018415	0
MML Managed Volatility Fund	EQUITY	DISCOVERY INC C	26980.38		931	0.018299	0
MML Managed Volatility Fund	EQUITY	GAP INC/THE	26920		800	0.018258	0
MML Managed Volatility Fund	EQUITY	PEOPLE S UNITED FINANCIAL	26652.7		1555	0.018077	0
MML Managed Volatility Fund	EQUITY	NEWS CORP CLASS B	24739.6		1016	0.016779	0
MML Managed Volatility Fund	EQUITY	HANESBRANDS INC	24719.08		1324	0.016765	0
MML Managed Volatility Fund	EQUITY	PERRIGO CO PLC	24667.3		538	0.01673	0
MML Managed Volatility Fund	EQUITY	UNUM GROUP	23231.2		818	0.015756	0
MML Managed Volatility Fund	EQUITY	RALPH LAUREN CORP	21323.61		181	0.014462	0
MML Managed Volatility Fund	EQUITY	NOV INC	20544.12		1341	0.013934	0
MML Managed Volatility Fund	EQUITY	UNDER ARMOUR INC CLASS C	16917.27		911	0.011474	0
MML Managed Volatility Fund	EQUITY	UNDER ARMOUR INC CLASS A	12774.6		604	0.008664	0
MML Managed Volatility Fund	CASH	US DOLLAR	139.32		139.32	0.000094	0
MML Managed Volatility Fund	FIXED INCOME	SINO FOREST CORPORATION	0		359000	0	5
MML Mid Cap Growth Fund	EQUITY	TRANSUNION	6827875.99		62179	4.896983	8/1/2049
MML Mid Cap Growth Fund	EQUITY	LULULEMON ATHLETICA INC	6360697.16		17428	4.561921	0
MML Mid Cap Growth Fund	EQUITY	ZOOMINFO TECHNOLOGIES INC A	6343298.13		121589	4.549442	0
MML Mid Cap Growth Fund	EQUITY	MATCH GROUP INC	6339221.25		39313	4.546518	0
MML Mid Cap Growth Fund	EQUITY	KLACORP	6141185.82		18942	4.404486	0
MML Mid Cap Growth Fund	EQUITY	SEAGEN INC	6047277.64		38303	4.337135	0
MML Mid Cap Growth Fund	EQUITY	FORTUNE BRANDS HOME + SECURI	5924902.41		59481	4.249367	0
MML Mid Cap Growth Fund	EQUITY	VARONIS SYSTEMS INC	5857303.48		101654	4.200884	0
MML Mid Cap Growth Fund	EQUITY	CDW CORP/DE	5583560.5		31970	4.004555	0
MML Mid Cap Growth Fund	EQUITY	HAMILTON LANE INC CLASS A	5216164.4		57245	3.741057	0
MML Mid Cap Growth Fund	EQUITY	BURLINGTON STORES INC	5147010.15		15985	3.691459	0
MML Mid Cap Growth Fund	EQUITY	AVALARA INC	5055926.4		31248	3.626133	0
MML Mid Cap Growth Fund	EQUITY	BWX TECHNOLOGIES INC	4983092.56		85738	3.573896	0
MML Mid Cap Growth Fund	EQUITY	GUIDEWIRE SOFTWARE INC	4969599.36		44088	3.564219	0
MML Mid Cap Growth Fund	EQUITY	ETSY INC	4683065.84		22751	3.358716	0
MML Mid Cap Growth Fund	EQUITY	OMNICELL INC	4625434.45		30541	3.317382	0
MML Mid Cap Growth Fund	EQUITY	MARKETAXESS HOLDINGS INC	4461126.57		9623	3.19954	0
MML Mid Cap Growth Fund	EQUITY	HILTON WORLDWIDE HOLDINGS IN	4249442.6		35230	3.047719	0
MML Mid Cap Growth Fund	EQUITY	INCYTE CORP	4059861.41		48257	2.911751	0
MML Mid Cap Growth Fund	EQUITY	SHIFT4 PAYMENTS INC CLASS A	3998095.2		42660	2.867452	0
MML Mid Cap Growth Fund	EQUITY	DRAFTKINGS INC CL A	3922036.26		75178	2.812902	0
MML Mid Cap Growth Fund	EQUITY	HEXCEL CORP	3889017.6		62324	2.789221	0
MML Mid Cap Growth Fund	EQUITY	ABIOMED INC	3674158.92		11772	2.635123	0
MML Mid Cap Growth Fund	EQUITY	CHEGG INC	3601821.18		43338	2.583242	0
MML Mid Cap Growth Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	10018909.91		10018909.91	2.477419	7/1/2021
MML Mid Cap Growth Fund	EQUITY	DOMINO S PIZZA INC	3398846.14		7286	2.437668	0
MML Mid Cap Growth Fund	EQUITY	FRESHPET INC	3180816.24		19519	2.281296	0
MML Mid Cap Growth Fund	EQUITY	HOLOGIC INC	9207360		138000	2.276743	0
MML Mid Cap Growth Fund	EQUITY	WINGSTOP INC	3090493.78		19606	2.216516	0
MML Mid Cap Growth Fund	EQUITY	TELEFLEX INC	8839380		22000	2.185751	0
MML Mid Cap Growth Fund	EQUITY	MICROCHIP TECHNOLOGY INC	8834660		59000	2.184584	0
MML Mid Cap Growth Fund	EQUITY	REPAY HOLDINGS CORP	3013702.48		125362	2.161441	0
MML Mid Cap Growth Fund	EQUITY	AGILENT TECHNOLOGIES INC	8572980		58000	2.119877	0
MML Mid Cap Growth Fund	EQUITY	TEXTRON INC	8389940		122000	2.074616	0
MML Mid Cap Growth Fund	EQUITY	CATALANT INC	8217120		76000	2.031882	0
MML Mid Cap Growth Fund	EQUITY	BALL CORP	7858940		97000	1.943314	0
MML Mid Cap Growth Fund	EQUITY	BRUKER CORP	7446040		98000	1.841214	0
MML Mid Cap Growth Fund	EQUITY	TAKE TWO INTERACTIVE SOFTWARE	2502708.76		14138	1.794954	0
MML Mid Cap Growth Fund	EQUITY	INGERSOLL RAND INC	6931020		142000	1.713863	0
MML Mid Cap Growth Fund	EQUITY	BURLINGTON STORES INC	6761790		21000	1.672017	0
MML Mid Cap Growth Fund	EQUITY	COOPER COS INC/THE	6578082		16600	1.62659	0
MML Mid Cap Growth Fund	EQUITY	MARVELL TECHNOLOGY INC	6532960		112000	1.615433	0
MML Mid Cap Growth Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2027860.07		2027860.07	1.45439	7/1/2021
MML Mid Cap Growth Fund	EQUITY	RIVIAN AUTOMOTIVE SER D CV	5873410.04		83834	1.452343	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Mid Cap Growth Fund	EQUITY	DOCUSIGN INC	5591400		20000	1.382609	0
MML Mid Cap Growth Fund	EQUITY	AVANTOR INC	5326500		150000	1.317106	0
MML Mid Cap Growth Fund	EQUITY	HUNT (JB) TRANSPRT SVCS INC	5214400		32000	1.289387	0
MML Mid Cap Growth Fund	EQUITY	KEYSIGHT TECHNOLOGIES IN	5095530		33000	1.259993	0
MML Mid Cap Growth Fund	EQUITY	EQUIFAX INC	5029710		21000	1.243718	0
MML Mid Cap Growth Fund	EQUITY	CLARIVATE PLC	4982434.46		180982	1.232028	0
MML Mid Cap Growth Fund	EQUITY	TRANSUNION	4831640		44000	1.19474	0
MML Mid Cap Growth Fund	EQUITY	HILTON WORLDWIDE HOLDINGS IN	4824800		40000	1.193049	0
MML Mid Cap Growth Fund	EQUITY	DOLLAR GENERAL CORP	4760580		22000	1.177169	0
MML Mid Cap Growth Fund	EQUITY	VEEVA SYSTEMS INC CLASS A	4664250		15000	1.153349	0
MML Mid Cap Growth Fund	EQUITY	FLEETCOR TECHNOLOGIES INC	4506656		17600	1.11438	0
MML Mid Cap Growth Fund	EQUITY	APTIV PLC	4405240		28000	1.089303	0
MML Mid Cap Growth Fund	EQUITY	IDEX CORP	4401000		20000	1.088254	0
MML Mid Cap Growth Fund	EQUITY	KLA CORP	4214730		13000	1.042194	0
MML Mid Cap Growth Fund	EQUITY	KKR + CO INC	4206040		71000	1.040045	0
MML Mid Cap Growth Fund	EQUITY	COSTAR GROUP INC	4141000		50000	1.023963	0
MML Mid Cap Growth Fund	EQUITY	COLFAX CORP	4122900		90000	1.019487	0
MML Mid Cap Growth Fund	EQUITY	CASEY S GENERAL STORES INC	4087440		21000	1.010719	0
MML Mid Cap Growth Fund	EQUITY	MATCH GROUP INC	4031250		25000	0.996824	0
MML Mid Cap Growth Fund	EQUITY	CBOE GLOBAL MARKETS INC	3976270		33400	0.983229	0
MML Mid Cap Growth Fund	EQUITY	O REILLY AUTOMOTIVE INC	3963470		7000	0.980064	0
MML Mid Cap Growth Fund	EQUITY	CERIDIAN HCM HOLDING INC	3836800		40000	0.948742	0
MML Mid Cap Growth Fund	EQUITY	ENTEGRIS INC	3812070		31000	0.942627	0
MML Mid Cap Growth Fund	EQUITY	AVERY DENNISON CORP	3784320		18000	0.935765	0
MML Mid Cap Growth Fund	EQUITY	ROPER TECHNOLOGIES INC	3761600		8000	0.930147	0
MML Mid Cap Growth Fund	EQUITY	CHIPOTLE MEXICAN GRILL INC	3720816		2400	0.920062	0
MML Mid Cap Growth Fund	EQUITY	TRADEWEB MARKETS INC CLASS A	3720640		44000	0.920019	0
MML Mid Cap Growth Fund	EQUITY	SKYWORKS SOLUTIONS INC	3451500		18000	0.853467	0
MML Mid Cap Growth Fund	EQUITY	FORTIVE CORP	3347520		48000	0.827756	0
MML Mid Cap Growth Fund	EQUITY	TERMINIX GLOBAL HOLDINGS INC	3339700		70000	0.825822	0
MML Mid Cap Growth Fund	EQUITY	ACADIA HEALTHCARE CO INC	3325750		53000	0.822372	0
MML Mid Cap Growth Fund	EQUITY	ETSY INC	3293440		16000	0.814383	0
MML Mid Cap Growth Fund	EQUITY	DOLLAR TREE INC	3283500		33000	0.811925	0
MML Mid Cap Growth Fund	EQUITY	SEALED AIR CORP	3258750		55000	0.805805	0
MML Mid Cap Growth Fund	EQUITY	PERRIGO CO PLC	3255350		71000	0.804964	0
MML Mid Cap Growth Fund	EQUITY	CORNING INC	3190200		78000	0.788854	0
MML Mid Cap Growth Fund	EQUITY	ATLASSIAN CORP PLC CLASS A	3185064		12400	0.787584	0
MML Mid Cap Growth Fund	EQUITY	ASSURANT INC	3123600		20000	0.772386	0
MML Mid Cap Growth Fund	EQUITY	FORTINET INC	3096470		13000	0.765677	0
MML Mid Cap Growth Fund	EQUITY	BLACK KNIGHT INC	3041220		39000	0.752015	0
MML Mid Cap Growth Fund	EQUITY	SPOTIFY TECHNOLOGY SA	3031490		11000	0.749609	0
MML Mid Cap Growth Fund	EQUITY	ELANCO ANIMAL HEALTH INC	2948650		85000	0.729125	0
MML Mid Cap Growth Fund	EQUITY	INCYTE CORP	2938071.99		34923	0.72651	0
MML Mid Cap Growth Fund	EQUITY	SEMPRA ENERGY	2914560		22000	0.720696	0
MML Mid Cap Growth Fund	EQUITY	SEAGEN INC	2841840		18000	0.702714	0
MML Mid Cap Growth Fund	EQUITY	NATIONAL INSTRUMENTS CORP	2621360		62000	0.648195	0
MML Mid Cap Growth Fund	EQUITY	VERISK ANALYTICS INC	2620800		15000	0.648056	0
MML Mid Cap Growth Fund	EQUITY	ZYNGA INC CL A	2614980		246000	0.646617	0
MML Mid Cap Growth Fund	EQUITY	VAIL RESORTS INC	2532160		8000	0.626138	0
MML Mid Cap Growth Fund	EQUITY	WEST PHARMACEUTICAL SERVICES	2513700		7000	0.621573	0
MML Mid Cap Growth Fund	EQUITY	BWX TECHNOLOGIES INC	2441040		42000	0.603606	0
MML Mid Cap Growth Fund	EQUITY	MGM RESORTS INTERNATIONAL	2431050		57000	0.601136	0
MML Mid Cap Growth Fund	EQUITY	DOMINO S PIZZA INC	2332450		5000	0.576755	0
MML Mid Cap Growth Fund	EQUITY	QUIDEL CORP	2306160		18000	0.570254	0
MML Mid Cap Growth Fund	EQUITY	CROWDSTRIKE HOLDINGS INC A	2261790		9000	0.559282	0
MML Mid Cap Growth Fund	EQUITY	ALCON INC	2248320		32000	0.555952	0
MML Mid Cap Growth Fund	EQUITY	ALNYLAM PHARMACEUTICALS INC	2203760		13000	0.544933	0
MML Mid Cap Growth Fund	EQUITY	SOUTHWEST AIRLINES CO	2176690		41000	0.538239	0
MML Mid Cap Growth Fund	EQUITY	MARKETAXESS HOLDINGS INC	2132514		4600	0.527316	0
MML Mid Cap Growth Fund	EQUITY	CITRIX SYSTEMS INC	2110860		18000	0.521961	0
MML Mid Cap Growth Fund	EQUITY	ROSS STORES INC	2108000		17000	0.521254	0
MML Mid Cap Growth Fund	EQUITY	IAC/INTERACTIVECORP	2004210		13000	0.49559	0
MML Mid Cap Growth Fund	EQUITY	PTC INC	1977640		14000	0.489019	0
MML Mid Cap Growth Fund	EQUITY	LIBERTY MEDIA CORP LIBERTY C	1976610		41000	0.488765	0
MML Mid Cap Growth Fund	EQUITY	ARGENX SE ADR	1956955		6500	0.483905	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Mid Cap Growth Fund	EQUITY	MARTIN MARIETTA MATERIALS	1920882.6		5460	0.474985	0
MML Mid Cap Growth Fund	EQUITY	WASTE CONNECTIONS INC	1910880		16000	0.472511	0
MML Mid Cap Growth Fund	EQUITY	EXACT SCIENCES CORP	1864650		15000	0.46108	0
MML Mid Cap Growth Fund	EQUITY	AXIS CAPITAL HOLDINGS LTD	1813370		37000	0.4484	0
MML Mid Cap Growth Fund	EQUITY	KIRKLAND LAKE GOLD LTD	1810910		47000	0.447791	0
MML Mid Cap Growth Fund	EQUITY	RPM INTERNATIONAL INC	1773600		20000	0.438566	0
MML Mid Cap Growth Fund	EQUITY	ALKERMES PLC	1740920		71000	0.430485	0
MML Mid Cap Growth Fund	EQUITY	RIVIAN AUTO SER E CVT	1718501.74		24529	0.424941	0
MML Mid Cap Growth Fund	EQUITY	AMPHENOL CORP CL A	1710250		25000	0.422901	0
MML Mid Cap Growth Fund	EQUITY	ALASKA AIR GROUP INC	1688680		28000	0.417567	0
MML Mid Cap Growth Fund	EQUITY	BOSTON BEER COMPANY INC A	1671049.6		1637	0.413208	0
MML Mid Cap Growth Fund	EQUITY	ICU MEDICAL INC	1646400		8000	0.407112	0
MML Mid Cap Growth Fund	EQUITY	SPLUNK INC	1643151.7		11365	0.406309	0
MML Mid Cap Growth Fund	EQUITY	BROADRIDGE FINANCIAL SOLUTIO	1615300		10000	0.399422	0
MML Mid Cap Growth Fund	EQUITY	TREEHOUSE FOODS INC	1602720		36000	0.396311	0
MML Mid Cap Growth Fund	EQUITY	WEBSTER FINANCIAL CORP	1600200		30000	0.395688	0
MML Mid Cap Growth Fund	EQUITY	IONIS PHARMACEUTICALS INC	1555710		39000	0.384687	0
MML Mid Cap Growth Fund	EQUITY	DELIVEROO HOLD PLC LOCKUP	1489456.35		393000	0.368304	0
MML Mid Cap Growth Fund	EQUITY	MULTIPLAN CORP	1485120		156000	0.367232	0
MML Mid Cap Growth Fund	EQUITY	VF CORP	1476720		18000	0.365155	0
MML Mid Cap Growth Fund	EQUITY	BRIGHT HORIZONS FAMILY SOLUT	1471100		10000	0.363765	0
MML Mid Cap Growth Fund	EQUITY	NEUROCRINE BIOSCIENCES INC	1459800		15000	0.360971	0
MML Mid Cap Growth Fund	EQUITY	SOFI TECHNOLOGIES LOCKUP SHS P	1452567.45		79761	0.359183	0
MML Mid Cap Growth Fund	EQUITY	AMEREN CORPORATION	1440720		18000	0.356253	0
MML Mid Cap Growth Fund	EQUITY	PPD INC	1428790		31000	0.353303	0
MML Mid Cap Growth Fund	EQUITY	VIMEO INC	1383221		28229	0.342035	0
MML Mid Cap Growth Fund	EQUITY	DRAFTKINGS INC CL A	1356420		26000	0.335408	0
MML Mid Cap Growth Fund	EQUITY	PACKAGING CORP OF AMERICA	1354200		10000	0.334859	0
MML Mid Cap Growth Fund	EQUITY	FARFETCH LTD CLASS A	1280352.64		25424	0.316598	0
MML Mid Cap Growth Fund	EQUITY	MOLINA HEALTHCARE INC	1265300		5000	0.312876	0
MML Mid Cap Growth Fund	EQUITY	PINTEREST INC CLASS A	1263200		16000	0.312357	0
MML Mid Cap Growth Fund	EQUITY	REYNOLDS CONSUMER PRODUCTS I	1214000		40000	0.300191	0
MML Mid Cap Growth Fund	EQUITY	FIVE BELOW	1159620		6000	0.286744	0
MML Mid Cap Growth Fund	EQUITY	FIVE9 INC	1100340		6000	0.272086	0
MML Mid Cap Growth Fund	EQUITY	BILL.COM HOLDINGS INC	1099080		6000	0.271774	0
MML Mid Cap Growth Fund	EQUITY	DENTSPLY SIRONA INC	1075420		17000	0.265924	0
MML Mid Cap Growth Fund	EQUITY	ORTHO CLINICAL DIAGNOSTICS H	1049090		49000	0.259413	0
MML Mid Cap Growth Fund	EQUITY	RAYMOND JAMES FINANCIAL INC	1039200		8000	0.256967	0
MML Mid Cap Growth Fund	EQUITY	COGNEX CORP	1008600		12000	0.249401	0
MML Mid Cap Growth Fund	EQUITY	ULTRAGENYX PHARMACEUTICAL IN	953500		10000	0.235776	0
MML Mid Cap Growth Fund	EQUITY	LEIDOS HOLDINGS INC	909900		9000	0.224995	0
MML Mid Cap Growth Fund	EQUITY	KEMPER CORP	886800		12000	0.219283	0
MML Mid Cap Growth Fund	EQUITY	JACK HENRY + ASSOCIATES INC	817550		5000	0.202159	0
MML Mid Cap Growth Fund	EQUITY	ABCAM PLC SPON ADR	254640.96		13374	0.18263	0
MML Mid Cap Growth Fund	EQUITY	LULULEMON ATHLETICA INC	729940		2000	0.180495	0
MML Mid Cap Growth Fund	EQUITY	EVERSOURCE ENERGY	722160		9000	0.178572	0
MML Mid Cap Growth Fund	EQUITY	SHOALS TECHNOLOGIES GROUP A	710000		20000	0.175565	0
MML Mid Cap Growth Fund	EQUITY	PLAYTIKA HOLDING CORP	675554.08		28337	0.167047	0
MML Mid Cap Growth Fund	EQUITY	LATTICE SEMICONDUCTOR CORP	674160		12000	0.166702	0
MML Mid Cap Growth Fund	EQUITY	VENTURE GLOBAL LNG INC SR C PP	660972.96		144	0.163442	0
MML Mid Cap Growth Fund	EQUITY	NCINO INC	599200		10000	0.148167	0
MML Mid Cap Growth Fund	EQUITY	AGILON HEALTH INC	570251.92		14056	0.141009	0
MML Mid Cap Growth Fund	EQUITY	DOXIMITY INC CLASS A	453960		7800	0.112253	0
MML Mid Cap Growth Fund	EQUITY	EXELIXIS INC	437280		24000	0.108128	0
MML Mid Cap Growth Fund	EQUITY	SPAC GRSV/ARDAGH PIPE COMMIT	428475.33		47137	0.105951	0
MML Mid Cap Growth Fund	EQUITY	SILA NANO SER F CVT PFD	407981.63		9885	0.100883	0
MML Mid Cap Growth Fund	EQUITY	ASCENDIS PHARMA A/S ADR	394650		3000	0.097587	0
MML Mid Cap Growth Fund	EQUITY	BRIGHT HEALTH GROUP INC	309103.08		18013	0.076433	0
MML Mid Cap Growth Fund	EQUITY	SELECTQUOTE INC	308160		16000	0.0762	0
MML Mid Cap Growth Fund	EQUITY	GOHEALTH INC CLASS A	302670		27000	0.074843	0
MML Mid Cap Growth Fund	EQUITY	PROCORE TECH LOCK UP SHRS	294871.97		3269	0.072914	0
MML Mid Cap Growth Fund	EQUITY	SENTINELONE INC CLASS A	286067.5		6731	0.070737	0
MML Mid Cap Growth Fund	EQUITY	KODIAK SCIENCES INC	279000		3000	0.06899	0
MML Mid Cap Growth Fund	EQUITY	CARIS LIFE SER D CVT PFD	271366.2		33502	0.067102	0
MML Mid Cap Growth Fund	EQUITY	ARRAY TECHNOLOGIES INC	246214.8		15783	0.060883	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Mid Cap Growth Fund	EQUITY	CONFLUENT INC CLASS A		233605	4918	0.057765	0
MML Mid Cap Growth Fund	EQUITY	CLEAR SECURE INC CLASS A		215720	5393	0.053342	0
MML Mid Cap Growth Fund	EQUITY	REDWOOD MATERIALS SER C		200090.05	4221	0.049477	0
MML Mid Cap Growth Fund	EQUITY	WEWORK COMPANIES INC		189994.11	22197	0.046981	0
MML Mid Cap Growth Fund	EQUITY	PROCORE TECHNOLOGIES INC		155148.3	1634	0.038364	0
MML Mid Cap Growth Fund	EQUITY	DATABRICKS SER G CVT PFD		133382.24	752	0.032982	0
MML Mid Cap Growth Fund	EQUITY	DRAGONEER GROWTH OPPORTUN A		129480	13000	0.032017	0
MML Mid Cap Growth Fund	EQUITY	SPAC DGNR CCC INTEL SYS PIPE		117930.38	13156	0.029161	0
MML Mid Cap Growth Fund	EQUITY	LEGALZOOMCOM INC		100908.1	2666	0.024952	0
MML Mid Cap Growth Fund	EQUITY	VENTURE GLOBAL LNG INC SR B P		96391.89	21	0.023835	0
MML Mid Cap Growth Fund	EQUITY	MAPLEBEAR DBA INSTACART SER I		95750	766	0.023677	0
MML Mid Cap Growth Fund	EQUITY	SQUARESPACE INC CLASS A		80678.78	1358	0.01995	0
MML Mid Cap Growth Fund	EQUITY	WEWORK COMPANIES INC		80467.39	9401	0.019898	0
MML Mid Cap Growth Fund	EQUITY	JAND (DBA WP) SER AA CVT		43689	1781	0.010803	0
MML Mid Cap Growth Fund	EQUITY	PERSHING SQUARE TONTINE A		31392.9	4983	0.007763	0
MML Mid Cap Growth Fund	EQUITY	JAND INC CLASS A COMMON SH		21096.32	860	0.005217	0
MML Mid Cap Growth Fund	CASH EQUIVALENT	ROWE T PRICE TREAS RES FD		372.06	372.06	0.000092	1
MML Mid Cap Growth Fund	EQUITY	JAND (DBA WP) SER B CVT		49.06	2	0.000012	0
MML Mid Cap Value Fund	EQUITY	ZIMMER BIOMET HOLDINGS INC		12503111.72	77746	3.029214	0
MML Mid Cap Value Fund	EQUITY	BANK OF NEW YORK MELLON CORP		10494260.58	204846	2.542516	0
MML Mid Cap Value Fund	EQUITY	NORTHERN TRUST CORP		9058827	78350	2.194744	0
MML Mid Cap Value Fund	EQUITY	EMERSON ELECTRIC CO		8719921.44	90606	2.112635	0
MML Mid Cap Value Fund	EQUITY	CHUBB LTD		8324959.32	52378	2.016945	0
MML Mid Cap Value Fund	EQUITY	ADVANCE AUTO PARTS INC		8197189.26	39959	1.985989	0
MML Mid Cap Value Fund	EQUITY	CONAGRA BRANDS INC		8012949.66	220257	1.941352	0
MML Mid Cap Value Fund	EQUITY	CERNER CORP		7926674.56	101416	1.920449	0
MML Mid Cap Value Fund	EQUITY	QUEST DIAGNOSTICS INC		7861452.9	59570	1.904648	0
MML Mid Cap Value Fund	EQUITY	UNIVERSAL HEALTH SERVICES B		7797397.5	53250	1.889129	0
MML Mid Cap Value Fund	EQUITY	SONOCO PRODUCTS CO		7650617.1	114359	1.853567	0
MML Mid Cap Value Fund	EQUITY	KONINKLIJKE AHOLD DELHAIZE N		7617514.18	256205	1.845547	0
MML Mid Cap Value Fund	EQUITY	CONOCOPHILLIPS		7448435.4	122306	1.804583	0
MML Mid Cap Value Fund	EQUITY	NVENT ELECTRIC PLC		7439025	238125	1.802303	0
MML Mid Cap Value Fund	EQUITY	EDISON INTERNATIONAL		7105846.72	122896	1.721582	0
MML Mid Cap Value Fund	EQUITY	CARDINAL HEALTH INC		6846518.25	119925	1.658753	0
MML Mid Cap Value Fund	EQUITY	SOUTHWEST AIRLINES CO		6789202.29	127881	1.644866	0
MML Mid Cap Value Fund	EQUITY	AFLAC INC		6721183.3	125255	1.628387	0
MML Mid Cap Value Fund	EQUITY	PINNACLE WEST CAPITAL		6641865.16	81028	1.60917	0
MML Mid Cap Value Fund	EQUITY	REINSURANCE GROUP OF AMERICA		6300096	55264	1.526367	0
MML Mid Cap Value Fund	EQUITY	MONDI PLC		6166711.09	234050	1.494051	0
MML Mid Cap Value Fund	EQUITY	HENRY SCHEIN INC		6156360.39	82981	1.491543	0
MML Mid Cap Value Fund	EQUITY	MSC INDUSTRIAL DIRECT CO A		6121290.87	68219	1.483047	0
MML Mid Cap Value Fund	EQUITY	NORTHWESTERN CORP		5908846.62	98121	1.431577	0
MML Mid Cap Value Fund	EQUITY	FOX CORP CLASS B		5788358.4	164442	1.402385	0
MML Mid Cap Value Fund	EQUITY	GENERAL DYNAMICS CORP		5619184.48	29848	1.361398	0
MML Mid Cap Value Fund	EQUITY	DOLLAR TREE INC		5568020	55960	1.349002	0
MML Mid Cap Value Fund	EQUITY	TRUIST FINANCIAL CORP		5485398	98836	1.328985	0
MML Mid Cap Value Fund	EQUITY	HUBBELL INC		5375760.48	28772	1.302422	0
MML Mid Cap Value Fund	EQUITY	HEALTHPEAK PROPERTIES INC		5311885.56	159564	1.286947	0
MML Mid Cap Value Fund	EQUITY	REPUBLIC SERVICES INC		5288400.72	48072	1.281257	0
MML Mid Cap Value Fund	EQUITY	AMERIPRISE FINANCIAL INC		5202836.4	20905	1.260527	0
MML Mid Cap Value Fund	EQUITY	MCKESSON CORP		5023109.84	26266	1.216983	0
MML Mid Cap Value Fund	EQUITY	HP INC		4893949.95	162105	1.185691	0
MML Mid Cap Value Fund	EQUITY	T ROWE PRICE GROUP INC		4854620.34	24522	1.176162	0
MML Mid Cap Value Fund	EQUITY	BORGWARNER INC		4697021.64	96766	1.137979	0
MML Mid Cap Value Fund	EQUITY	BECTON DICKINSON AND CO		4498528.62	18498	1.089889	0
MML Mid Cap Value Fund	EQUITY	MGM GROWTH PROPERTIES LLC A		4443507.42	121341	1.076559	0
MML Mid Cap Value Fund	EQUITY	BAE SYSTEMS PLC		4359190.84	602965	1.056131	0
MML Mid Cap Value Fund	EQUITY	FS NETWORKS INC		4323045.6	23160	1.047374	0
MML Mid Cap Value Fund	EQUITY	HONDA MOTOR CO LTD SPONS ADR		4266263.5	132575	1.033617	0
MML Mid Cap Value Fund	EQUITY	SODEXO SA		4228380.05	45283	1.024438	0
MML Mid Cap Value Fund	EQUITY	PIONEER NATURAL RESOURCES CO		4033908.92	24821	0.977323	0
MML Mid Cap Value Fund	EQUITY	M + T BANK CORP		4007068.56	27576	0.97082	0
MML Mid Cap Value Fund	EQUITY	ESSEX PROPERTY TRUST INC		3815527.18	12718	0.924414	0
MML Mid Cap Value Fund	EQUITY	KIMBERLY CLARK CORP		3710655.86	27737	0.899006	0
MML Mid Cap Value Fund	EQUITY	OSHKOSH CORP		3588385.6	28790	0.869383	0

9/19/2034

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Mid Cap Value Fund	EQUITY	AXALTA COATING SYSTEMS LTD	3550621.48		116452	0.860233	0
MML Mid Cap Value Fund	EQUITY	OPEN TEXT CORP	3534511.6		69577	0.85633	0
MML Mid Cap Value Fund	EQUITY	JM SMUCKER CO/THE	3451485.66		26638	0.836215	0
MML Mid Cap Value Fund	EQUITY	HEALTHCARE TRUST OF AME CL A	3416825.7		127971	0.827818	0
MML Mid Cap Value Fund	EQUITY	ALLSTATE CORP	3405657.96		26109	0.825112	0
MML Mid Cap Value Fund	EQUITY	BAKER HUGHES CO	3350637.96		146508	0.811782	0
MML Mid Cap Value Fund	EQUITY	ATMOS ENERGY CORP	3270527.19		34029	0.792373	0
MML Mid Cap Value Fund	EQUITY	SPIRE INC	3208209.84		44392	0.777275	0
MML Mid Cap Value Fund	EQUITY	ORKLA ASA	3129115.84		307175	0.758112	0
MML Mid Cap Value Fund	EQUITY	CENTENE CORP	3077791.86		42202	0.745678	0
MML Mid Cap Value Fund	EQUITY	PACCAR INC	3013794		33768	0.730172	0
MML Mid Cap Value Fund	EQUITY	EQUINIX INC	2976040.8		3708	0.721026	0
MML Mid Cap Value Fund	EQUITY	HEARTLAND EXPRESS INC	2907217.95		169715	0.704352	0
MML Mid Cap Value Fund	EQUITY	JUNIPER NETWORKS INC	2786418		101880	0.675084	0
MML Mid Cap Value Fund	EQUITY	POLARIS INC	2770016		20225	0.671111	0
MML Mid Cap Value Fund	EQUITY	PACKAGING CORP OF AMERICA	2760536.7		20385	0.668814	0
MML Mid Cap Value Fund	EQUITY	KELLOGG CO	2745604.4		42680	0.665196	0
MML Mid Cap Value Fund	EQUITY	STATE STREET CORP	2741487.32		33319	0.664199	0
MML Mid Cap Value Fund	EQUITY	CDK GLOBAL INC	2600774.6		52340	0.630107	0
MML Mid Cap Value Fund	EQUITY	CRANE CO	2566777.56		27788	0.621871	0
MML Mid Cap Value Fund	EQUITY	WESTAMERICA BANCORPORATION	2565680.39		44213	0.621605	0
MML Mid Cap Value Fund	EQUITY	GENERAL MILLS INC	2471016.15		40555	0.59867	0
MML Mid Cap Value Fund	EQUITY	EVERSOURCE ENERGY	2446918.8		30495	0.592832	0
MML Mid Cap Value Fund	EQUITY	JOHNSON CONTROLS INTERNATION	2407746.29		35083	0.583341	0
MML Mid Cap Value Fund	EQUITY	AMDOCS LTD	2382146.48		30793	0.577139	0
MML Mid Cap Value Fund	EQUITY	EVERGY INC	2269327.79		37553	0.549806	0
MML Mid Cap Value Fund	EQUITY	PROSPERITY BANCSHARES INC	2267156.8		31576	0.54928	0
MML Mid Cap Value Fund	EQUITY	SYSCO CORP	2265401.75		29137	0.548854	0
MML Mid Cap Value Fund	EQUITY	CUMMINS INC	2225497.68		9128	0.539186	0
MML Mid Cap Value Fund	EQUITY	BAXTER INTERNATIONAL INC	2219868		27576	0.537823	0
MML Mid Cap Value Fund	EQUITY	FIRST HAWAIIAN INC	2211596.92		78038	0.535819	0
MML Mid Cap Value Fund	EQUITY	DEVON ENERGY CORP	2164759.59		74161	0.524471	0
MML Mid Cap Value Fund	EQUITY	TE CONNECTIVITY LTD	2149974.21		15901	0.520889	0
MML Mid Cap Value Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2148172.9	2148172.9		0.520452	0
MML Mid Cap Value Fund	EQUITY	BRIDGESTONE CORP	2124049.15		46700	0.514608	0
MML Mid Cap Value Fund	EQUITY	AMCOR PLC	2090223.78		182393	0.506413	0
MML Mid Cap Value Fund	EQUITY	ENVISTA HOLDINGS CORP	2074123.21		48001	0.502512	0
MML Mid Cap Value Fund	EQUITY	IMI PLC	2039154.17		85687	0.49404	0
MML Mid Cap Value Fund	EQUITY	HARTFORD FINANCIAL SVCS GRP	2019850.18		32594	0.489363	0
MML Mid Cap Value Fund	EQUITY	KIMAREX ENERGY CO	1993534.2		27516	0.482987	0
MML Mid Cap Value Fund	EQUITY	CONINKLIJKE PHILIPS NVR NY	1800730.4		36232	0.436275	0
MML Mid Cap Value Fund	EQUITY	EURONET WORLDWIDE INC	1731397.2		12792	0.419477	0
MML Mid Cap Value Fund	EQUITY	ARTHUR J GALLAGHER + CO	1642297.92		11724	0.397891	0
MML Mid Cap Value Fund	EQUITY	GENUINE PARTS CO	1598833.74		12642	0.38736	0
MML Mid Cap Value Fund	EQUITY	TEXTRON INC	1392936.35		20255	0.337476	0
MML Mid Cap Value Fund	EQUITY	CAPITOL FEDERAL FINANCIAL IN	1343520.78		114051	0.325504	0
MML Mid Cap Value Fund	EQUITY	BEACON ROOFING SUPPLY INC	1315860.75		24711	0.318803	0
MML Mid Cap Value Fund	EQUITY	WEYERHAEUSER CO	1314603.06		38193	0.318498	0
MML Mid Cap Value Fund	EQUITY	XCEL ENERGY INC	1071801.72		16269	0.259673	0
MML Mid Cap Value Fund	EQUITY	COMMERCE BANCSHARES INC	1052712.64		14119	0.255048	0
MML Mid Cap Value Fund	EQUITY	EASTERN BANKSHARES INC	492733.78		23954	0.119378	0
MML Mid Cap Value Fund	CASH	POUND STERLING	60.49		43.73	0.000015	0
MML Mid Cap Value Fund	CASH	EURO CURRENCY	0.5		0.42	0	0
MML Moderate Allocation Fund	EQUITY	MML MANAGED BOND FUND	251739809.1	18423872.12		13.652279	0
MML Moderate Allocation Fund	EQUITY	MML GLOBAL FD	159287492.1	10197662.75		8.638432	0
MML Moderate Allocation Fund	EQUITY	MML DYNAMIC BOND FUND	147062595.7	14099961.24		7.975455	0
MML Moderate Allocation Fund	EQUITY	MML TOTAL RETURN BOND FUND	141024917.8	12647974.69		7.648021	0
MML Moderate Allocation Fund	EQUITY	MML FOCUSED EQUITY FUND	130468941.1	16411187.56		7.075553	0
MML Moderate Allocation Fund	EQUITY	MML BLUE CHIP GROWTH FD	95656163.31	4148142.381		5.187597	0
MML Moderate Allocation Fund	EQUITY	MML MID CAP GROWTH FD	90194386.57	4557573.854		4.891395	0
MML Moderate Allocation Fund	EQUITY	MML FUNDAMENTAL VALUE FUND	87787702.2	6239353.39		4.760877	0
MML Moderate Allocation Fund	EQUITY	MML EQUITY INCOME FD	87660703.26	7203015.88		4.753989	0
MML Moderate Allocation Fund	EQUITY	MML INCOME AND GROWTH FD	82701939.09	6914877.85		4.485067	0
MML Moderate Allocation Fund	EQUITY	MML MID CAP VALUE FD	73973996.1	6028850.538		4.011736	0
MML Moderate Allocation Fund	EQUITY	MML INTERNATIONAL EQUITY FUND	71961192.62	6351385.05		3.902578	0

7/1/2021

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Moderate Allocation Fund	EQUITY	MML FUNDAMENTAL GROWTH FUND	68569816.02	5498782.359	3.718658	0	
MML Moderate Allocation Fund	EQUITY	MML SHORT DURATION BOND FUND	66213465.93	6594966.726	3.590869	0	
MML Moderate Allocation Fund	EQUITY	MML FOREIGN FD	61439029.57	5530065.668	3.331943	0	
MML Moderate Allocation Fund	EQUITY	MML INFLATION PROTECTED BD FD	56435009.16	4835904.812	3.060567	0	
MML Moderate Allocation Fund	EQUITY	MML LARGE CAP GROWTH FD	37384546.8	2352709.05	2.027428	0	
MML Moderate Allocation Fund	EQUITY	MML STRG EMERGING MARKETS FUND	36884499.15	2387346.223	2.000309	0	
MML Moderate Allocation Fund	EQUITY	MML SMALL COMPANY VALUE FUND	27004504.78	1519668.249	1.4645	0	
MML Moderate Allocation Fund	EQUITY	MML SMALL/MID CAP VALUE	21529157.44	1552210.342	1.167563	0	
MML Moderate Allocation Fund	EQUITY	INVESCO VI GLOBAL STRATEGIC IN	20664579.92	4396719.131	1.120675	0	
MML Moderate Allocation Fund	EQUITY	MML SMALL CAP GROWTH EQUITY FD	12051072	663581.206	0.65355	0	
MML Moderate Allocation Fund	EQUITY	MML HIGH YIELD FUND	8357462.8	781801.946	0.453239	0	
MML Moderate Allocation Fund	EQUITY	MML SER INVT FD	6660100.17	199523.672	0.361189	0	
MML Moderate Allocation Fund	EQUITY	INVESCO VI DISCOVERY MID CAP G	584219.85	4999.742	0.031683	0	
MML Moderate Allocation Fund	EQUITY	INVESCO VI GLOBAL FUND	349643.02	6004.517	0.018962	0	
MML Moderate Allocation Fund	EQUITY	INVESCO OPPENHEIMER VI INTERNA	292942.88	94193.853	0.015887	0	
MML Short-Duration Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	2785712.25	2490000	1.50689	4.25	10/21/2025
MML Short-Duration Bond Fund	FIXED INCOME	NAVIENT STUDENT LOAN TRUST	2267415.48	2200000	1.226525	2.77	1/15/2069
MML Short-Duration Bond Fund	FIXED INCOME	FNA VI LLC	2002460.76	2004611.71	1.083202	1.35	1/10/2032
MML Short-Duration Bond Fund	CASH EQUIVALENT	FIDELITY NATL INFORMATION SVCS	1999787.66	2000000	1.081756	0	7/26/2021
MML Short-Duration Bond Fund	CASH EQUIVALENT	TRANSCANADA PIPELINES LTD	1999702.5	2000000	1.08171	0	8/4/2021
MML Short-Duration Bond Fund	FIXED INCOME	CARVANA AUTO RECEIVABLES TRUST	1669385.31	1660000	0.90303	1.3	1/10/2028
MML Short-Duration Bond Fund	FIXED INCOME	TOWER BERSAMA INFRASTRUC	1522726.06	1445000	0.823696	4.25	1/21/2025
MML Short-Duration Bond Fund	FIXED INCOME	SEVERSTAL (STEEL CAP)	1504685.36	1443000	0.813938	3.15	9/16/2024
MML Short-Duration Bond Fund	FIXED INCOME	ADANI PORTS AND SPECIAL	1499507.88	1443000	0.811137	3.375	7/24/2024
MML Short-Duration Bond Fund	FIXED INCOME	CITIGROUP INC	1474821.14	1320000	0.797783	4.4	6/10/2025
MML Short-Duration Bond Fund	FIXED INCOME	STARWOOD RESIDENTIAL MORTGAGE	1426253.49	1427779.07	0.771511	1.528	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	COUNTRY GARDEN HLDGS	1420226.67	1351000	0.768251	8	1/27/2024
MML Short-Duration Bond Fund	FIXED INCOME	OCCIDENTAL PETROLEUM COR	1402314.95	1270000	0.758562	5.5	12/1/2025
MML Short-Duration Bond Fund	FIXED INCOME	LI + FUNG LTD	1398545.89	1350000	0.756523	4.5	8/18/2025
MML Short-Duration Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	1322121	1290000	0.715182	3.35	11/1/2022
MML Short-Duration Bond Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	1307392.06	1259000	0.707215	3.02	8/20/2026
MML Short-Duration Bond Fund	FIXED INCOME	MORGAN STANLEY	1302807.52	1150000	0.704735	4.35	9/8/2026
MML Short-Duration Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	1268204.85	1215000	0.686017	4.625	9/21/2023
MML Short-Duration Bond Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	1265555.59	1265555.59	0.684584	0	7/1/2021
MML Short-Duration Bond Fund	FIXED INCOME	US TREASURY N/B	1256100.53	1220000	0.679469	8	11/15/2021
MML Short-Duration Bond Fund	FIXED INCOME	CARVANA AUTO RECEIVABLES TRUST	1242198.14	1243000	0.671949	1.5	1/10/2028
MML Short-Duration Bond Fund	FIXED INCOME	VALE OVERSEAS LIMITED	1240223	1030000	0.670881	6.25	8/10/2026
MML Short-Duration Bond Fund	FIXED INCOME	BPCE SA	1201011.42	1085000	0.64967	5.7	10/22/2023
MML Short-Duration Bond Fund	FIXED INCOME	KREF 2018 FL1 LTD.	1150362.37	1150000	0.622272	1.43175	6/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	1126544.4	1083000	0.609388	3.15	3/20/2026
MML Short-Duration Bond Fund	FIXED INCOME	WESTLAKE AUTOMOBILE RECEIVABLE	1101179.75	1100000	0.595667	1.23	4/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	1087857.59	1091000	0.588461	2.32	7/25/2051
MML Short-Duration Bond Fund	FIXED INCOME	SIRIUS XM RADIO INC	1048884.6	1047000	0.567379	3.875	8/1/2022
MML Short-Duration Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	1029933.64	1000000	0.557128	2.875	2/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE AG	1027315.2	930000	0.555711	6.5	8/8/2023
MML Short-Duration Bond Fund	FIXED INCOME	DATABANK ISSUER LLC	1003879.63	991000	0.543034	2.06	2/27/2051
MML Short-Duration Bond Fund	FIXED INCOME	ROCKFORD TOWER CLO LTD	1000226	1000000	0.541058	1.37825	10/20/2030
MML Short-Duration Bond Fund	CASH EQUIVALENT	AMERICAN HONDA FINAN	999538.89	1000000	0.540686	0	9/21/2021
MML Short-Duration Bond Fund	FIXED INCOME	NEUBERGER BERMAN CLO LTD	997666	1000000	0.539673	1.53975	10/18/2029
MML Short-Duration Bond Fund	FIXED INCOME	AFRICA FINANCE CORP	993251.16	957000	0.537285	3.125	6/16/2025
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	978852.31	974467.4	0.529496	1.538	2/25/2066
MML Short-Duration Bond Fund	FIXED INCOME	FREDDIE MAC STACR	978755.82	955000	0.529444	2.318	8/25/2033
MML Short-Duration Bond Fund	FIXED INCOME	PACIFIC GAS + ELECTRIC	969435.47	970000	0.524402	1.75	6/16/2022
MML Short-Duration Bond Fund	FIXED INCOME	AMERICREDIT AUTOMOBILE RECEIVA	965861.87	947000	0.522469	1.8	12/18/2025
MML Short-Duration Bond Fund	FIXED INCOME	ONE GAS INC	960667.32	960000	0.519659	1.1	3/11/2024
MML Short-Duration Bond Fund	FIXED INCOME	TRITON CONTAINER	953427.6	950000	0.515743	2.05	4/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	ENLINK MIDSTREAM PARTNER	945000	900000	0.511184	4.4	4/1/2024
MML Short-Duration Bond Fund	FIXED INCOME	CNO FINANCIAL GROUP INC	941558.45	830000	0.509322	5.25	5/30/2025
MML Short-Duration Bond Fund	FIXED INCOME	SERVICE PROPERTIES TRUST	941545	935000	0.509315	4.35	10/1/2024
MML Short-Duration Bond Fund	EQUITY	SWAP BARCLAYS BANK COC	940000	940000	0.508479	0	
MML Short-Duration Bond Fund	EQUITY	CCBRCIU54 SWBC BRC	-940000	-940000	0.508479	0	
MML Short-Duration Bond Fund	FIXED INCOME	BANK OF NOVA SCOTIA	939400.05	829000	0.508155	4.5	12/16/2025
MML Short-Duration Bond Fund	FIXED INCOME	MATTEL INC	933750	900000	0.505098	3.375	4/1/2026
MML Short-Duration Bond Fund	FIXED INCOME	LLOYDS BANKING GROUP PLC	927459.57	865000	0.501696	4.05	8/16/2023
MML Short-Duration Bond Fund	FIXED INCOME	MORGAN STANLEY	927427.52	850000	0.501678	3.7	10/23/2024

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	FIXED INCOME	BAT CAPITAL CORP	927044.6	820000	0.501471	4.7	4/2/2027
MML Short-Duration Bond Fund	FIXED INCOME	NEWREZ WAREHOUSE SECURITIZATIO	926999.91	927000	0.501447	1.1415	5/25/2055
MML Short-Duration Bond Fund	FIXED INCOME	BUSINESS JET SECURITIES, LLC	924832.31	917426.84	0.500275	2.162	4/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	ABN AMRO BANK NV	924772.2	825000	0.500242	4.75	7/28/2025
MML Short-Duration Bond Fund	FIXED INCOME	UBS GROUP AG	924620	830000	0.50016	4.125	9/24/2025
MML Short-Duration Bond Fund	FIXED INCOME	TRAFIGURA SECURITISATION FINAN	920505.08	920000	0.497934	4.29	3/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	913316.4	915000	0.494045	0.824	6/1/2025
MML Short-Duration Bond Fund	FIXED INCOME	AIRCASLE LTD	909175.4	850000	0.491805	5	4/1/2023
MML Short-Duration Bond Fund	FIXED INCOME	HOST HOTELS + RESORTS LP	885488.91	840000	0.478992	3.75	10/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	AERCAP IRELAND CAP/GLOBA	883915.38	845000	0.478141	2.875	8/14/2024
MML Short-Duration Bond Fund	FIXED INCOME	LAZARD GROUP LLC	878416.38	805000	0.475167	3.75	2/13/2025
MML Short-Duration Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	860199.89	829000	0.465313	3.25	1/5/2023
MML Short-Duration Bond Fund	FIXED INCOME	ATHENE GLOBAL FUNDING	859581.33	820000	0.464978	2.75	6/25/2024
MML Short-Duration Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	850408.52	760000	0.460016	4.65	10/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	HIGHER EDUCATION FUNDING	849352.25	950000	0.459445	1.796	1/1/2044
MML Short-Duration Bond Fund	FIXED INCOME	TAL ADVANTAGE VII LLC	844870.17	829125	0.45702	3.29	9/20/2045
MML Short-Duration Bond Fund	FIXED INCOME	HYUNDAI CAPITAL AMERICA	843843.25	850000	0.456465	1.5	6/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	WENS FOODSTUFF GROUP	828207.86	900000	0.448007	2.349	10/29/2025
MML Short-Duration Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	824760.93	813604.86	0.446142	3.219	7/25/2059
MML Short-Duration Bond Fund	FIXED INCOME	HIN TIMESHARE TRUST 2020 A	824597.49	813668.46	0.446054	2.23	10/9/2039
MML Short-Duration Bond Fund	FIXED INCOME	LAS VEGAS SANDS CORP	813448.28	775000	0.440023	3.2	8/8/2024
MML Short-Duration Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	812799.45	760000	0.439672	4.2	9/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	QVC INC	811957.3	770000	0.439216	4.375	3/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	BX COMMERCIAL MORTGAGE TRUST 2	802566.48	802065.35	0.434137	2.073	10/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	SIXTH STREET SPECIALTY	801449.22	755000	0.433532	3.875	11/1/2024
MML Short-Duration Bond Fund	FIXED INCOME	SOFI CONSUMER LOAN PROGRAM TRU	791099.43	772000	0.427934	3.89	5/25/2028
MML Short-Duration Bond Fund	FIXED INCOME	GLP CHINA HOLDINGS LTD	785377.08	730000	0.424838	4.974	2/26/2024
MML Short-Duration Bond Fund	FIXED INCOME	TRUST F/1401	765000	680000	0.413816	5.25	1/30/2026
MML Short-Duration Bond Fund	FIXED INCOME	MAGNETITE CLO LTD	750513.75	750000	0.405979	1.93375	7/15/2030
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	748642.44	822154.3	0.404967	0.37575	1/27/2042
MML Short-Duration Bond Fund	FIXED INCOME	TREMAN PARK CLO LTD	748099.13	747821.69	0.404673	1.25825	10/20/2028
MML Short-Duration Bond Fund	FIXED INCOME	BX TRUST	744364	744364.37	0.402653	1.673	12/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	739880	139600	0.400227	1	1/25/2041
MML Short-Duration Bond Fund	FIXED INCOME	KREF 2018 FL1 LTD.	736820.93	736589.86	0.398573	1.18175	6/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	BX TRUST	728227.35	728000	0.393924	1.773	11/15/2035
MML Short-Duration Bond Fund	FIXED INCOME	NEWELL BRANDS INC	721727.5	689000	0.390408	4.35	4/1/2023
MML Short-Duration Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	717658.43	681615.42	0.388207	4.5	11/26/2046
MML Short-Duration Bond Fund	FIXED INCOME	VASA TRUST	711213.16	711000	0.38472	2.173	7/15/2039
MML Short-Duration Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	710213.76	647000	0.38418	4	1/22/2025
MML Short-Duration Bond Fund	FIXED INCOME	ENSTAR GROUP LTD	698989.74	685000	0.378108	4.5	3/10/2022
MML Short-Duration Bond Fund	FIXED INCOME	BLACKROCK TCP CAP CORP	697415.35	675000	0.377257	4.125	8/11/2022
MML Short-Duration Bond Fund	FIXED INCOME	MAF SUKUK LTD	691318.75	625000	0.373959	4.5	11/3/2025
MML Short-Duration Bond Fund	FIXED INCOME	SBERBANK (SB CAP SA)	688187.5	650000	0.372265	5.25	5/23/2023
MML Short-Duration Bond Fund	FIXED INCOME	UNUM GROUP	678836.28	620000	0.367207	3.875	11/5/2025
MML Short-Duration Bond Fund	FIXED INCOME	VANTAGE DATA CENTERS LLC	677071.85	675000	0.366252	1.645	9/15/2045
MML Short-Duration Bond Fund	FIXED INCOME	CIM TRUST	671963.89	670852.02	0.363489	1.04163	8/25/2049
MML Short-Duration Bond Fund	FIXED INCOME	ARAB NATIONAL BANK	670637.5	650000	0.362772	3.326	10/28/2030
MML Short-Duration Bond Fund	FIXED INCOME	CABLE ONDA SA	664272	630000	0.359328	4.5	1/30/2030
MML Short-Duration Bond Fund	FIXED INCOME	BERRY GLOBAL INC	664197.8	670000	0.359288	1.65	1/15/2027
MML Short-Duration Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE III L	662825.63	683333.35	0.358546	4.458	11/15/2039
MML Short-Duration Bond Fund	FIXED INCOME	GENPACT LUXEMBOURG SARL	647120.09	635000	0.35005	3.7	4/1/2022
MML Short-Duration Bond Fund	FIXED INCOME	ERICSSON LM	645270	628000	0.349049	4.125	5/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	TRINITY RAIL LEASING L.P.	643321.06	617867.69	0.347995	3.82	4/17/2049
MML Short-Duration Bond Fund	FIXED INCOME	CNH INDUSTRIAL CAP LLC	640934.05	635000	0.346704	3.875	10/15/2021
MML Short-Duration Bond Fund	FIXED INCOME	AFFIRM INC	639027.87	639242.14	0.345673	1.07	8/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	BX TRUST	630817.07	630817.26	0.341231	1.323	12/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	629090.11	594513.5	0.340297	4.18	4/15/2047
MML Short-Duration Bond Fund	FIXED INCOME	AMTRUST FINANCIAL SERVIC	625715.13	620000	0.338471	6.125	8/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	DIAMONDBACK ENERGY INC	625212.5	625000	0.3382	0.9	3/24/2023
MML Short-Duration Bond Fund	FIXED INCOME	ONE NEW YORK PLAZA TRUST 2020	622157.72	616000	0.336547	2.273	1/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	MHC COMMERCIAL MORTGAGE TRUST	620775.43	620000	0.335799	2.173842	4/15/2038
MML Short-Duration Bond Fund	FIXED INCOME	HERCULES CAPITAL INC	619754.72	610000	0.335247	4.625	10/23/2022
MML Short-Duration Bond Fund	FIXED INCOME	NATIONAL CENTRAL COOLING	613416.91	618000	0.331819	2.5	10/21/2027
MML Short-Duration Bond Fund	FIXED INCOME	BACARDI LTD	609269.16	548000	0.329575	4.45	5/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	BANCO SANTANDER SA	606972.16	600000	0.328333	1.849	3/25/2026

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	FIXED INCOME	SYNGENTA FINANCE NV	601685.52	570000	0.325473	4.441	4/24/2023
MML Short-Duration Bond Fund	FIXED INCOME	THRUST ENGINE LEASING	599977.14	600000	0.324549	4.163	7/15/2040
MML Short-Duration Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	594337.05	600000	0.321498	1.497	6/25/2035
MML Short-Duration Bond Fund	FIXED INCOME	PENSKE TRUCK LEASING/PTL	588362.49	585000	0.318266	1.7	6/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	PLANET FITNESS MASTER ISSUER L	585430.22	583500	0.31668	4.262	9/5/2048
MML Short-Duration Bond Fund	FIXED INCOME	CARMAX AUTO OWNER TRUST	579006.29	560000	0.313205	2.8	4/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	EQT CORP	577006.25	565000	0.312123	3	10/1/2022
MML Short-Duration Bond Fund	FIXED INCOME	ARES CAPITAL CORP	573340.03	535000	0.31014	3.875	1/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	563000.29	548000	0.304547	3.291	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	OVINTIV EXPLORATION INC	562318.03	505000	0.304178	5.625	7/1/2024
MML Short-Duration Bond Fund	FIXED INCOME	ARES CAPITAL CORP	561919.77	523000	0.303962	4.2	6/10/2024
MML Short-Duration Bond Fund	FIXED INCOME	CARMAX AUTO OWNER TRUST	561738.93	558000	0.303864	1.55	10/15/2027
MML Short-Duration Bond Fund	FIXED INCOME	BLUEMOUNTAIN CLO LTD	549281.15	550000	0.297126	1.16825	7/20/2029
MML Short-Duration Bond Fund	FIXED INCOME	BGC PARTNERS INC	546651.57	505000	0.295703	4.375	12/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	CAMB COMMERCIAL MORTGAGE TRUST	546217.11	545194	0.295468	2.223	12/15/2037
MML Short-Duration Bond Fund	FIXED INCOME	MYLAN INC	543873.62	525000	0.294201	3.125	1/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	STARWOOD MORTGAGE RESIDENTIAL	539621.94	532983.94	0.291901	2.916	9/27/2049
MML Short-Duration Bond Fund	CASH	US DOLLAR	537129.21	537129.21	0.290552	0	
MML Short-Duration Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	535438.24	483000	0.289638	4.25	8/18/2025
MML Short-Duration Bond Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	531013.8	500000	0.287244	4.73	9/20/2024
MML Short-Duration Bond Fund	FIXED INCOME	STORE MASTER FUNDING LLC	528549.58	511333.34	0.285911	4.4	10/20/2048
MML Short-Duration Bond Fund	FIXED INCOME	EQM MIDSTREAM PARTNERS L	527093.75	505000	0.285124	4.75	7/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	NBN CO LTD	526413.06	525000	0.284755	1.45	5/5/2026
MML Short-Duration Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE I LIM	524488.38	516919.18	0.283714	4.458	12/15/2038
MML Short-Duration Bond Fund	FIXED INCOME	MACQUARIE GROUP LTD	520810.41	525000	0.281725	1.34	1/12/2027
MML Short-Duration Bond Fund	FIXED INCOME	SOCIETE GENERALE	520245.53	525000	0.281419	1.488	12/14/2026
MML Short-Duration Bond Fund	FIXED INCOME	ANTARES HOLDINGS	512275.59	473000	0.277108	6	8/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	GOODGREEN TRUST	510570.21	498167.19	0.276186	2.76	4/15/2055
MML Short-Duration Bond Fund	FIXED INCOME	CENOVUS ENERGY INC	510146.07	500000	0.275956	3	8/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	508905.38	484000	0.275285	4.17	2/15/2050
MML Short-Duration Bond Fund	FIXED INCOME	DELL INT LLC / EMC CORP	507116.16	432000	0.274317	5.85	7/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	MEGLOBAL CANADA ULC	504495	450000	0.272899	5	5/18/2025
MML Short-Duration Bond Fund	FIXED INCOME	WEIR GROUP PLC (THE)	502260.89	500000	0.271691	2.2	5/13/2026
MML Short-Duration Bond Fund	FIXED INCOME	FLATIRON CLO LTD	500271.5	500000	0.270615	1.13588	5/15/2030
MML Short-Duration Bond Fund	FIXED INCOME	VERDE CLO LTD	500198.5	500000	0.270575	1.28375	4/15/2032
MML Short-Duration Bond Fund	FIXED INCOME	CIFC FUNDING LTD	500126.5	500000	0.270536	1.63833	10/24/2030
MML Short-Duration Bond Fund	FIXED INCOME	CBAM CLO MANAGEMENT	500034.5	500000	0.270486	1.45375	1/15/2031
MML Short-Duration Bond Fund	FIXED INCOME	ARES CLO LTD	500000	500000	0.270468	1.88375	4/15/2031
MML Short-Duration Bond Fund	FIXED INCOME	BHMS MORTGAGE TRUST	500001.25	500000	0.270468	1.57288	7/15/2035
MML Short-Duration Bond Fund	FIXED INCOME	BAIN CAPITAL CREDIT CLO, LIMIT	500000	500000	0.270468	2.03975	7/21/2031
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	499997.45	500000	0.270466	1	5/25/2066
MML Short-Duration Bond Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	499977.99	511568.49	0.270456	3.45	1/25/2034
MML Short-Duration Bond Fund	FIXED INCOME	QWEST CORP	496518.75	485000	0.268585	6.75	12/1/2021
MML Short-Duration Bond Fund	FIXED INCOME	RESIDENTIAL ASSET MORTGAGE PRO	495469.2	500000	0.268017	1.0665	5/25/2035
MML Short-Duration Bond Fund	FIXED INCOME	BARCLAYS PLC	493822.95	485000	0.267126	1.53588	5/16/2024
MML Short-Duration Bond Fund	FIXED INCOME	BRIGHTSE FIN GLBL FUND	488416.49	484000	0.264202	1.55	5/24/2026
MML Short-Duration Bond Fund	FIXED INCOME	SYNCHRONY BANK	480580.86	470000	0.259963	3	6/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	AVIATION CAPITAL GROUP	480327.93	480000	0.259826	1.95	1/30/2026
MML Short-Duration Bond Fund	FIXED INCOME	HARLEY DAVIDSON FINL SER	480109.55	449000	0.259708	3.35	6/8/2025
MML Short-Duration Bond Fund	FIXED INCOME	WEIBO CORP	474363	450000	0.2566	3.5	7/5/2024
MML Short-Duration Bond Fund	FIXED INCOME	GLENCORE FUNDING LLC	471802.49	470000	0.255215	1.625	4/27/2026
MML Short-Duration Bond Fund	FIXED INCOME	TELECOM ITALIA SPA	470721	430000	0.25463	5.303	5/30/2024
MML Short-Duration Bond Fund	FIXED INCOME	METALSA SA DE CV	470254.5	450000	0.254377	4.9	4/24/2023
MML Short-Duration Bond Fund	FIXED INCOME	AT+T INC	469990.49	465000	0.254235	1.7	3/25/2026
MML Short-Duration Bond Fund	FIXED INCOME	KIA CORP	467412.39	465000	0.25284	1	4/16/2024
MML Short-Duration Bond Fund	FIXED INCOME	DANSKE BANK A/S	465548.33	455000	0.251832	5	1/12/2022
MML Short-Duration Bond Fund	FIXED INCOME	ICAHN ENTERPRISES/FIN	465025	445000	0.251548	4.75	9/15/2024
MML Short-Duration Bond Fund	FIXED INCOME	FIRSTKEY HOMES 2020 SFRL1 TRUST	459990.2	460000	0.248825	2.489	8/17/2028
MML Short-Duration Bond Fund	FIXED INCOME	TESLA AUTO LEASE TRUST	459891.55	456000	0.248772	1.68	2/20/2024
MML Short-Duration Bond Fund	FIXED INCOME	BARCLAYS PLC	456856	400000	0.24713	5.2	5/12/2026
MML Short-Duration Bond Fund	FIXED INCOME	VIACOMCBS INC	452810.82	400000	0.244941	4.75	5/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	SBA TOWER TRUST	451837.38	430000	0.244415	3.869	10/15/2049
MML Short-Duration Bond Fund	FIXED INCOME	DELL INT LLC / EMC CORP	450209.1	414000	0.243534	4	7/15/2024
MML Short-Duration Bond Fund	FIXED INCOME	ANTARES HOLDINGS	447660.73	430000	0.242156	3.95	7/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	DEUTSCHE BANK NY	446697.15	435000	0.241634	2.222	9/18/2024

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	444106.27	410000	0.240233	4.25	3/14/2024
MML Short-Duration Bond Fund	FIXED INCOME	DEEPHAVEN RESIDENTIAL MORTGAGE	432380.65	433791.64	0.23389	1.128	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	IMPERIAL BRANDS FIN PLC	421084.03	400000	0.227779	3.125	7/26/2024
MML Short-Duration Bond Fund	FIXED INCOME	MARVELL TECHNOLOGY INC	419942.6	420000	0.227162	1.65	4/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	ONE NEW YORK PLAZA TRUST 2020	418655.72	414000	0.226466	2.823	1/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	BANC OF AMERICA MERRILL LYNCH	414000	450000	0.223947	4.024368	11/15/2032
MML Short-Duration Bond Fund	FIXED INCOME	NEW RESIDENTIAL ADVANCE RECEIV	411625.09	411000	0.222663	2.4584	10/15/2052
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	411460.79	446557.15	0.222574	0.46575	1/25/2044
MML Short-Duration Bond Fund	FIXED INCOME	ING GROEP NV	410654.45	407000	0.222138	1.726	4/1/2027
MML Short-Duration Bond Fund	FIXED INCOME	OAK STREET INVESTMENT GRADE NE	402967.72	400000	0.21798	2.26	11/20/2050
MML Short-Duration Bond Fund	FIXED INCOME	ADAMS OUTDOOR ADVERTISING	402621.68	375584.94	0.217792	4.81	11/15/2048
MML Short-Duration Bond Fund	FIXED INCOME	IMPERIAL BRANDS FIN PLC	400122.22	387000	0.21644	3.5	2/11/2023
MML Short-Duration Bond Fund	FIXED INCOME	TICP CLO LTD	400008	400000	0.216378	1.36825	10/20/2031
MML Short-Duration Bond Fund	FIXED INCOME	RRAM	400002.4	400000	0.216375	1.27375	1/15/2030
MML Short-Duration Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL I TRUST	396873.88	400000	0.214683	4.057073	8/5/2034
MML Short-Duration Bond Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	396831.53	391000	0.21466	3.17	7/25/2049
MML Short-Duration Bond Fund	FIXED INCOME	STARWOOD MORTGAGE RESIDENTIAL	386997.95	387000	0.209341	1.518	6/25/2056
MML Short-Duration Bond Fund	FIXED INCOME	ECMC GROUP STUDENT LOAN TRUST	383785.52	379720.84	0.207603	0.8915	9/25/2068
MML Short-Duration Bond Fund	FIXED INCOME	GLENCORE FUNDING LLC	382909.23	360000	0.207129	4.125	5/30/2023
MML Short-Duration Bond Fund	FIXED INCOME	BLACKROCK TCP CAP CORP	382853.66	360000	0.207099	3.9	8/23/2024
MML Short-Duration Bond Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	378039.41	380808.15	0.204495	0.85088	11/15/2035
MML Short-Duration Bond Fund	FIXED INCOME	ABBVIE INC	377495.24	345000	0.204201	3.8	3/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	EQT CORP	373276.8	320000	0.201919	7.625	2/1/2025
MML Short-Duration Bond Fund	FIXED INCOME	LIFE FINANCIAL SERVICES TRUST	373162.76	372000	0.201857	1.823	3/15/2038
MML Short-Duration Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	372789.01	330000	0.201655	4.25	10/22/2026
MML Short-Duration Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	372710.03	370303.06	0.201612	1.2915	12/26/2047
MML Short-Duration Bond Fund	FIXED INCOME	SYNGENTA FINANCE NV	371325.82	335000	0.200863	4.892	4/24/2025
MML Short-Duration Bond Fund	FIXED INCOME	HORIZON AIRCRAFT FINANCE III L	366931.78	373271.5	0.198486	3.425	11/15/2039
MML Short-Duration Bond Fund	FIXED INCOME	ATMOS ENERGY CORP	365108.2	365000	0.1975	0.625	3/9/2023
MML Short-Duration Bond Fund	FIXED INCOME	SYNCHRONY FINANCIAL	363368.06	355000	0.196559	2.85	7/25/2022
MML Short-Duration Bond Fund	FIXED INCOME	BANC OF AMERICA MERRILL LYNCH	359696.13	370000	0.194572	4.024368	11/5/2032
MML Short-Duration Bond Fund	FIXED INCOME	BROOKFIELD FINANCE INC	356623.92	330000	0.192911	4	4/1/2024
MML Short-Duration Bond Fund	FIXED INCOME	TRINITY ACQUISITION PLC	351321.65	350000	0.190042	3.5	9/15/2021
MML Short-Duration Bond Fund	FIXED INCOME	SPRINT COMMUNICATIONS	350625	330000	0.189665	9.25	4/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	KAYNE CLO	349816.25	350000	0.189228	1.58375	7/15/2031
MML Short-Duration Bond Fund	FIXED INCOME	PENNSYLVANIA ST HGR EDU ASSIST	348293.93	350000	0.188405	1.43	10/25/2042
MML Short-Duration Bond Fund	FIXED INCOME	NATWEST GROUP PLC	345184.27	345000	0.186722	1.642	6/14/2027
MML Short-Duration Bond Fund	FIXED INCOME	ONSLow BAY FINANCIAL LLC	334392.17	333000	0.180885	2.219	2/25/2066
MML Short-Duration Bond Fund	FIXED INCOME	DUPONT DE NEMOURS INC	329897.94	290000	0.178453	4.493	11/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	BX TRUST	327408.13	327000	0.177107	1.9	6/15/2038
MML Short-Duration Bond Fund	FIXED INCOME	ONSLow BAY FINANCIAL LLC	324995	318652.54	0.175801	3.5	12/25/2049
MML Short-Duration Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	324368.39	310000	0.175462	5.25	8/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	MACH I	322380.84	322406.34	0.174387	3.474	10/15/2039
MML Short-Duration Bond Fund	FIXED INCOME	SHELLPOINT CO ORIGINATOR TRUST	317899.53	314160.18	0.171963	3	10/25/2031
MML Short-Duration Bond Fund	FIXED INCOME	ANGEL OAK MORTGAGE TRUST	315926.67	314000	0.170896	2.215	1/25/2066
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	315001.95	337918.5	0.170396	0.47575	1/25/2041
MML Short-Duration Bond Fund	FIXED INCOME	VORNADO REALTY LP	314302.3	310000	0.170017	2.15	6/1/2026
MML Short-Duration Bond Fund	FIXED INCOME	SKYWOKS SOLUTIONS INC	310905.12	310000	0.16818	0.9	6/1/2023
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	307875.75	332048.02	0.166541	0.38575	10/25/2040
MML Short-Duration Bond Fund	FIXED INCOME	HERO FUNDING TRUST	300866.24	286208.99	0.162749	3.84	9/21/2040
MML Short-Duration Bond Fund	FIXED INCOME	LEASEPLAN CORPORATION NV	294085.65	280000	0.159081	2.875	10/24/2024
MML Short-Duration Bond Fund	FIXED INCOME	SBA TOWER TRUST	290691.91	287000	0.157246	1.884	7/15/2050
MML Short-Duration Bond Fund	FIXED INCOME	OXFORD FINANCE FUNDING TRUST	286718.63	281000	0.155096	3.101	2/15/2028
MML Short-Duration Bond Fund	FIXED INCOME	BX COMMERCIAL MORTGAGE TRUST 2	286331.72	286063.94	0.154887	1.873	10/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	ANGEL OAK MORTGAGE TRUST	282355.28	281377.61	0.152736	1.579	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	COLLEGE AVE STUDENT LOANS	282121.86	277664.05	0.15261	1.7415	11/26/2046
MML Short-Duration Bond Fund	FIXED INCOME	BRIGHTSE FIN GLOB FUND	280559.88	280000	0.151765	1	4/12/2024
MML Short-Duration Bond Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	276361.92	273472.44	0.149494	3.03	7/25/2049
MML Short-Duration Bond Fund	FIXED INCOME	HARLEY DAVIDSON INC	274924.61	255000	0.148716	3.5	7/28/2025
MML Short-Duration Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	273968.75	275000	0.148199	1.39088	2/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	AERCAP IRELAND CAP/GLOBA	273397.41	255000	0.14789	4.5	9/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	HERO FUNDING TRUST	272699.89	251850.82	0.147513	4.67	9/20/2048
MML Short-Duration Bond Fund	FIXED INCOME	GOLUB CAPITAL BDC	272021.72	270000	0.147146	2.5	8/24/2026
MML Short-Duration Bond Fund	FIXED INCOME	VERUS SECURITIZATION TRUST	271986.7	265000	0.147127	3.279	11/25/2059
MML Short-Duration Bond Fund	FIXED INCOME	GOLUB CAPITAL BDC	271278.61	260000	0.146744	3.375	4/15/2024

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	270608.28	270000	0.146382	1.5915	10/25/2047
MML Short-Duration Bond Fund	FIXED INCOME	HOMEWARD OPPORTUNITIES FUND I	267111.31	265602.34	0.14449	1.657	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	GLENCORE FINANCE CANADA	265676.38	254000	0.143714	4.25	10/25/2022
MML Short-Duration Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	265200	260000	0.143456	3.087	1/9/2023
MML Short-Duration Bond Fund	FIXED INCOME	GA GLOBAL FUNDING TRUST	263316.52	260000	0.142437	1.625	1/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	PUGET ENERGY INC	262477.56	260000	0.141983	6	9/1/2021
MML Short-Duration Bond Fund	FIXED INCOME	FANNIE MAE CAS	261983.43	260224.65	0.141716	2.3915	8/25/2031
MML Short-Duration Bond Fund	FIXED INCOME	BRAVO RESIDENTIAL FUNDING TRUS	259884.23	256991.3	0.140581	2.406	5/25/2060
MML Short-Duration Bond Fund	FIXED INCOME	TANGER PROPERTIES LP	257955.62	244000	0.139537	3.875	12/1/2023
MML Short-Duration Bond Fund	FIXED INCOME	SLC STUDENT LOAN TRUST	256448.07	272563.15	0.138722	0.35588	2/15/2045
MML Short-Duration Bond Fund	FIXED INCOME	ALLIANT ENERGY FINANCE	256222.35	260000	0.1386	1.4	3/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	EDLINC STUDENT LOAN FUNDING TR	255401.97	252324.37	0.138156	2.1	12/1/2047
MML Short-Duration Bond Fund	FIXED INCOME	CENTERPOINT ENERGY INC	255295.41	255000	0.138098	1.45	6/1/2026
MML Short-Duration Bond Fund	FIXED INCOME	ANGEL OAK MORTGAGE TRUST	254809.03	253618.39	0.137835	2.041	5/25/2065
MML Short-Duration Bond Fund	FIXED INCOME	LAUREL ROAD PRIME STUDENT LOAN	254140.35	256645.6	0.137474	3	10/25/2048
MML Short-Duration Bond Fund	FIXED INCOME	MORGAN STANLEY BAML TRUST	253327.18	250000	0.137034	3.769	2/15/2046
MML Short-Duration Bond Fund	FIXED INCOME	GOODGREEN TRUST	253009.59	238443.89	0.136862	3.86	10/15/2054
MML Short-Duration Bond Fund	FIXED INCOME	CASTLELAKE AIRCRAFT STRUCTURED	252990.19	253900.68	0.136851	4.125	6/15/2043
MML Short-Duration Bond Fund	FIXED INCOME	GOODGREEN TRUST	251775.53	240644.91	0.136194	3.23	10/15/2052
MML Short-Duration Bond Fund	FIXED INCOME	KNDL MORTGAGE TRUST	251078.81	251000	0.135817	1.873	5/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	PNMAC GMSR ISSUER TRUST	250464.78	250000	0.135485	2.9415	2/25/2023
MML Short-Duration Bond Fund	FIXED INCOME	KKR FINANCIAL CLO LTD	250007.5	250000	0.135238	1.25888	3/15/2031
MML Short-Duration Bond Fund	FIXED INCOME	CEDAR FUNDING LTD	249689.75	250000	0.135066	1.16825	4/20/2031
MML Short-Duration Bond Fund	FIXED INCOME	NEWARK BSL CLO 2 LTD.	249320.25	250000	0.134866	1.57575	7/25/2030
MML Short-Duration Bond Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	248454.95	250782.84	0.134398	2.96	3/25/2030
MML Short-Duration Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	248334.2	242015.84	0.134333	4.036	4/20/2035
MML Short-Duration Bond Fund	FIXED INCOME	GCI FUNDING I LLC	245936.66	246000	0.133036	2.38	6/18/2046
MML Short-Duration Bond Fund	FIXED INCOME	ELEMENT FLEET MANAGEMENT	243921.6	240000	0.131946	1.6	4/6/2024
MML Short-Duration Bond Fund	FIXED INCOME	TEVA PHARMACEUTICALS NE	239121.6	240000	0.129349	2.2	7/21/2021
MML Short-Duration Bond Fund	FIXED INCOME	CAPITAL AUTOMOTIVE REIT	238320.63	237805.4	0.128916	3.87	4/15/2047
MML Short-Duration Bond Fund	FIXED INCOME	AVIS BUDGET RENTAL CAR FUNDING	236767.7	233000	0.128076	4.53	3/20/2023
MML Short-Duration Bond Fund	FIXED INCOME	MOLSON COORS BEVERAGE	230154.09	230000	0.124498	2.1	7/15/2021
MML Short-Duration Bond Fund	FIXED INCOME	SPARC EM SPC PANAMA METR	228295.44	233564.57	0.123493	0	12/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	NORDSTROM INC	226712.96	226000	0.122637	2.3	4/8/2024
MML Short-Duration Bond Fund	FIXED INCOME	GOODGREEN TRUST	226417.36	213304.45	0.122477	3.93	10/15/2053
MML Short-Duration Bond Fund	FIXED INCOME	OGE ENERGY CORP	224801.25	225000	0.121603	0.703	5/26/2023
MML Short-Duration Bond Fund	FIXED INCOME	BRE GRAND ISLANDER TIMESHARE I	223880.38	222621.92	0.121105	3.78	9/26/2033
MML Short-Duration Bond Fund	FIXED INCOME	SANTANDER REVOLVING AUTO LOAN	223175.31	215000	0.120723	3.45	1/26/2032
MML Short-Duration Bond Fund	FIXED INCOME	BPCE SA	219881.24	200000	0.118942	4.625	7/11/2024
MML Short-Duration Bond Fund	FIXED INCOME	WILLIS ENGINE SECURITIZATION T	213372.28	214812.97	0.115421	4.75	9/15/2043
MML Short-Duration Bond Fund	FIXED INCOME	MOSAIC SOLAR LOANS LLC	210159.86	193213.44	0.113683	4.2	2/22/2044
MML Short-Duration Bond Fund	FIXED INCOME	BUSINESS JET SECURITIES, LLC	207845.23	204111.42	0.112431	2.981	11/15/2035
MML Short-Duration Bond Fund	FIXED INCOME	NISSAN MOTOR ACCEPTANCE	200548.9	200000	0.108484	1.9	9/14/2021
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	200312.66	200000	0.108356	1.673	5/15/2036
MML Short-Duration Bond Fund	FIXED INCOME	DELTA AIR LINES/SKYMILES	198866.23	185000	0.107574	4.5	10/20/2025
MML Short-Duration Bond Fund	FIXED INCOME	NEW RESIDENTIAL MORTGAGE LOAN	196132.75	182725.38	0.106095	3.75	11/25/2056
MML Short-Duration Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	195397.12	178000	0.105697	3.95	4/21/2025
MML Short-Duration Bond Fund	FIXED INCOME	VIATRIS INC	192481.76	190000	0.10412	1.65	6/22/2025
MML Short-Duration Bond Fund	FIXED INCOME	LAUREL ROAD PRIME STUDENT LOAN	191295.33	191151.41	0.103478	3.72	5/26/2043
MML Short-Duration Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	188685.23	189000	0.102067	0.805	5/19/2025
MML Short-Duration Bond Fund	FIXED INCOME	MARRIOTT INTERNATIONAL	185903.38	161000	0.100562	5.75	5/1/2025
MML Short-Duration Bond Fund	FIXED INCOME	CANADIAN PACER AUTO RECEIVABLE	181930.39	180000	0.098413	3.63	1/19/2024
MML Short-Duration Bond Fund	FIXED INCOME	STEEL DYNAMICS INC	172601.54	165000	0.093366	2.4	6/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	STRUCTURED ASSET SECURITIES CO	171180.82	176383.61	0.092598	1.2915	11/25/2035
MML Short-Duration Bond Fund	FIXED INCOME	DRB PRIME STUDENT LOAN TRUST	162527.21	172100.62	0.087917	3.61	8/25/2042
MML Short-Duration Bond Fund	FIXED INCOME	GENERAL MOTORS CO	159870.9	135000	0.08648	6.125	10/1/2025
MML Short-Duration Bond Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	150386.78	147595.54	0.08135	2.73	4/25/2028
MML Short-Duration Bond Fund	EQUITY	SWAP CREDIT SUISSE BOC	-150000	-150000	0.08114	0	
MML Short-Duration Bond Fund	FIXED INCOME	MARLETTE FUNDING TRUST	148057.14	146000	0.080089	3.53	7/16/2029
MML Short-Duration Bond Fund	FIXED INCOME	SEALED AIR CORP	147015	132000	0.079526	5.5	9/15/2025
MML Short-Duration Bond Fund	FIXED INCOME	HERO FUNDING TRUST	144267.03	139782.72	0.078039	3.57	9/20/2047
MML Short-Duration Bond Fund	FIXED INCOME	HERO FUNDING TRUST	144116.28	140539.55	0.077958	3.19	9/20/2048
MML Short-Duration Bond Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	143331.54	136371.78	0.077533	3.82	12/15/2048
MML Short-Duration Bond Fund	FIXED INCOME	ANGEL OAK MORTGAGE TRUST	138935.8	139035.95	0.075155	3.238	5/25/2059
MML Short-Duration Bond Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	137355.88	136512.61	0.074301	1.20088	9/15/2034

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	FIXED INCOME	COLLEGE LOAN CORPORATION TRUST	133558.94	149725.47	0.072247	0.67375	1/15/2037
MML Short-Duration Bond Fund	FIXED INCOME	WESTGATE RESORTS	130929.49	128711.34	0.070824	3.38	12/20/2031
MML Short-Duration Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	130365.24	130000	0.070519	1.5915	6/25/2054
MML Short-Duration Bond Fund	FIXED INCOME	ACCESS GROUP INC	130137.25	140000	0.070396	1.5915	7/25/2058
MML Short-Duration Bond Fund	FIXED INCOME	BANC OF AMERICA MERRILL LYNCH	129839.36	130000	0.070235	1.423	9/15/2034
MML Short-Duration Bond Fund	FIXED INCOME	ELFI GRADUATE LOAN PROGRAM	127010.7	124157.16	0.068705	4	8/25/2042
MML Short-Duration Bond Fund	FIXED INCOME	SIXTH STREET SPECIALTY	126754.41	125000	0.068566	2.5	8/1/2026
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	123994.82	132772.43	0.067073	0.48575	1/25/2055
MML Short-Duration Bond Fund	FIXED INCOME	NP SPE LP	122170.16	119023.84	0.066086	3.372	10/21/2047
MML Short-Duration Bond Fund	FIXED INCOME	DIAMOND RESORTS OWNER TRUST	120528.72	115726.39	0.065198	3.7	1/21/2031
MML Short-Duration Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	113267.65	111995.5	0.06127	2.91	3/20/2034
MML Short-Duration Bond Fund	OPTIONS	BM1107812 SWAPTION	107030	3080000	0.057896	0	1/31/2033
MML Short-Duration Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	104490.89	93000	0.056523	4.1	6/3/2026
MML Short-Duration Bond Fund	FIXED INCOME	ORANGE LAKE TIMESHARE TRUST	102421.08	101480.82	0.055403	2.91	3/8/2029
MML Short-Duration Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	101071.94	90000	0.054673	4.5	12/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	CF HIPPOLYTA ISSUER LLC	98008.4	96392.26	0.053016	2.28	7/15/2060
MML Short-Duration Bond Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	87066.98	84639.21	0.047098	2.69	3/25/2030
MML Short-Duration Bond Fund	FIXED INCOME	COMM MORTGAGE TRUST	85378.85	85451.36	0.046184	3.147	2/10/2047
MML Short-Duration Bond Fund	FIXED INCOME	SIERRA RECEIVABLES FUNDING CO	83689.77	81383.24	0.045271	3.51	7/20/2037
MML Short-Duration Bond Fund	FIXED INCOME	WELK RESORTS LLC	83224.9	84081.86	0.045019	3.41	6/15/2033
MML Short-Duration Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	82431.44	73000	0.04459	4.375	11/23/2026
MML Short-Duration Bond Fund	FIXED INCOME	BRE GRAND ISLANDER TIMESHARE I	77628.96	77427.83	0.041992	2.94	5/25/2029
MML Short-Duration Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	62835.5	63135.37	0.03399	0.47575	7/25/2025
MML Short-Duration Bond Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	61367.63	58110.77	0.033196	5.28	5/25/2041
MML Short-Duration Bond Fund	FIXED INCOME	NELNET PRIVATE EDUCATION LOAN	58982.35	58770.8	0.031906	1.8415	12/26/2040
MML Short-Duration Bond Fund	FIXED INCOME	MOISAIC SOLAR LOANS LLC	52461.16	48110.68	0.028378	4.45	6/20/2042
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE ABS REPACKAGING	49348.8	49214.89	0.026695	2.5	1/25/2030
MML Short-Duration Bond Fund	FIXED INCOME	WESTGATE RESORTS	48310.5	47865.93	0.026133	3.05	12/20/2030
MML Short-Duration Bond Fund	FIXED INCOME	FCI FUNDING, LLC	48296.47	47710.17	0.026125	3.63	2/18/2031
MML Short-Duration Bond Fund	FIXED INCOME	SOFI CONSUMER LOAN PROGRAM TRU	47741.43	47741.43	0.025825	3.26	8/25/2025
MML Short-Duration Bond Fund	FIXED INCOME	CREDIT SUISSE SEASONED LOAN TR	42693.18	43033.85	0.023094	0.3315	10/25/2034
MML Short-Duration Bond Fund	FUTURE	US 5YR NOTE (CBT) SEP21	0	-60300000	0.020387	0	9/30/2021
MML Short-Duration Bond Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	36733.56	36484.39	0.01987	1.2915	6/25/2033
MML Short-Duration Bond Fund	FUTURE	US 10YR NOTE (CBT)SEP21	0	15200000	0.019271	0	9/21/2021
MML Short-Duration Bond Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	32522.98	32214.25	0.017593	4.12	9/25/2045
MML Short-Duration Bond Fund	FIXED INCOME	EARNST STUDENT LOAN PROGRAM L	32353.55	33992.22	0.017501	2.1415	2/26/2035
MML Short-Duration Bond Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	27393.25	27484.47	0.014818	3.82	2/25/2044
MML Short-Duration Bond Fund	FUTURE	US 10YR ULTRA FUT SEP21	0	-5400000	0.014149	0	9/21/2021
MML Short-Duration Bond Fund	FIXED INCOME	SMB PRIVATE EDUCATION LOAN TRU	23505.89	23497.46	0.012715	1.22288	5/15/2026
MML Short-Duration Bond Fund	FIXED INCOME	321 HENDERSON RECEIVABLES LLC	20643.32	20810.9	0.011167	0.27288	3/15/2041
MML Short-Duration Bond Fund	FIXED INCOME	SOCIAL PROFESSIONAL LOAN PROGR	20265.69	20215.66	0.010962	1.0415	1/25/2039
MML Short-Duration Bond Fund	FIXED INCOME	COMMONBOND STUDENT LOAN TRUST	15654.23	15489.79	0.008468	4.35	2/25/2046
MML Short-Duration Bond Fund	FIXED INCOME	MARLETTE FUNDING TRUST	14978.47	14924.99	0.008102	3.13	7/16/2029
MML Short-Duration Bond Fund	FIXED INCOME	ELARA HGV TIMESHARE ISSUER	12532.77	12439.55	0.006779	3.02	2/25/2027
MML Short-Duration Bond Fund	FIXED INCOME	RPM INTERNATIONAL INC	8249.72	8000	0.004463	3.45	11/15/2022
MML Short-Duration Bond Fund	FIXED INCOME	FNMA POOL 775539	2593.17	2501.38	0.001403	1.891	5/1/2034
MML Short-Duration Bond Fund	FIXED INCOME	BANC OF AMERICA MORTGAGE SECUR	2552.36	2592.3	0.001381	3.062494	8/25/2034
MML Short-Duration Bond Fund	FUTURE	US 2YR NOTE (CBT) SEP21	0	-21600000	0.001369	0	9/30/2021
MML Short-Duration Bond Fund	FIXED INCOME	LOUISIANA ST PUBLIC FACS AUTH	1311.81	1310.39	0.00071	1.07575	4/26/2027
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 491089	1132.74	1045.38	0.000613	7	12/15/2028
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 581417	882.03	777.29	0.000477	7	7/15/2032
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 500928	609.28	532.26	0.00033	7	5/15/2029
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR DEC24	0	-1750000	0.000284	0	12/16/2024
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 493723	454.95	395.85	0.000246	7	8/15/2029
MML Short-Duration Bond Fund	FIXED INCOME	GNMA II POOL 008746	400.6	394.42	0.000217	2.125	11/20/2025
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 352022	326.82	310.72	0.000177	7	11/15/2023
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 499410	226.58	197.3	0.000123	7	7/15/2029
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 510083	150.47	132.24	0.000081	7	7/15/2029
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR DEC23	0	-750000	0.000061	0	12/18/2023
MML Short-Duration Bond Fund	FIXED INCOME	GNMA II POOL 080136	93.75	91.87	0.000051	2.125	11/20/2027
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR SEP22	0	-750000	0.000041	0	9/19/2022
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR MAR23	0	-500000	0.000027	0	3/13/2023
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR MAR22	0	-750000	0.00002	0	3/14/2022
MML Short-Duration Bond Fund	FUTURE	90DAY EUR FUTR SEP21	0	-750000	0.00002	0	9/13/2021
MML Short-Duration Bond Fund	FIXED INCOME	GNMA POOL 371146	17.26	16.88	0.000009	7	9/15/2023

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Short-Duration Bond Fund	CASH	POUND STERLING		1.07	0.77	0.000001	0
MML Small Cap Equity Fund	EQUITY	JZ GLOBAL INC	3436136.55		24981	2.351155	0
MML Small Cap Equity Fund	EQUITY	KORN FERRY	3223759.25		44435	2.205837	0
MML Small Cap Equity Fund	EQUITY	REXNORD CORP	3032574.12		60603	2.07502	0
MML Small Cap Equity Fund	EQUITY	AUTONATION INC	2844774.05		30005	1.946519	0
MML Small Cap Equity Fund	EQUITY	ASGN INC	2830743.72		29204	1.936919	0
MML Small Cap Equity Fund	EQUITY	TENET HEALTHCARE CORP	2562769.44		38256	1.753559	0
MML Small Cap Equity Fund	EQUITY	BROOKS AUTOMATION INC	2536830		26625	1.73581	0
MML Small Cap Equity Fund	EQUITY	WSFS FINANCIAL CORP	2519866.74		54086	1.724203	0
MML Small Cap Equity Fund	EQUITY	STIFEL FINANCIAL CORP	2412402.84		37194	1.650672	0
MML Small Cap Equity Fund	EQUITY	SIMPLY GOOD FOODS CO/THE	2324664.72		63672	1.590637	0
MML Small Cap Equity Fund	EQUITY	LHC GROUP INC	2210069.36		11036	1.512226	0
MML Small Cap Equity Fund	EQUITY	OVERSTOCK.COM INC	2175827.8		23599	1.488797	0
MML Small Cap Equity Fund	EQUITY	INSPIRE MEDICAL SYSTEMS INC	2130111.72		11022	1.457516	0
MML Small Cap Equity Fund	EQUITY	EVOQUA WATER TECHNOLOGIES CO	2096319.24		62058	1.434393	0
MML Small Cap Equity Fund	EQUITY	MONRO INC	2081413.23		32773	1.424194	0
MML Small Cap Equity Fund	EQUITY	BJ S WHOLESALE CLUB HOLDINGS	2065780.86		43417	1.413498	0
MML Small Cap Equity Fund	EQUITY	Q2 HOLDINGS INC	2020620.84		19698	1.382597	0
MML Small Cap Equity Fund	EQUITY	BELLRING BRANDS INC CLASS A	2004569.08		63962	1.371614	0
MML Small Cap Equity Fund	EQUITY	NATIONAL FUEL GAS CO	1996733.75		38215	1.366253	0
MML Small Cap Equity Fund	EQUITY	SUMMIT MATERIALS INC CL A	1991189.6		57136	1.362459	0
MML Small Cap Equity Fund	EQUITY	ATRICURE INC	1990786.35		25095	1.362183	0
MML Small Cap Equity Fund	EQUITY	FOUR CORNERS PROPERTY TRUST	1985711.2		71920	1.358711	0
MML Small Cap Equity Fund	EQUITY	ATKORE INC	1958251		27581	1.339921	0
MML Small Cap Equity Fund	EQUITY	STERLING BANCORP/DE	1955484.78		78882	1.338028	0
MML Small Cap Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	1943442.13	1943442.13		1.329788	7/1/2021
MML Small Cap Equity Fund	EQUITY	FOCUS FINANCIAL PARTNERS A	1939854.5		39997	1.327333	0
MML Small Cap Equity Fund	EQUITY	VISTEON CORP	1928872.06		15949	1.319819	0
MML Small Cap Equity Fund	EQUITY	KAISER ALUMINIUM CORP	1910143.32		15468	1.307004	0
MML Small Cap Equity Fund	EQUITY	KBR INC	1898496.6		49764	1.299035	0
MML Small Cap Equity Fund	EQUITY	AVISTA CORP	1881192.29		44087	1.287194	0
MML Small Cap Equity Fund	EQUITY	MKS INSTRUMENTS INC	1865627.8		10484	1.276544	0
MML Small Cap Equity Fund	EQUITY	JACK IN THE BOX INC	1834413.84		16461	1.255186	0
MML Small Cap Equity Fund	EQUITY	ENPRO INDUSTRIES INC	1818453.7		18718	1.244266	0
MML Small Cap Equity Fund	EQUITY	NATIONAL STORAGE AFFILIATES	1804385.28		35688	1.234639	0
MML Small Cap Equity Fund	EQUITY	CACI INTERNATIONAL INC CL A	1800381.84		7057	1.2319	0
MML Small Cap Equity Fund	EQUITY	PACIFIC PREMIER BANCORP INC	1784003.65		42185	1.220693	0
MML Small Cap Equity Fund	EQUITY	TOPBUILD CORP	1771515.46		8957	1.212149	0
MML Small Cap Equity Fund	EQUITY	DORMAN PRODUCTS INC	1760420.27		16981	1.204557	0
MML Small Cap Equity Fund	EQUITY	BANKUNITED INC	1730054.94		40526	1.183779	0
MML Small Cap Equity Fund	EQUITY	SEMTECH CORP	1646796.8		23936	1.126811	0
MML Small Cap Equity Fund	EQUITY	CRYOPORT INC	1613845.6		25576	1.104264	0
MML Small Cap Equity Fund	EQUITY	MASONITE INTERNATIONAL CORP	1546838.23		13837	1.058414	0
MML Small Cap Equity Fund	EQUITY	ADDUS HOMECARE CORP	1524867.96		17479	1.043381	0
MML Small Cap Equity Fund	EQUITY	SUBURBAN PROPANE PARTNERS LP	1518475.92		98988	1.039008	0
MML Small Cap Equity Fund	EQUITY	TEXAS ROADHOUSE INC	1506011		15655	1.030479	0
MML Small Cap Equity Fund	EQUITY	DENNY S CORP	1446107.04		87696	0.98949	0
MML Small Cap Equity Fund	EQUITY	NEOGENOMICS INC	1427778.53		31609	0.976949	0
MML Small Cap Equity Fund	EQUITY	HESKA CORP	1406636.79		6123	0.962483	0
MML Small Cap Equity Fund	EQUITY	ENERSYS	1402327.77		14349	0.959534	0
MML Small Cap Equity Fund	EQUITY	COMPASS MINERALS INTERNATION	1397943.4		23590	0.956534	0
MML Small Cap Equity Fund	EQUITY	BOTTOMLINE TECHNOLOGIES (DE)	1373331.96		37037	0.939694	0
MML Small Cap Equity Fund	EQUITY	FEDERATED HERMES INC	1338258.15		39465	0.915695	0
MML Small Cap Equity Fund	EQUITY	BANK OF N.T. BUTTERFIELD+SON	1328524.2		37476	0.909034	0
MML Small Cap Equity Fund	EQUITY	CATHAY GENERAL BANCORP	1325211.84		33669	0.906768	0
MML Small Cap Equity Fund	EQUITY	TWIST BIOSCIENCE CORP	1324371.75		9939	0.906193	0
MML Small Cap Equity Fund	EQUITY	DIAMONDROCK HOSPITALITY CO	1305988.6		134638	0.893615	0
MML Small Cap Equity Fund	EQUITY	SIGNATURE BANK	1301699.35		5299	0.89068	0
MML Small Cap Equity Fund	EQUITY	CNX RESOURCES CORP	1288506.82		94327	0.881653	0
MML Small Cap Equity Fund	EQUITY	ACCO BRANDS CORP	1277179.59		147993	0.873902	0
MML Small Cap Equity Fund	EQUITY	ENERGIZER HOLDINGS INC	1222695.04		28448	0.836622	0
MML Small Cap Equity Fund	EQUITY	EPR PROPERTIES	1192201.08		22631	0.815756	0
MML Small Cap Equity Fund	EQUITY	TANDEM DIABETES CARE INC	1178734.8		12102	0.806542	0
MML Small Cap Equity Fund	EQUITY	VALMONT INDUSTRIES	1150743.75		4875	0.787389	0
MML Small Cap Equity Fund	EQUITY	HONEST CO INC/THE	1138189.38		70302	0.778799	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Cap Equity Fund	EQUITY	SILGAN HOLDINGS INC	1057544.5	25483	0.723618	0	
MML Small Cap Equity Fund	EQUITY	OCEANFIRST FINANCIAL CORP	1033268.04	49581	0.707007	0	
MML Small Cap Equity Fund	EQUITY	ECHOSTAR CORP A	1029968.87	42403	0.70475	0	
MML Small Cap Equity Fund	EQUITY	HERITAGE FINANCIAL CORP	1021141.26	40813	0.69871	0	
MML Small Cap Equity Fund	EQUITY	CURTISS WRIGHT CORP	1015516.76	8551	0.694861	0	
MML Small Cap Equity Fund	EQUITY	BIOLIFE SOLUTIONS INC	1002454.22	22522	0.685923	0	
MML Small Cap Equity Fund	EQUITY	1LIFE HEALTHCARE INC	999172.38	30223	0.683678	0	
MML Small Cap Equity Fund	EQUITY	AVID BIOSERVICES INC	989807.85	38589	0.67727	0	
MML Small Cap Equity Fund	EQUITY	ADAPTIVE BIOTECHNOLOGIES	984153.96	24086	0.673401	0	
MML Small Cap Equity Fund	EQUITY	FOOT LOCKER INC	979115.81	15887	0.669954	0	
MML Small Cap Equity Fund	EQUITY	REPLIGEN CORP	964364.22	4831	0.65986	0	
MML Small Cap Equity Fund	EQUITY	COMFORT SYSTEMS USA INC	960371.31	12189	0.657128	0	
MML Small Cap Equity Fund	EQUITY	BERKSHIRE HILLS BANCORP INC	948660.1	34610	0.649115	0	
MML Small Cap Equity Fund	EQUITY	OLO INC CLASS A	925178.16	24744	0.633047	0	
MML Small Cap Equity Fund	EQUITY	CEDAR FAIR LP	918746.02	20494	0.628646	0	
MML Small Cap Equity Fund	EQUITY	NORTHWEST NATURAL HOLDING CO	895623.56	17053	0.612825	0	
MML Small Cap Equity Fund	EQUITY	HUB GROUP INC CL A	895480.56	13572	0.612727	0	
MML Small Cap Equity Fund	EQUITY	DIVERSEY HOLDINGS LTD	878181.03	49033	0.60089	0	
MML Small Cap Equity Fund	EQUITY	ENVESTNET INC	874362.36	11526	0.598277	0	
MML Small Cap Equity Fund	EQUITY	AMYRIS INC	872782.92	53316	0.597196	0	
MML Small Cap Equity Fund	EQUITY	ORTHO CLINICAL DIAGNOSTICS H	841991.07	39327	0.576127	0	
MML Small Cap Equity Fund	EQUITY	ALLEGRO MICROSYSTEMS INC	809948	29240	0.554202	0	
MML Small Cap Equity Fund	EQUITY	COLLEGIUM PHARMACEUTICAL INC	799764.84	33831	0.547234	0	
MML Small Cap Equity Fund	EQUITY	CARTER S INC	774187.68	7504	0.529733	0	
MML Small Cap Equity Fund	EQUITY	ALLISON TRANSMISSION HOLDING	745085.26	18749	0.50982	0	
MML Small Cap Equity Fund	EQUITY	NEWMARKET CORP	744739.74	2313	0.509584	0	
MML Small Cap Equity Fund	EQUITY	FB FINANCIAL CORP	694413.24	18607	0.475148	0	
MML Small Cap Equity Fund	EQUITY	BERKELEY LIGHTS INC	684876.04	15284	0.468622	0	
MML Small Cap Equity Fund	EQUITY	EVERBRIDGE INC	681488.64	5008	0.466304	0	
MML Small Cap Equity Fund	EQUITY	PAYA HOLDINGS INC	577029.24	52362	0.394829	0	
MML Small Cap Equity Fund	EQUITY	SILVERGATE CAPITAL CORP CL A	566939.96	5003	0.387925	0	
MML Small Cap Equity Fund	EQUITY	AXSOME THERAPEUTICS INC	483081.06	7161	0.330545	0	
MML Small Cap Equity Fund	EQUITY	ADC THERAPEUTICS SA	255382.8	10488	0.174744	0	
MML Small Cap Growth Equity Fund	EQUITY	RAPID7 INC	2073532.56	21912	2.13404	0	
MML Small Cap Growth Equity Fund	EQUITY	VARONIS SYSTEMS INC	1941044.94	33687	1.997687	0	
MML Small Cap Growth Equity Fund	EQUITY	PERFICIENT INC	1876279.02	23331	1.931031	0	
MML Small Cap Growth Equity Fund	EQUITY	DIGITAL TURBINE INC	1792179.16	23572	1.844477	0	
MML Small Cap Growth Equity Fund	EQUITY	CHEGG INC	1784621.03	21473	1.836698	0	
MML Small Cap Growth Equity Fund	EQUITY	II VI INC	1751524.11	24129	1.802635	0	
MML Small Cap Growth Equity Fund	EQUITY	PLANET FITNESS INC CL A	1733459	23036	1.784043	0	
MML Small Cap Growth Equity Fund	EQUITY	OLLIE S BARGAIN OUTLET HOLDI	1712382.02	20354	1.762351	0	
MML Small Cap Growth Equity Fund	EQUITY	TOWER SEMICONDUCTOR LTD	170705.72	58004	1.756871	0	
MML Small Cap Growth Equity Fund	EQUITY	CARDLYTICS INC	1695530.94	13358	1.745008	0	
MML Small Cap Growth Equity Fund	EQUITY	FIVE BELOW	1646467.13	8519	1.694513	0	
MML Small Cap Growth Equity Fund	EQUITY	YETI HOLDINGS INC	1581324.04	17222	1.627469	0	
MML Small Cap Growth Equity Fund	EQUITY	SPX FLOW INC	1570718.24	24076	1.452058	0	
MML Small Cap Growth Equity Fund	EQUITY	REXNORD CORP	1552841.28	31032	1.435532	0	
MML Small Cap Growth Equity Fund	EQUITY	LHC GROUP INC	1363169.82	6807	1.402948	0	
MML Small Cap Growth Equity Fund	EQUITY	APPLIED INDUSTRIAL TECH INC	1345502.56	14776	1.384766	0	
MML Small Cap Growth Equity Fund	EQUITY	ALTRA INDUSTRIAL MOTION CORP	1336746.18	20559	1.375754	0	
MML Small Cap Growth Equity Fund	EQUITY	SKYLINE CHAMPION CORP	1310913.5	24595	1.349167	0	
MML Small Cap Growth Equity Fund	EQUITY	MANHATTAN ASSOCIATES INC	1305153.24	9011	1.343239	0	
MML Small Cap Growth Equity Fund	EQUITY	J2 GLOBAL INC	1301223	9460	1.339194	0	
MML Small Cap Growth Equity Fund	EQUITY	CLOUDERA INC	1425052.72	89852	1.317397	0	
MML Small Cap Growth Equity Fund	EQUITY	SHUTTERSTOCK INC	1417378.46	14438	1.310303	0	
MML Small Cap Growth Equity Fund	EQUITY	ACCOLADE INC	1247555.01	22971	1.28396	0	
MML Small Cap Growth Equity Fund	EQUITY	2U INC	1214305.47	29141	1.24974	0	
MML Small Cap Growth Equity Fund	EQUITY	SKYLINE CHAMPION CORP	1322532.9	24813	1.222622	0	
MML Small Cap Growth Equity Fund	EQUITY	BOSTON BEER COMPANY INC A	1182086.4	1158	1.216581	0	
MML Small Cap Growth Equity Fund	EQUITY	SELECTIVE INSURANCE GROUP	1304810.85	16079	1.206239	0	
MML Small Cap Growth Equity Fund	EQUITY	ACADIA HEALTHCARE CO INC	1293842.25	20619	1.196099	0	
MML Small Cap Growth Equity Fund	EQUITY	CALIX INC	1277560	26896	1.181047	0	
MML Small Cap Growth Equity Fund	EQUITY	RAPID7 INC	1273341.28	13456	1.177147	0	
MML Small Cap Growth Equity Fund	EQUITY	OLLIE S BARGAIN OUTLET HOLDI	1272971.03	15131	1.176804	0	
MML Small Cap Growth Equity Fund	EQUITY	FIRSTCASH INC	1272802.44	16651	1.176649	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Cap Growth Equity Fund	EQUITY	GLOBUS MEDICAL INC A	1267072.79		16343	1.171352	0
MML Small Cap Growth Equity Fund	EQUITY	MIDDPACE HOLDINGS INC	1131491.78		6406	1.16451	0
MML Small Cap Growth Equity Fund	EQUITY	MIDDLEBY CORP	1129828.46		6521	1.162798	0
MML Small Cap Growth Equity Fund	EQUITY	ENERSYS	1257198.72		12864	1.162224	0
MML Small Cap Growth Equity Fund	EQUITY	PAR TECHNOLOGY CORP/DEL	1128551.84		16136	1.161484	0
MML Small Cap Growth Equity Fund	EQUITY	PERFICIENT INC	1253184.86		15583	1.158513	0
MML Small Cap Growth Equity Fund	EQUITY	AMERIS BANCORP	1249244.62		24674	1.15487	0
MML Small Cap Growth Equity Fund	EQUITY	FLOOR + DECOR HOLDINGS INC A	1118411.7		10581	1.151048	0
MML Small Cap Growth Equity Fund	EQUITY	NATIONAL BANK HOLD CL A	1241230.86		32889	1.147462	0
MML Small Cap Growth Equity Fund	EQUITY	VERRA MOBILITY CORP	1114447.96		72508	1.146969	0
MML Small Cap Growth Equity Fund	EQUITY	ATLANTIC UNION BANKSHARES CO	1233580.76		34058	1.14039	0
MML Small Cap Growth Equity Fund	EQUITY	MULTIPLAN CORP	1099598.08		115504	1.131685	0
MML Small Cap Growth Equity Fund	EQUITY	MCGRATH RENTCORP	1212538.05		14865	1.120937	0
MML Small Cap Growth Equity Fund	EQUITY	OMNICELL INC	1198272.4		7912	1.107749	0
MML Small Cap Growth Equity Fund	EQUITY	HANNON ARMSTRONG SUSTAINABLE	1197511.05		21327	1.107045	0
MML Small Cap Growth Equity Fund	EQUITY	ASSURED GUARANTY LTD	1194454.36		25157	1.104219	0
MML Small Cap Growth Equity Fund	EQUITY	BANDWIDTH INC CLASS A	1071224.64		7767	1.102484	0
MML Small Cap Growth Equity Fund	EQUITY	WINGSTOP INC	1069677.18		6786	1.100891	0
MML Small Cap Growth Equity Fund	EQUITY	CRITEO SA SPON ADR	1065528.34		23558	1.096621	0
MML Small Cap Growth Equity Fund	EQUITY	CLEAN HARBORS INC	1185765.34		12731	1.096187	0
MML Small Cap Growth Equity Fund	EQUITY	INTEGRA LIFESCIENCES HOLDING	1064680.48		15602	1.095749	0
MML Small Cap Growth Equity Fund	EQUITY	KENNAMETAL INC	1184785.28		32984	1.095281	0
MML Small Cap Growth Equity Fund	EQUITY	SEACOAST BANKING CORP/FL	1184287.85		34679	1.094821	0
MML Small Cap Growth Equity Fund	EQUITY	GRAPHIC PACKAGING HOLDING CO	1182873.12		65208	1.093513	0
MML Small Cap Growth Equity Fund	EQUITY	LHC GROUP INC	1180532.7		5895	1.091349	0
MML Small Cap Growth Equity Fund	EQUITY	SANDERSON FARMS INC	1167857.61		6213	1.079632	0
MML Small Cap Growth Equity Fund	EQUITY	NU SKIN ENTERPRISES INC A	1163647.65		20541	1.07574	0
MML Small Cap Growth Equity Fund	EQUITY	BUILDERS FIRSTSOURCE INC	1041031.98		24403	1.07141	0
MML Small Cap Growth Equity Fund	EQUITY	FIRST SOLAR INC	1157894.43		12793	1.070421	0
MML Small Cap Growth Equity Fund	EQUITY	HELIOS TECHNOLOGIES INC	1156544.9		14818	1.069174	0
MML Small Cap Growth Equity Fund	EQUITY	ESSENTIAL PROPERTIES REALTY	1156176.32		42758	1.068833	0
MML Small Cap Growth Equity Fund	EQUITY	ATLANTICA SUSTAINABLE INFRAS	1152815.06		30973	1.065726	0
MML Small Cap Growth Equity Fund	EQUITY	ACUSHNET HOLDINGS CORP	1152798.4		23336	1.06571	0
MML Small Cap Growth Equity Fund	EQUITY	STEVEN MADDEN LTD	1150100.32		26282	1.063216	0
MML Small Cap Growth Equity Fund	EQUITY	SIMMONS FIRST NATL CORP CL A	1147634.1		39115	1.060936	0
MML Small Cap Growth Equity Fund	EQUITY	MGIC INVESTMENT CORP	1141393.6		83926	1.055167	0
MML Small Cap Growth Equity Fund	EQUITY	TOWER SEMICONDUCTOR LTD	1129788.27		38389	1.044438	0
MML Small Cap Growth Equity Fund	EQUITY	MIMECAST LTD	1013573.3		19106	1.04315	0
MML Small Cap Growth Equity Fund	EQUITY	ISHARES RUSSELL 2000 ETF	1118408.12		4876	1.033918	0
MML Small Cap Growth Equity Fund	EQUITY	PRA GROUP INC	1117399.62		29046	1.032986	0
MML Small Cap Growth Equity Fund	EQUITY	STERLING BANCORP/DE	1115574.79		45001	1.031299	0
MML Small Cap Growth Equity Fund	EQUITY	RYMAN HOSPITALITY PROPERTIES	997422.72		12632	1.026528	0
MML Small Cap Growth Equity Fund	EQUITY	MKS INSTRUMENTS INC	992427.15		5577	1.021387	0
MML Small Cap Growth Equity Fund	EQUITY	BELLRING BRANDS INC CLASS A	1100441.42		35113	1.017309	0
MML Small Cap Growth Equity Fund	EQUITY	VIAVI SOLUTIONS INC	1098575.62		62207	1.015584	0
MML Small Cap Growth Equity Fund	EQUITY	REPAY HOLDINGS CORP	986048.68		41017	1.014823	0
MML Small Cap Growth Equity Fund	EQUITY	LIFE STORAGE INC	1096902.3		10218	1.014037	0
MML Small Cap Growth Equity Fund	EQUITY	CINEMARK HOLDINGS INC	1096819.55		49969	1.01396	0
MML Small Cap Growth Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	982331.2		982331.2	1.010997	7/1/2021
MML Small Cap Growth Equity Fund	EQUITY	PORTLAND GENERAL ELECTRIC CO	1091819.52		23694	1.009338	0
MML Small Cap Growth Equity Fund	EQUITY	OAK STREET HEALTH INC	978177.57		16701	1.006722	0
MML Small Cap Growth Equity Fund	EQUITY	ENERPAC TOOL GROUP CORP	1087666.58		40859	1.005499	0
MML Small Cap Growth Equity Fund	EQUITY	TELOS CORPORATION	967788.56		28456	0.99603	0
MML Small Cap Growth Equity Fund	EQUITY	GREAT WESTERN BANCORP INC	1061772.99		32381	0.981561	0
MML Small Cap Growth Equity Fund	EQUITY	XENIA HOTELS + RESORTS INC	1055023.44		56328	0.975322	0
MML Small Cap Growth Equity Fund	EQUITY	GIBRALTAR INDUSTRIES INC	946778.17		12407	0.974406	0
MML Small Cap Growth Equity Fund	EQUITY	CARTER S INC	1049754.75		10175	0.970451	0
MML Small Cap Growth Equity Fund	EQUITY	HILL ROM HOLDINGS INC	941888.28		8292	0.969373	0
MML Small Cap Growth Equity Fund	EQUITY	HEALTH CATALYST INC	939950.83		16933	0.96738	0
MML Small Cap Growth Equity Fund	EQUITY	MOMENTIVE GLOBAL INC	1045704.1		49630	0.966706	0
MML Small Cap Growth Equity Fund	EQUITY	JAMF HOLDING CORP	939154.32		27976	0.96656	0
MML Small Cap Growth Equity Fund	EQUITY	ALBANY INTL CORP CL A	1044342		11700	0.965447	0
MML Small Cap Growth Equity Fund	EQUITY	CAVCO INDUSTRIES INC	936975.23		4217	0.964317	0
MML Small Cap Growth Equity Fund	EQUITY	CURTISS WRIGHT CORP	933572.36		7861	0.960815	0
MML Small Cap Growth Equity Fund	EQUITY	ESSENTIAL PROPERTIES REALTY	923361.92		34148	0.950307	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Cap Growth Equity Fund	EQUITY	FORMFACTOR INC	1027479.26		28181	0.949858	0
MML Small Cap Growth Equity Fund	EQUITY	CALIX INC	921690		19404	0.948586	0
MML Small Cap Growth Equity Fund	EQUITY	XENIA HOTELS + RESORTS INC	915971.92		48904	0.942701	0
MML Small Cap Growth Equity Fund	EQUITY	LOUISIANA PACIFIC CORP	1019383.32		16908	0.942374	0
MML Small Cap Growth Equity Fund	EQUITY	BANCORPSOUTH BANK	1015715.49		35853	0.938983	0
MML Small Cap Growth Equity Fund	EQUITY	GLOBUS MEDICAL INC A	908186.42		11714	0.934688	0
MML Small Cap Growth Equity Fund	EQUITY	MKS INSTRUMENTS INC	1006485.2		5656	0.93045	0
MML Small Cap Growth Equity Fund	EQUITY	PS BUSINESS PARKS INC/CA	1006351.68		6796	0.930327	0
MML Small Cap Growth Equity Fund	EQUITY	SPIRIT AEROSYSTEMS HOLD CL A	1006090.8		21320	0.930086	0
MML Small Cap Growth Equity Fund	EQUITY	NOVANTA INC	901005.36		6686	0.927298	0
MML Small Cap Growth Equity Fund	EQUITY	JBG SMITH PROPERTIES	1002490.65		31815	0.926758	0
MML Small Cap Growth Equity Fund	EQUITY	PERFORMANCE FOOD GROUP CO	992784.26		20474	0.917784	0
MML Small Cap Growth Equity Fund	EQUITY	GATX CORP	991394.82		11206	0.9165	0
MML Small Cap Growth Equity Fund	EQUITY	PATRICK INDUSTRIES INC	989661		13557	0.914897	0
MML Small Cap Growth Equity Fund	EQUITY	COLFAX CORP	880468.2		19220	0.906161	0
MML Small Cap Growth Equity Fund	EQUITY	CHART INDUSTRIES INC	976978.64		6677	0.903173	0
MML Small Cap Growth Equity Fund	EQUITY	REALREAL INC/THE	875980.56		44331	0.901543	0
MML Small Cap Growth Equity Fund	EQUITY	NEOGENOMICS INC	874039.5		19350	0.899545	0
MML Small Cap Growth Equity Fund	EQUITY	AIR LEASE CORP	969411.5		23225	0.896177	0
MML Small Cap Growth Equity Fund	EQUITY	FIRST INTERSTATE BANCYSYS A	961797.19		22993	0.889138	0
MML Small Cap Growth Equity Fund	EQUITY	LIVERAMP HOLDINGS INC	862555.35		18411	0.887726	0
MML Small Cap Growth Equity Fund	EQUITY	FLUOR CORP	948259.8		53574	0.876624	0
MML Small Cap Growth Equity Fund	EQUITY	POTLATCHDELTIC CORP	941392.8		17712	0.870275	0
MML Small Cap Growth Equity Fund	EQUITY	KIRBY CORP	940587.04		15511	0.86953	0
MML Small Cap Growth Equity Fund	EQUITY	KODIAK SCIENCES INC	842208		9056	0.866784	0
MML Small Cap Growth Equity Fund	EQUITY	ACM RESEARCH INC CLASS A	836466.26		8183	0.860875	0
MML Small Cap Growth Equity Fund	EQUITY	OMNICELL INC	836306.9		5522	0.860711	0
MML Small Cap Growth Equity Fund	EQUITY	GREEN DOT CORP CLASS A	922195.4		19684	0.852528	0
MML Small Cap Growth Equity Fund	EQUITY	SHUTTERSTOCK INC	824628		8400	0.848691	0
MML Small Cap Growth Equity Fund	EQUITY	HAEMONETICS CORP/MASS	912368.24		13691	0.843443	0
MML Small Cap Growth Equity Fund	EQUITY	REALREAL INC/THE	896629.76		45376	0.828894	0
MML Small Cap Growth Equity Fund	EQUITY	RUSH ENTERPRISES INC CL A	890441.32		20593	0.823173	0
MML Small Cap Growth Equity Fund	EQUITY	AVANOS MEDICAL INC	885354.91		24343	0.818471	0
MML Small Cap Growth Equity Fund	EQUITY	METHANEX CORP	884953.2		26760	0.818099	0
MML Small Cap Growth Equity Fund	EQUITY	JOHN BEAN TECHNOLOGIES CORP	881534.22		6181	0.814939	0
MML Small Cap Growth Equity Fund	EQUITY	STERLING BANCORP/DE	790726.63		31897	0.813801	0
MML Small Cap Growth Equity Fund	EQUITY	CARDLYTICS INC	880132.62		6934	0.813643	0
MML Small Cap Growth Equity Fund	EQUITY	VIPER ENERGY PARTNERS LP	879662.28		46716	0.813208	0
MML Small Cap Growth Equity Fund	EQUITY	CIENA CORP	879064.28		15452	0.812655	0
MML Small Cap Growth Equity Fund	EQUITY	NEW RELIC INC	876905.18		13094	0.810659	0
MML Small Cap Growth Equity Fund	EQUITY	POWER INTEGRATIONS INC	867538.32		10572	0.802	0
MML Small Cap Growth Equity Fund	EQUITY	POLARIS INC	771632.64		5634	0.79415	0
MML Small Cap Growth Equity Fund	EQUITY	TRINET GROUP INC	858163.2		11840	0.793333	0
MML Small Cap Growth Equity Fund	EQUITY	AMERIS BANCORP	763348.51		15077	0.785624	0
MML Small Cap Growth Equity Fund	EQUITY	DENNY S CORP	845145.48		51252	0.781299	0
MML Small Cap Growth Equity Fund	EQUITY	SIRIUSPOINT LTD	843634.39		83777	0.779902	0
MML Small Cap Growth Equity Fund	EQUITY	WESTERN ALLIANCE BANCORP	757470.3		8158	0.779574	0
MML Small Cap Growth Equity Fund	EQUITY	BJ S RESTAURANTS INC	840097.44		17096	0.776632	0
MML Small Cap Growth Equity Fund	EQUITY	BOYD GAMING CORP	749378.63		12187	0.771246	0
MML Small Cap Growth Equity Fund	EQUITY	LATCH PIPE	737741.6		62840	0.75927	0
MML Small Cap Growth Equity Fund	EQUITY	ARENA PHARMACEUTICALS INC	732468		10740	0.753842	0
MML Small Cap Growth Equity Fund	EQUITY	KEMPER CORP	793094.8		10732	0.73318	0
MML Small Cap Growth Equity Fund	EQUITY	SYNAPTICS INC	700110		4500	0.72054	0
MML Small Cap Growth Equity Fund	EQUITY	TG THERAPEUTICS INC	694496.16		17904	0.714762	0
MML Small Cap Growth Equity Fund	EQUITY	FLUOR CORP	671555.7		37941	0.691152	0
MML Small Cap Growth Equity Fund	EQUITY	HYDROFARM HOLDINGS GROUP INC	662032		11200	0.681351	0
MML Small Cap Growth Equity Fund	EQUITY	WOLVERINE WORLD WIDE INC	734495.76		21834	0.679008	0
MML Small Cap Growth Equity Fund	EQUITY	Y MABS THERAPEUTICS INC	649602.2		19219	0.668558	0
MML Small Cap Growth Equity Fund	EQUITY	APELLIS PHARMACEUTICALS INC	647926.4		10252	0.666834	0
MML Small Cap Growth Equity Fund	EQUITY	MAXEON SOLAR TECHNOLOGIE	720605.18		33626	0.666167	0
MML Small Cap Growth Equity Fund	EQUITY	PORCH.COM RESTRICTED	644331.6		33770	0.663134	0
MML Small Cap Growth Equity Fund	EQUITY	TRINET GROUP INC	642970.08		8871	0.661733	0
MML Small Cap Growth Equity Fund	EQUITY	ALX ONCOLOGY HOLDINGS INC	636529.88		11641	0.655104	0
MML Small Cap Growth Equity Fund	EQUITY	CROSS COUNTRY HEALTHCARE INC	635948.69		38519	0.654506	0
MML Small Cap Growth Equity Fund	EQUITY	TURNING POINT THERAPEUTICS I	630635.66		8083	0.649038	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Cap Growth Equity Fund	EQUITY	HANNON ARMSTRONG SUSTAINABLE	630508.35	11229	0.648907	0	
MML Small Cap Growth Equity Fund	EQUITY	CABOT CORP	617975.15	10855	0.636008	0	
MML Small Cap Growth Equity Fund	EQUITY	MERCURY SYSTEMS INC	682684	10300	0.631111	0	
MML Small Cap Growth Equity Fund	EQUITY	NEW YORK TIMES CO A	674197.55	15481	0.623265	0	
MML Small Cap Growth Equity Fund	EQUITY	BLUEPRINT MEDICINES CORP	604900.92	6877	0.622553	0	
MML Small Cap Growth Equity Fund	EQUITY	SQUARESPACE INC CLASS A	600041	10100	0.617551	0	
MML Small Cap Growth Equity Fund	EQUITY	HERON THERAPEUTICS INC	598296	38550	0.615755	0	
MML Small Cap Growth Equity Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	658691.88	658691.88	0.608931	0	7/1/2021
MML Small Cap Growth Equity Fund	EQUITY	AMEDISYS INC	654208.03	2671	0.604786	0	
MML Small Cap Growth Equity Fund	EQUITY	OWENS + MINOR INC	639183	15100	0.590896	0	
MML Small Cap Growth Equity Fund	EQUITY	DECKERS OUTDOOR CORP	626034.1	1630	0.57874	0	
MML Small Cap Growth Equity Fund	EQUITY	MAXEON SOLAR TECHNOLOGIE	561658.87	26209	0.578049	0	
MML Small Cap Growth Equity Fund	EQUITY	SAIA INC	541531.65	2585	0.557334	0	
MML Small Cap Growth Equity Fund	EQUITY	LA Z BOY INC	587121.04	15851	0.542767	0	
MML Small Cap Growth Equity Fund	EQUITY	BANDWIDTH INC CLASS A	585608.32	4246	0.541369	0	
MML Small Cap Growth Equity Fund	EQUITY	KORINIT DIGITAL LTD	521440.02	4194	0.536656	0	
MML Small Cap Growth Equity Fund	EQUITY	APELLIS PHARMACEUTICALS INC	569874.4	9017	0.526823	0	
MML Small Cap Growth Equity Fund	EQUITY	WHITING PETROLEUM CORP	567756.4	10408	0.524865	0	
MML Small Cap Growth Equity Fund	EQUITY	ASCENDIS PHARMA A/S ADR	506862.15	3853	0.521653	0	
MML Small Cap Growth Equity Fund	EQUITY	REDFIN CORP	504046.09	7949	0.518755	0	
MML Small Cap Growth Equity Fund	EQUITY	NANOSTRING TECHNOLOGIES INC	496420.98	7662	0.510907	0	
MML Small Cap Growth Equity Fund	EQUITY	PENN NATIONAL GAMING INC	494737.32	6468	0.509174	0	
MML Small Cap Growth Equity Fund	EQUITY	INTELLIA THERAPEUTICS INC	493987.41	3051	0.508402	0	
MML Small Cap Growth Equity Fund	EQUITY	LATTICE SEMICONDUCTOR CORP	547755	9750	0.506375	0	
MML Small Cap Growth Equity Fund	EQUITY	ACCELERON PHARMA INC	485520.81	3869	0.499689	0	
MML Small Cap Growth Equity Fund	EQUITY	DICERNA PHARMACEUTICALS INC	526659.84	14112	0.486873	0	
MML Small Cap Growth Equity Fund	EQUITY	GLAUKOS CORP	516954.02	6094	0.477901	0	
MML Small Cap Growth Equity Fund	EQUITY	Y MABS THERAPEUTICS INC	516295	15275	0.477292	0	
MML Small Cap Growth Equity Fund	EQUITY	DELEK US HOLDINGS INC	514534.38	23799	0.475664	0	
MML Small Cap Growth Equity Fund	EQUITY	ALLAKOS INC	449046.2	5260	0.46215	0	
MML Small Cap Growth Equity Fund	EQUITY	AMICUS THERAPEUTICS INC	448260	46500	0.461341	0	
MML Small Cap Growth Equity Fund	EQUITY	ARROWHEAD PHARMACEUTICALS INC	445488.78	5379	0.458489	0	
MML Small Cap Growth Equity Fund	EQUITY	HAMILTON LANE INC CLASS A	430906.48	4729	0.443481	0	
MML Small Cap Growth Equity Fund	EQUITY	REVOLUTION MEDICINES INC	430045.26	13549	0.442594	0	
MML Small Cap Growth Equity Fund	EQUITY	PTC THERAPEUTICS INC	428829.15	10145	0.441343	0	
MML Small Cap Growth Equity Fund	EQUITY	SPROUT SOCIAL INC CLASS A	462748.5	5175	0.42779	0	
MML Small Cap Growth Equity Fund	EQUITY	MYOVANT SCIENCES LTD	413184.42	18146	0.425242	0	
MML Small Cap Growth Equity Fund	EQUITY	ARENA PHARMACEUTICALS INC	459190.6	6733	0.424501	0	
MML Small Cap Growth Equity Fund	EQUITY	ROCKET PHARMACEUTICALS INC	410524.01	9269	0.422503	0	
MML Small Cap Growth Equity Fund	EQUITY	TCR2 THERAPEUTICS INC	400847.07	24427	0.412544	0	
MML Small Cap Growth Equity Fund	EQUITY	TURNING POINT THERAPEUTICS I	431996.74	5537	0.399362	0	
MML Small Cap Growth Equity Fund	EQUITY	ROCKET PHARMACEUTICALS INC	426911.31	9639	0.39466	0	
MML Small Cap Growth Equity Fund	EQUITY	KALVISTA PHARMACEUTICALS INC	378687.8	15805	0.389738	0	
MML Small Cap Growth Equity Fund	EQUITY	HEALTHY EQUITY INC	378256	4700	0.389294	0	
MML Small Cap Growth Equity Fund	EQUITY	TG THERAPEUTICS INC	420910.29	10851	0.389113	0	
MML Small Cap Growth Equity Fund	EQUITY	ALX ONCOLOGY HOLDINGS INC	390360.52	7139	0.360871	0	
MML Small Cap Growth Equity Fund	EQUITY	VERACYTE INC	389525.14	9743	0.360098	0	
MML Small Cap Growth Equity Fund	EQUITY	MERSANA THERAPEUTICS INC	349589.94	25743	0.359791	0	
MML Small Cap Growth Equity Fund	EQUITY	RAPT THERAPEUTICS INC	341901.45	10755	0.351878	0	
MML Small Cap Growth Equity Fund	EQUITY	BIOATLA INC	339590.94	8013	0.349501	0	
MML Small Cap Growth Equity Fund	EQUITY	IMMUNOGEN INC	321058.21	48719	0.330427	0	
MML Small Cap Growth Equity Fund	EQUITY	BIOATLA INC	353279.68	8336	0.326591	0	
MML Small Cap Growth Equity Fund	EQUITY	UROGEN PHARMA LTD	316486.02	20726	0.325721	0	
MML Small Cap Growth Equity Fund	EQUITY	SAGE THERAPEUTICS INC	351313.04	6184	0.324773	0	
MML Small Cap Growth Equity Fund	EQUITY	THERAVANCE BIOPHARMA INC	349801.32	24091	0.323376	0	
MML Small Cap Growth Equity Fund	EQUITY	AKERO THERAPEUTICS INC	344040.27	13867	0.31805	0	
MML Small Cap Growth Equity Fund	EQUITY	KARUNA THERAPEUTICS INC	306633.1	2690	0.315581	0	
MML Small Cap Growth Equity Fund	EQUITY	REATA PHARMACEUTICALS INC A	293108.63	2071	0.301662	0	
MML Small Cap Growth Equity Fund	EQUITY	KODIAK SCIENCES INC	325128	3496	0.300566	0	
MML Small Cap Growth Equity Fund	EQUITY	KURA ONCOLOGY INC	278389.2	13352	0.286513	0	
MML Small Cap Growth Equity Fund	EQUITY	SUNPOWER CORP	278174.4	9520	0.286292	0	
MML Small Cap Growth Equity Fund	EQUITY	MERSANA THERAPEUTICS INC	307736.38	22661	0.284488	0	
MML Small Cap Growth Equity Fund	EQUITY	REVOLUTION MEDICINES INC	284866.5	8975	0.263346	0	
MML Small Cap Growth Equity Fund	EQUITY	AMICUS THERAPEUTICS INC	284418.56	29504	0.262932	0	
MML Small Cap Growth Equity Fund	EQUITY	TCR2 THERAPEUTICS INC	247298.7	15070	0.228617	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Cap Growth Equity Fund	EQUITY	ARGAN INC	237229.56		4964	0.219308	0
MML Small Cap Growth Equity Fund	EQUITY	PORCH GROUP INC	210806		10900	0.216958	0
MML Small Cap Growth Equity Fund	EQUITY	THE HONEST COMPANY INC	133127.68		8512	0.137012	0
MML Small Cap Growth Equity Fund	EQUITY	PAYONEER GLOBAL INC PIPE	107520.65		10900	0.110658	0
MML Small Cap Growth Equity Fund	EQUITY	STEPSTONE GROUP INC CLASS A	86000		2500	0.079503	0
MML Small Cap Growth Equity Fund	EQUITY	FREELINE THERAPEUTICS HOLDIN	74319.85		9119	0.076489	0
MML Small Cap Growth Equity Fund	EQUITY	LEGALZOOMCOM INC	52990		1400	0.054536	0
MML Small Cap Growth Equity Fund	EQUITY	SENTINELONE INC CLASS A	38250		900	0.039366	0
MML Small Cap Growth Equity Fund	EQUITY	CLEAR SECURE INC CLASS A	36000		900	0.037051	0
MML Small Cap Growth Equity Fund	EQUITY	MARKLOGIC CORPORATION	298.56		22966	0.000307	0
MML Small Cap Growth Equity Fund	CASH	POUND STERLING	6.9		4.99	0.000006	0
MML Small Cap Growth Equity Fund	CASH	POUND STERLING	3.4		2.46	0.000003	0
MML Small Cap Growth Equity Fund	CASH	HONG KONG DOLLAR	1.47		11.42	0.000002	0
MML Small Cap Growth Equity Fund	EQUITY	DECARBONIZATION PLUS	0		27900	0	0
MML Small Cap Growth Equity Fund	EQUITY	ONE RIGHT	0		74800	0	0
MML Small Company Value Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	1672638.16	1672638.16		1.731653	7/1/2021
MML Small Company Value Fund	EQUITY	WESTERN ALLIANCE BANCORP	1584763.8		17068	1.640678	0
MML Small Company Value Fund	EQUITY	PINNACLE FINANCIAL PARTNERS	1339712.46		15174	1.386981	0
MML Small Company Value Fund	EQUITY	LITTELFUSE INC	1312932.87		5153	1.359256	0
MML Small Company Value Fund	EQUITY	UPF INDUSTRIES INC	1233597.96		16594	1.277122	0
MML Small Company Value Fund	EQUITY	MATADOR RESOURCES CO	1221891.32		33932	1.265003	0
MML Small Company Value Fund	EQUITY	HOME BANCSHARES INC	1219192		49400	1.262208	0
MML Small Company Value Fund	EQUITY	BELDEN INC	1185967.64		23452	1.227811	0
MML Small Company Value Fund	EQUITY	SELECT MEDICAL HOLDINGS CORP	1178082.02		27877	1.219648	0
MML Small Company Value Fund	EQUITY	CHESAPEAKE UTILITIES CORP	1136396.52		9444	1.176491	0
MML Small Company Value Fund	EQUITY	CHAMPIONX CORP	1132062.75		44135	1.172005	0
MML Small Company Value Fund	EQUITY	BANKUNITED INC	1114209		26100	1.153521	0
MML Small Company Value Fund	EQUITY	WSFS FINANCIAL CORP	1073852.91		23049	1.111741	0
MML Small Company Value Fund	EQUITY	DEVON ENERGY CORP	1028100.99		35221	1.064375	0
MML Small Company Value Fund	EQUITY	TERRENO REALTY CORP	994253.2		15410	1.029333	0
MML Small Company Value Fund	EQUITY	NOMAD FOODS LTD	976898.12		34556	1.011365	0
MML Small Company Value Fund	EQUITY	CONSTELLUM SE	965692		50960	0.999764	0
MML Small Company Value Fund	EQUITY	TRIUMPH GROUP INC	960974		46312	0.99488	0
MML Small Company Value Fund	EQUITY	ST JOE CO/THE	932661.27		20907	0.965568	0
MML Small Company Value Fund	EQUITY	LIVE OAK BANCSHARES INC	930312		15768	0.963136	0
MML Small Company Value Fund	EQUITY	VIRTUS INVESTMENT PARTNERS	878864.28		3164	0.909873	0
MML Small Company Value Fund	EQUITY	SUNSTONE HOTEL INVESTORS INC	869226.12		69986	0.899895	0
MML Small Company Value Fund	EQUITY	BEACON ROOFING SUPPLY INC	857484.75		16103	0.887739	0
MML Small Company Value Fund	EQUITY	HARMONIC INC	852170.4		100020	0.882237	0
MML Small Company Value Fund	EQUITY	HELIOS TECHNOLOGIES INC	848559.6		10872	0.878499	0
MML Small Company Value Fund	EQUITY	STRATEGIC EDUCATION INC	845787.2		11120	0.875629	0
MML Small Company Value Fund	EQUITY	EASTGROUP PROPERTIES INC	811396.3		4934	0.840024	0
MML Small Company Value Fund	EQUITY	MAGNOLIA OIL + GAS CORP A	802569.24		51348	0.830886	0
MML Small Company Value Fund	EQUITY	CACTUS INC A	790030.8		21515	0.817905	0
MML Small Company Value Fund	EQUITY	STEVEN MADDEN LTD	780984.72		17847	0.80854	0
MML Small Company Value Fund	EQUITY	TOWNE BANK	776440.08		25524	0.803835	0
MML Small Company Value Fund	EQUITY	CAVCO INDUSTRIES INC	771888.06		3474	0.799122	0
MML Small Company Value Fund	EQUITY	KORN FERRY	768159.4		10588	0.795262	0
MML Small Company Value Fund	EQUITY	HOUHLIHAN LOKEY INC	758684.04		9276	0.785452	0
MML Small Company Value Fund	EQUITY	POTLATCHDELTIC CORP	750159.1		14114	0.776627	0
MML Small Company Value Fund	EQUITY	POPULAR INC	742244.5		9890	0.768433	0
MML Small Company Value Fund	EQUITY	LIBERTY OILFIELD SERVICES A	741743.28		52383	0.767914	0
MML Small Company Value Fund	EQUITY	JBG SMITH PROPERTIES	723564.13		22963	0.749093	0
MML Small Company Value Fund	EQUITY	GLACIER BANCORP INC	721437.84		13098	0.746892	0
MML Small Company Value Fund	EQUITY	STERICYCLE INC	715571.55		10001	0.740819	0
MML Small Company Value Fund	EQUITY	WEBSTER FINANCIAL CORP	711182.22		13333	0.736274	0
MML Small Company Value Fund	EQUITY	CABLE ONE INC	709652.51		371	0.734691	0
MML Small Company Value Fund	EQUITY	ESCO TECHNOLOGIES INC	707796.45		7545	0.732769	0
MML Small Company Value Fund	EQUITY	RADIAN GROUP INC	707149.5		31782	0.732099	0
MML Small Company Value Fund	EQUITY	ONE GAS INC	694578.52		9371	0.719085	0
MML Small Company Value Fund	EQUITY	COLUMBIA BANKING SYSTEM INC	692576.16		17961	0.717012	0
MML Small Company Value Fund	EQUITY	FB FINANCIAL CORP	673215.48		18039	0.696968	0
MML Small Company Value Fund	EQUITY	LANDSTAR SYSTEM INC	657837.26		4163	0.681047	0
MML Small Company Value Fund	EQUITY	PROG HOLDINGS INC	652690.93		13561	0.675719	0
MML Small Company Value Fund	EQUITY	MGE ENERGY INC	649563.44		8726	0.672482	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Company Value Fund	EQUITY	CERIDIAN HCM HOLDING INC	640841.52		6681	0.663452	0
MML Small Company Value Fund	EQUITY	ATRION CORPORATION	638936.97		1029	0.66148	0
MML Small Company Value Fund	EQUITY	SAUL CENTERS INC	638799.75		14055	0.661338	0
MML Small Company Value Fund	EQUITY	NATIONAL BANK HOLD CL A	632937.54		16771	0.655269	0
MML Small Company Value Fund	EQUITY	MARRIOTT VACATIONS WORLD	626367.6		3932	0.648467	0
MML Small Company Value Fund	EQUITY	OPTION CARE HEALTH INC	622660.77		28471	0.64463	0
MML Small Company Value Fund	EQUITY	MCCRATH RENTCORP	619116.3		7590	0.64096	0
MML Small Company Value Fund	EQUITY	ENVISTA HOLDINGS CORP	615180.77		14237	0.636886	0
MML Small Company Value Fund	EQUITY	COCA COLA CONSOLIDATED INC	608824.82		1514	0.630306	0
MML Small Company Value Fund	EQUITY	CARPENTER TECHNOLOGY	608247.06		15123	0.629708	0
MML Small Company Value Fund	EQUITY	ENSIGN GROUP INC/THE	598716.36		6908	0.619841	0
MML Small Company Value Fund	EQUITY	ENTEGRIS INC	598126.08		4864	0.619229	0
MML Small Company Value Fund	EQUITY	ORIGIN BANCORP INC	595331.66		14021	0.616336	0
MML Small Company Value Fund	EQUITY	HARBORONE BANCORP INC	589058.52		41078	0.609842	0
MML Small Company Value Fund	EQUITY	ORION ENGINEERED CARBONS SA	584113.41		30759	0.604722	0
MML Small Company Value Fund	EQUITY	CALIFORNIA WATER SERVICE GRP	575283.32		10358	0.595581	0
MML Small Company Value Fund	EQUITY	POOL CORP	574242.32		1252	0.594503	0
MML Small Company Value Fund	EQUITY	PAPA JOHN S INTL INC	568258.04		5441	0.588308	0
MML Small Company Value Fund	EQUITY	MERIDIAN BANCORP INC	566967.06		27711	0.586971	0
MML Small Company Value Fund	EQUITY	HEALTHCARE REALTY TRUST INC	565706.4		18732	0.585666	0
MML Small Company Value Fund	EQUITY	MINERALS TECHNOLOGIES INC	562805.18		7154	0.582662	0
MML Small Company Value Fund	EQUITY	SPX CORP	561691.68		9196	0.58151	0
MML Small Company Value Fund	EQUITY	POST HOLDINGS INC	561440.72		5176	0.58125	0
MML Small Company Value Fund	EQUITY	BRADY CORPORATION CL A	554515.8		9895	0.57408	0
MML Small Company Value Fund	EQUITY	QUAKER CHEMICAL CORP	55388.65		2335	0.573379	0
MML Small Company Value Fund	EQUITY	DORMAN PRODUCTS INC	551213.39		5317	0.570662	0
MML Small Company Value Fund	EQUITY	PS BUSINESS PARKS INC/CA	548636.4		3705	0.567994	0
MML Small Company Value Fund	EQUITY	ATOTECH LTD	546444.12		21404	0.565724	0
MML Small Company Value Fund	EQUITY	BI S RESTAURANTS INC	546092.82		11113	0.56536	0
MML Small Company Value Fund	EQUITY	IDACORP INC	545220		5592	0.564457	0
MML Small Company Value Fund	EQUITY	PENNYMAC FINANCIAL SERVICES	538939.04		8732	0.557954	0
MML Small Company Value Fund	EQUITY	BRP GROUP INC A	535798.25		20105	0.554703	0
MML Small Company Value Fund	EQUITY	BOSTON OMAHA CORP CL A	533711.01		16831	0.552542	0
MML Small Company Value Fund	EQUITY	LCI INDUSTRIES	526468.52		4006	0.545044	0
MML Small Company Value Fund	EQUITY	VISTEON CORP	525363.36		4344	0.543899	0
MML Small Company Value Fund	EQUITY	MONRO INC	517225.44		8144	0.535474	0
MML Small Company Value Fund	EQUITY	SOUTHERN FIRST BANCSHARES	516920.64		10104	0.535159	0
MML Small Company Value Fund	EQUITY	ENERPAC TOOL GROUP CORP	516401.38		19399	0.534621	0
MML Small Company Value Fund	EQUITY	MSA SAFETY INC	513794.74		3103	0.531923	0
MML Small Company Value Fund	EQUITY	UNIVAR SOLUTIONS INC	511760.58		20991	0.529817	0
MML Small Company Value Fund	EQUITY	RELIANCE STEEL + ALUMINUM	501742.5		3325	0.519445	0
MML Small Company Value Fund	EQUITY	JAMES RIVER GROUP HOLDINGS L	494025.84		13167	0.511456	0
MML Small Company Value Fund	EQUITY	MERITAGE HOMES CORP	491003.52		5219	0.508327	0
MML Small Company Value Fund	EQUITY	HOWARD BANCORP INC	485771.08		30116	0.50291	0
MML Small Company Value Fund	EQUITY	CLEARWATER PAPER CORP	471110.14		16262	0.487732	0
MML Small Company Value Fund	EQUITY	HIBBETT INC	470647.13		5251	0.487253	0
MML Small Company Value Fund	EQUITY	REX AMERICAN RESOURCES CORP	463795.74		5143	0.48016	0
MML Small Company Value Fund	EQUITY	GREEN DOT CORP CLASS A	461753.6		9856	0.478045	0
MML Small Company Value Fund	EQUITY	SIMPLY GOOD FOODS CO/THE	461084.79		12629	0.477353	0
MML Small Company Value Fund	EQUITY	LUMBER LIQUIDATORS HOLDINGS	457490.2		21682	0.473632	0
MML Small Company Value Fund	EQUITY	MAXLINEAR INC	455960.19		10731	0.472048	0
MML Small Company Value Fund	EQUITY	TIMKEN CO	441552.61		5479	0.457132	0
MML Small Company Value Fund	EQUITY	PHREESIA INC	438111.1		7147	0.453569	0
MML Small Company Value Fund	EQUITY	AMERICAN CAMPUS COMMUNITIES	430851.84		9222	0.446053	0
MML Small Company Value Fund	EQUITY	SCHOLASTIC CORP	429975.72		11348	0.445146	0
MML Small Company Value Fund	EQUITY	MYERS INDUSTRIES INC	424998		20238	0.439993	0
MML Small Company Value Fund	EQUITY	PROASSURANCE CORP	419032.25		18419	0.433817	0
MML Small Company Value Fund	EQUITY	EASTERN BANKSHARES INC	415863.69		20217	0.430536	0
MML Small Company Value Fund	EQUITY	CIRCOR INTERNATIONAL INC	411477.2		12622	0.425995	0
MML Small Company Value Fund	EQUITY	HANESBRANDS INC	407267.38		21814	0.421637	0
MML Small Company Value Fund	EQUITY	WALKER + DUNLOP INC	397270.28		3806	0.411287	0
MML Small Company Value Fund	EQUITY	RED ROBIN GOURMET BURGERS	388711.4		11740	0.402426	0
MML Small Company Value Fund	EQUITY	SAFEHOLD INC	385670.5		4913	0.399278	0
MML Small Company Value Fund	EQUITY	WASHINGTON REIT	384583		16721	0.398152	0
MML Small Company Value Fund	EQUITY	SHOALS TECHNOLOGIES GROUP A	383471		10802	0.397001	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Company Value Fund	EQUITY	INDEPENDENT BANK CORP/MA		381728	5056	0.395196	0
MML Small Company Value Fund	EQUITY	JELD WEN HOLDING INC	372261.76		14176	0.385396	0
MML Small Company Value Fund	EQUITY	PENNANT GROUP INC/THE	366586.7		8963	0.379521	0
MML Small Company Value Fund	EQUITY	ADVANTAGE SOLUTIONS INC	365953.64		33916	0.378865	0
MML Small Company Value Fund	EQUITY	I3 VERTICALS INC CLASS A	364664.74		12067	0.377531	0
MML Small Company Value Fund	EQUITY	BUE BIRD CORP	364298.44		14654	0.377152	0
MML Small Company Value Fund	EQUITY	PALOMAR HOLDINGS INC	354963.84		4704	0.367488	0
MML Small Company Value Fund	EQUITY	GROCERY OUTLET HOLDING CORP	354051.9		10215	0.366544	0
MML Small Company Value Fund	EQUITY	PETCO HEALTH AND WELLNESS CO	349909.74		15614	0.362255	0
MML Small Company Value Fund	EQUITY	RESIDEO TECHNOLOGIES INC	342990		11433	0.355092	0
MML Small Company Value Fund	EQUITY	THRYV HOLDINGS INC	342104.28		9564	0.354175	0
MML Small Company Value Fund	EQUITY	PLANET FITNESS INC. CL A	341334		4536	0.353377	0
MML Small Company Value Fund	EQUITY	CROSSFIRST BANKSHARES INC	341178.75		24813	0.353216	0
MML Small Company Value Fund	EQUITY	PARSONS CORP	340778.88		8658	0.352802	0
MML Small Company Value Fund	EQUITY	ULTRAGENYX PHARMACEUTICAL INC	319613.2		3352	0.33089	0
MML Small Company Value Fund	EQUITY	ACCELERON PHARMA INC	319497.54		2546	0.33077	0
MML Small Company Value Fund	EQUITY	AGILITI INC	319476.96		14608	0.330749	0
MML Small Company Value Fund	EQUITY	THERMON GROUP HOLDINGS INC	315291.12		18503	0.326415	0
MML Small Company Value Fund	EQUITY	MATSON INC	309504		4836	0.320424	0
MML Small Company Value Fund	EQUITY	RYDER SYSTEM INC	305050.32		4104	0.315813	0
MML Small Company Value Fund	EQUITY	ESSENTIAL PROPERTIES REALTY	302469.44		11186	0.313141	0
MML Small Company Value Fund	EQUITY	STATE AUTO FINANCIAL CORP	297066.24		17352	0.307547	0
MML Small Company Value Fund	EQUITY	WORKIVA INC	296137.8		2660	0.306586	0
MML Small Company Value Fund	EQUITY	ALAMO GROUP INC	294825.08		1931	0.305227	0
MML Small Company Value Fund	EQUITY	ONTO INNOVATION INC	292379.12		4003	0.302695	0
MML Small Company Value Fund	EQUITY	INTERNATIONAL SEAWAYS INC	290960.6		15170	0.301226	0
MML Small Company Value Fund	EQUITY	NORTHWESTERN CORP	290681.94		4827	0.300938	0
MML Small Company Value Fund	EQUITY	SEMTECH CORP	284006.4		4128	0.294027	0
MML Small Company Value Fund	EQUITY	RUSH ENTERPRISES INC CL A	266271.92		6158	0.275667	0
MML Small Company Value Fund	EQUITY	REPLIMUNE GROUP INC	263599.62		6861	0.2729	0
MML Small Company Value Fund	EQUITY	AMERICAN VANGUARD CORP	262544.94		14994	0.271808	0
MML Small Company Value Fund	EQUITY	FTI CONSULTING INC	258192.9		1890	0.267303	0
MML Small Company Value Fund	EQUITY	HERITAGE FINANCIAL CORP	254803.68		10184	0.263794	0
MML Small Company Value Fund	EQUITY	UNIFIRST CORP/MA	253880.48		1082	0.262838	0
MML Small Company Value Fund	EQUITY	AIR LEASE CORP	247893.86		5939	0.25664	0
MML Small Company Value Fund	EQUITY	AMERESCO INC CL A	243416.32		3881	0.252005	0
MML Small Company Value Fund	EQUITY	AARON S CO INC/THE	240276.89		7511	0.248754	0
MML Small Company Value Fund	EQUITY	GOODYEAR TIRE + RUBBER CO	240100		14000	0.248571	0
MML Small Company Value Fund	EQUITY	ABM INDUSTRIES INC	239490		5400	0.24794	0
MML Small Company Value Fund	EQUITY	APARTMENT INVNT + MGMT CO A	235494.16		35096	0.243803	0
MML Small Company Value Fund	EQUITY	CHART INDUSTRIES INC	233819.36		1598	0.242069	0
MML Small Company Value Fund	EQUITY	BLUEPRINT MEDICINES CORP	228871.92		2602	0.236947	0
MML Small Company Value Fund	EQUITY	ORTHO CLINICAL DIAGNOSTICS H	226582.03		10583	0.234576	0
MML Small Company Value Fund	EQUITY	POSHMARK INC CLASS A	222563.88		4662	0.230416	0
MML Small Company Value Fund	EQUITY	NCINO INC	221464.32		3696	0.229278	0
MML Small Company Value Fund	EQUITY	ALLEGIANTRAVEL CO	220966		1139	0.228762	0
MML Small Company Value Fund	EQUITY	INSMED INC	218174.36		7666	0.225872	0
MML Small Company Value Fund	EQUITY	PRA GROUP INC	211392.65		5495	0.218851	0
MML Small Company Value Fund	EQUITY	PCSB FINANCIAL CORP	204939.43		11279	0.21217	0
MML Small Company Value Fund	EQUITY	KODIAK SCIENCES INC	195951		2107	0.202865	0
MML Small Company Value Fund	EQUITY	ATLANTIC CAPITAL BANCSHARES	193496		7600	0.200323	0
MML Small Company Value Fund	EQUITY	C4 THERAPEUTICS INC	191129.84		5051	0.197873	0
MML Small Company Value Fund	EQUITY	KELLY SERVICES INC A	187061.88		7804	0.193662	0
MML Small Company Value Fund	EQUITY	ARVINAS INC	183953		2389	0.190443	0
MML Small Company Value Fund	EQUITY	MOLINA HEALTHCARE INC	177395.06		701	0.183654	0
MML Small Company Value Fund	EQUITY	XENCOR INC	175554.1		5090	0.181748	0
MML Small Company Value Fund	EQUITY	STEPSTONE GROUP INC CLASS A	173651.2		5048	0.179778	0
MML Small Company Value Fund	EQUITY	TURNING POINT THERAPEUTICS I	171644		2200	0.1777	0
MML Small Company Value Fund	EQUITY	KARUNA THERAPEUTICS INC	147617.05		1295	0.152825	0
MML Small Company Value Fund	EQUITY	QUIDEL CORP	143366.28		1119	0.148425	0
MML Small Company Value Fund	EQUITY	BALLY S CORP	132461.28		2448	0.137135	0
MML Small Company Value Fund	EQUITY	ALCOA CORP	115935.48		3147	0.120026	0
MML Small Company Value Fund	EQUITY	KYMERA THERAPEUTICS INC	111550		2300	0.115486	0
MML Small Company Value Fund	EQUITY	INTEGRAL AD SCIENCE HOLDING	96767.16		4702	0.100181	0
MML Small Company Value Fund	EQUITY	XOMETRY INC A	77165.37		883	0.079888	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small Company Value Fund	EQUITY	KNOWLES CORP	75564.72		3828	0.078231	0
MML Small Company Value Fund	EQUITY	MULTIPLAN CORP	58214.8		6115	0.060269	0
MML Small Company Value Fund	EQUITY	DOUBLEVERIFY HOLDINGS INC	53475.42		1263	0.055362	0
MML Small Company Value Fund	EQUITY	FIGS INC CLASS A	40180.2		802	0.041598	0
MML Small Company Value Fund	EQUITY	ADVANTAGE SOLUTIONS INC	8642.79		3471	0.008948	0
MML Small Company Value Fund	CASH EQUIVALENT	ROWE T PRICE GOV RES FD	99.99		99.99	0.000104	1
MML Small/Mid Cap Value Fund	EQUITY	ROBERT HALF INTL INC	3503460.66		39378	1.760262	0
MML Small/Mid Cap Value Fund	EQUITY	PULTEGROUP INC	3336409.8		61140	1.67633	0
MML Small/Mid Cap Value Fund	EQUITY	MEDNAX INC	3245346		107640	1.630576	0
MML Small/Mid Cap Value Fund	EQUITY	SEALED AIR CORP	3128400		52800	1.571819	0
MML Small/Mid Cap Value Fund	EQUITY	OSHKOSH CORP	3089950.24		24791	1.5525	0
MML Small/Mid Cap Value Fund	EQUITY	FIRST CITIZENS BCSHS CL A	3080305.26		3699	1.547654	0
MML Small/Mid Cap Value Fund	EQUITY	COMERICA INC	2999847		42050	1.507229	0
MML Small/Mid Cap Value Fund	EQUITY	SYNOVUS FINANCIAL CORP	2858957.52		65154	1.436441	0
MML Small/Mid Cap Value Fund	EQUITY	AECOM	2855098.8		45090	1.434503	0
MML Small/Mid Cap Value Fund	EQUITY	IDACORP INC	2836372.5		29091	1.425094	0
MML Small/Mid Cap Value Fund	EQUITY	STAG INDUSTRIAL INC	2835023.06		75742	1.424416	0
MML Small/Mid Cap Value Fund	EQUITY	RELIANCE STEEL + ALUMINUM	2834656.5		18785	1.424232	0
MML Small/Mid Cap Value Fund	EQUITY	HAIN CELESTIAL GROUP INC	2796965.8		69715	1.405294	0
MML Small/Mid Cap Value Fund	EQUITY	REGAL БЕЛОIT CORP	2786620.72		20872	1.400097	0
MML Small/Mid Cap Value Fund	EQUITY	KORN FERRY	2762704		38080	1.38808	0
MML Small/Mid Cap Value Fund	EQUITY	STIFEL FINANCIAL CORP	2744875.2		42320	1.379122	0
MML Small/Mid Cap Value Fund	EQUITY	KNIGHT SWIFT TRANSPORTATION	2720008.18		59833	1.366628	0
MML Small/Mid Cap Value Fund	EQUITY	HERMAN MILLER INC	2711021.4		57510	1.362113	0
MML Small/Mid Cap Value Fund	EQUITY	SCIENTIFIC GAMES CORP	2660064		34350	1.33651	0
MML Small/Mid Cap Value Fund	EQUITY	PHYSICIANS REALTY TRUST	2636647.91		142753	1.324745	0
MML Small/Mid Cap Value Fund	EQUITY	WINTRUST FINANCIAL CORP	2578983		34100	1.295772	0
MML Small/Mid Cap Value Fund	EQUITY	NOMAD FOODS LTD	2576442.99		91137	1.294496	0
MML Small/Mid Cap Value Fund	EQUITY	TEXAS CAPITAL BANCSHARES INC	2570583.12		40488	1.291552	0
MML Small/Mid Cap Value Fund	EQUITY	RALPH LAUREN CORP	2535271.2		21520	1.27381	0
MML Small/Mid Cap Value Fund	EQUITY	STERLING BANCORP/DE	2532348.08		102152	1.272341	0
MML Small/Mid Cap Value Fund	EQUITY	AVNET INC	2513817.6		62720	1.263031	0
MML Small/Mid Cap Value Fund	EQUITY	GOODYEAR TIRE + RUBBER CO	2500298.5		145790	1.256238	0
MML Small/Mid Cap Value Fund	EQUITY	SPIRIT AEROSYSTEMS HOLD CL A	2494463.4		52860	1.253307	0
MML Small/Mid Cap Value Fund	EQUITY	MGM GROWTH PROPERTIES LLC A	2480235.98		67729	1.246158	0
MML Small/Mid Cap Value Fund	EQUITY	WEBSTER FINANCIAL CORP	2462121.06		46159	1.237057	0
MML Small/Mid Cap Value Fund	EQUITY	CARPENTER TECHNOLOGY	2432304.5		60475	1.222076	0
MML Small/Mid Cap Value Fund	EQUITY	CAMDEN PROPERTY TRUST	2391774.76		18028	1.201712	0
MML Small/Mid Cap Value Fund	EQUITY	BANKUNITED INC	2370106.11		55519	1.190825	0
MML Small/Mid Cap Value Fund	EQUITY	CUBESMART	2361115.68		50974	1.186308	0
MML Small/Mid Cap Value Fund	EQUITY	AMERICAN FINANCIAL GROUP INC	2341992.16		18778	1.1767	0
MML Small/Mid Cap Value Fund	EQUITY	SALLY BEAUTY HOLDINGS INC	2318232.8		105040	1.164762	0
MML Small/Mid Cap Value Fund	EQUITY	EVEREST RE GROUP LTD	2311183.71		9171	1.16122	0
MML Small/Mid Cap Value Fund	EQUITY	CARTER S INC	2288310.6		22180	1.149728	0
MML Small/Mid Cap Value Fund	EQUITY	CIMAREX ENERGY CO	2245515.3		30994	1.128226	0
MML Small/Mid Cap Value Fund	EQUITY	MASONITE INTERNATIONAL CORP	2223614.89		19891	1.117223	0
MML Small/Mid Cap Value Fund	EQUITY	COMMERCIAL METALS CO	2186342.4		71170	1.098496	0
MML Small/Mid Cap Value Fund	EQUITY	TAPESTRY INC	2168347.6		49870	1.089454	0
MML Small/Mid Cap Value Fund	EQUITY	TIMKEN CO	2159006.1		26790	1.084761	0
MML Small/Mid Cap Value Fund	EQUITY	HOLLYFRONTIER CORP	2143270.5		65145	1.076855	0
MML Small/Mid Cap Value Fund	EQUITY	CRITEO SA SPON ADR	2107763.23		46601	1.059015	0
MML Small/Mid Cap Value Fund	EQUITY	RLJ LOGGING TRUST	2087972.08		137096	1.049071	0
MML Small/Mid Cap Value Fund	EQUITY	BELDEN INC	2080652.08		41144	1.045393	0
MML Small/Mid Cap Value Fund	EQUITY	KB HOME	2054731.2		50460	1.03237	0
MML Small/Mid Cap Value Fund	EQUITY	PAPA JOHN S INTL INC	2046084.04		19591	1.028025	0
MML Small/Mid Cap Value Fund	EQUITY	ZIONS BANCORP NA	2032361.28		38448	1.02113	0
MML Small/Mid Cap Value Fund	EQUITY	XPO LOGISTICS INC	2024068.41		14469	1.016963	0
MML Small/Mid Cap Value Fund	EQUITY	ADT INC	2022153.9		187410	1.016002	0
MML Small/Mid Cap Value Fund	EQUITY	KULICKE + SOFFA INDUSTRIES	1981166.4		32372	0.995408	0
MML Small/Mid Cap Value Fund	EQUITY	SKYWEST INC	1949218.99		45257	0.979356	0
MML Small/Mid Cap Value Fund	EQUITY	CRANE CO	1938292.08		20984	0.973866	0
MML Small/Mid Cap Value Fund	EQUITY	DINE BRANDS GLOBAL INC	1930566.75		21631	0.969985	0
MML Small/Mid Cap Value Fund	EQUITY	VERTIV HOLDINGS CO	1927380		70600	0.968384	0
MML Small/Mid Cap Value Fund	EQUITY	HERC HOLDINGS INC	1909672.8		17040	0.959487	0
MML Small/Mid Cap Value Fund	EQUITY	KONTOOR BRANDS INC	1906093.9		33790	0.957689	0

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Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Small/Mid Cap Value Fund	EQUITY	HANOVER INSURANCE GROUP INC/	1900045.12		14008	0.95465	0
MML Small/Mid Cap Value Fund	EQUITY	WILLIAMS SONOMA INC	1896801.65		11881	0.95302	0
MML Small/Mid Cap Value Fund	EQUITY	ALASKA AIR GROUP INC	1867921.32		30972	0.93851	0
MML Small/Mid Cap Value Fund	EQUITY	VOYA FINANCIAL INC	1843032		29968	0.926004	0
MML Small/Mid Cap Value Fund	EQUITY	FOOT LOCKER INC	1806560.19		29313	0.90768	0
MML Small/Mid Cap Value Fund	EQUITY	TRINSEO SA	1793584.32		29973	0.90116	0
MML Small/Mid Cap Value Fund	EQUITY	COUSINS PROPERTIES INC	1746314.4		47480	0.87741	0
MML Small/Mid Cap Value Fund	EQUITY	MOELIS + CO CLASS A	1743735.39		30651	0.876114	0
MML Small/Mid Cap Value Fund	EQUITY	LEAR CORP	1726508		9850	0.867459	0
MML Small/Mid Cap Value Fund	EQUITY	BRUNSWICK CORP	1719540.82		17261	0.863958	0
MML Small/Mid Cap Value Fund	EQUITY	AMERICAN CAMPUS COMMUNITIES	1658653.44		35502	0.833366	0
MML Small/Mid Cap Value Fund	EQUITY	HILTON GRAND VACATIONS INC	1648149.8		39820	0.828089	0
MML Small/Mid Cap Value Fund	EQUITY	UMPQUA HOLDINGS CORP	1611939.6		87368	0.809895	0
MML Small/Mid Cap Value Fund	EQUITY	GCP APPLIED TECHNOLOGIES	1557001.14		66939	0.782292	0
MML Small/Mid Cap Value Fund	EQUITY	COMMVAULT SYSTEMS INC	1534164.42		19626	0.770818	0
MML Small/Mid Cap Value Fund	EQUITY	ONEMAIN HOLDINGS INC	1532737.44		25584	0.770101	0
MML Small/Mid Cap Value Fund	EQUITY	GATX CORP	1528761.6		17280	0.768104	0
MML Small/Mid Cap Value Fund	EQUITY	ORION ENGINEERED CARBONS SA	1523947.5		80250	0.765685	0
MML Small/Mid Cap Value Fund	EQUITY	MRC GLOBAL INC	1520967		161805	0.764188	0
MML Small/Mid Cap Value Fund	EQUITY	SELECTIVE INSURANCE GROUP	1496162.55		18437	0.751725	0
MML Small/Mid Cap Value Fund	EQUITY	STEVEN MADDEN LTD	1493091.2		34120	0.750182	0
MML Small/Mid Cap Value Fund	EQUITY	HILLENBRAND INC	1451995.2		32940	0.729534	0
MML Small/Mid Cap Value Fund	EQUITY	GENPACT LTD	1428773.5		31450	0.717866	0
MML Small/Mid Cap Value Fund	EQUITY	AMDOCS LTD	1425280.64		18424	0.716111	0
MML Small/Mid Cap Value Fund	EQUITY	LUMENTUM HOLDINGS INC	1412556.6		17220	0.709718	0
MML Small/Mid Cap Value Fund	EQUITY	NCR CORPORATION	1404559.95		30795	0.705701	0
MML Small/Mid Cap Value Fund	EQUITY	TAYLOR MORRISON HOME CORP	1373681.48		51994	0.690186	0
MML Small/Mid Cap Value Fund	EQUITY	DANA INC	1359689.76		57226	0.683156	0
MML Small/Mid Cap Value Fund	EQUITY	DRIL QUIP INC	1344810.16		39752	0.67568	0
MML Small/Mid Cap Value Fund	EQUITY	SOUTHWEST GAS HOLDINGS INC	1324461.9		20010	0.665456	0
MML Small/Mid Cap Value Fund	EQUITY	MAXLINEAR INC	1209647.81		28469	0.60777	0
MML Small/Mid Cap Value Fund	EQUITY	FIRST HAWAIIAN INC	1205583.6		42540	0.605728	0
MML Small/Mid Cap Value Fund	EQUITY	HOUGHTON MIFFLIN HARCOURT CO	1186689.6		107490	0.596235	0
MML Small/Mid Cap Value Fund	EQUITY	INNOPEC INC	1161892.03		12823	0.583776	0
MML Small/Mid Cap Value Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	755942.16	755942.16		0.379812	7/1/2021
MML Small/Mid Cap Value Fund	EQUITY	KENNAMETAL INC	173780.96		4838	0.087314	0
MML Small/Mid Cap Value Fund	EQUITY	AAR CORP	52273.75		1349	0.026264	0
MML Small/Mid Cap Value Fund	CASH	US DOLLAR	2757.5	2757.5		0.001385	0
MML Special Situations Fund	EQUITY	ZOOM VIDEO COMMUNICATIONS A	3523134.09		9103	8.425095	0
MML Special Situations Fund	EQUITY	SNAP INC A	3337360.92		48978	7.980844	0
MML Special Situations Fund	EQUITY	UBER TECHNOLOGIES INC	3097516.24		61802	7.407288	0
MML Special Situations Fund	EQUITY	DOW INC	2466907.52		38984	5.899273	0
MML Special Situations Fund	EQUITY	PINTEREST INC CLASS A	2254890.95		28561	5.392265	0
MML Special Situations Fund	EQUITY	CARRIER GLOBAL CORP	2071818		42630	4.954471	0
MML Special Situations Fund	EQUITY	OTIS WORLDWIDE CORP	1721422.04		21052	4.116546	0
MML Special Situations Fund	EQUITY	CORTEVA INC	1706055.8		38468	4.0798	0
MML Special Situations Fund	EQUITY	FORTIVE CORP	1232096.58		17667	2.946391	0
MML Special Situations Fund	EQUITY	AIRBNB INC CLASS A	1173358.68		7662	2.805928	0
MML Special Situations Fund	EQUITY	INVITATION HOMES INC	1104678.96		29624	2.641689	0
MML Special Situations Fund	EQUITY	AVANTOR INC	960154.89		27039	2.29608	0
MML Special Situations Fund	EQUITY	VICI PROPERTIES INC	869397.54		28027	2.079046	0
MML Special Situations Fund	EQUITY	ELANCO ANIMAL HEALTH INC	856322.65		24685	2.047779	0
MML Special Situations Fund	EQUITY	LYFT INC A	809464.32		13384	1.935724	0
MML Special Situations Fund	EQUITY	SNOWFLAKE INC CLASS A	784641		3245	1.876362	0
MML Special Situations Fund	EQUITY	LAMB WESTON HOLDINGS INC	615758.44		7634	1.472502	0
MML Special Situations Fund	EQUITY	EQUITABLE HOLDINGS INC	612532.2		20116	1.464787	0
MML Special Situations Fund	EQUITY	PENN NATIONAL GAMING INC	592950.48		7752	1.41796	0
MML Special Situations Fund	EQUITY	DROPBOX INC CLASS A	467865.16		15436	1.118836	0
MML Special Situations Fund	EQUITY	TRADEWEB MARKETS INC CLASS A	462289.52		5467	1.105502	0
MML Special Situations Fund	EQUITY	ATHENE HOLDING LTD CLASS A	439020		6504	1.049857	0
MML Special Situations Fund	EQUITY	ALTICE USA INC A	410089.68		12012	0.980674	0
MML Special Situations Fund	EQUITY	ORGANON + CO	399583.3		13205	0.955549	0
MML Special Situations Fund	EQUITY	VIMEO INC	395969		8081	0.946906	0
MML Special Situations Fund	EQUITY	APARTMENT INCOME REIT CO	388167.12		8184	0.928249	0
MML Special Situations Fund	EQUITY	IAA INC	383579.82		7033	0.917279	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Special Situations Fund	EQUITY	ALCOA CORP	359005.8		9745	0.858513	0
MML Special Situations Fund	EQUITY	WYNDHAM HOTELS + RESORTS INC	352341.46		4874	0.842577	0
MML Special Situations Fund	EQUITY	CONCENTRIX CORP	349418.4		2173	0.835587	0
MML Special Situations Fund	EQUITY	CHEWY INC CLASS A	346818.21		4351	0.829369	0
MML Special Situations Fund	EQUITY	DOORDASH INC A	329018.85		1845	0.786804	0
MML Special Situations Fund	EQUITY	AZEK CO INC/THE	312038.54		7349	0.746198	0
MML Special Situations Fund	EQUITY	VONTIER CORP	286997.22		8809	0.686315	0
MML Special Situations Fund	EQUITY	ZOOMINFO TECHNOLOGIES INC A	280987.62		5386	0.671944	0
MML Special Situations Fund	EQUITY	NVENT ELECTRIC PLC	273381.24		8751	0.653754	0
MML Special Situations Fund	EQUITY	PPD INC	261883.38		5682	0.626258	0
MML Special Situations Fund	EQUITY	PARK HOTELS + RESORTS INC	254368.62		12342	0.608288	0
MML Special Situations Fund	EQUITY	CHAMPIONX CORP	250651.8		9772	0.5994	0
MML Special Situations Fund	EQUITY	RESIDEO TECHNOLOGIES INC	225210		7507	0.538559	0
MML Special Situations Fund	EQUITY	FRONTDOOR INC	222795.04		4472	0.532784	0
MML Special Situations Fund	EQUITY	ADIANT PLC	222248.4		4917	0.531477	0
MML Special Situations Fund	EQUITY	MARAVAI LIFESCIENCES HLDGS A	211696.29		5073	0.506243	0
MML Special Situations Fund	EQUITY	BRIGHTHOUSE FINANCIAL INC	203882.58		4477	0.487557	0
MML Special Situations Fund	EQUITY	ROBLOX CORP CLASS A	193906.9		2155	0.463702	0
MML Special Situations Fund	EQUITY	ROYALTY PHARMA PLC CL A	184905.89		4511	0.442177	0
MML Special Situations Fund	EQUITY	HILTON GRAND VACATIONS INC	184764.96		4464	0.44184	0
MML Special Situations Fund	EQUITY	JBG SMITH PROPERTIES	181655.15		5765	0.434404	0
MML Special Situations Fund	EQUITY	EQUITRANS MIDSTREAM CORP	180556.67		21217	0.431777	0
MML Special Situations Fund	EQUITY	AFFIRM HOLDINGS INC	176389.65		2619	0.421812	0
MML Special Situations Fund	EQUITY	WARNER MUSIC GROUP CORP CL A	175911.24		4881	0.420668	0
MML Special Situations Fund	EQUITY	BUMBLE INC A	158457.6		2751	0.37893	0
MML Special Situations Fund	EQUITY	ARCOSA INC	147672.36		2514	0.353138	0
MML Special Situations Fund	EQUITY	SHOALS TECHNOLOGIES GROUP A	147325		4150	0.352308	0
MML Special Situations Fund	EQUITY	COVETRUS INC	140508		5204	0.336006	0
MML Special Situations Fund	EQUITY	KONTOOR BRANDS INC	139107.06		2466	0.332656	0
MML Special Situations Fund	EQUITY	ROCKET COS INC CLASS A	137810.7		7122	0.329556	0
MML Special Situations Fund	EQUITY	TUSIMPLE HOLDINGS INC A	123815.12		1738	0.296087	0
MML Special Situations Fund	EQUITY	QUALTRICS INTERNATIONAL CL A	114826.5		3002	0.274592	0
MML Special Situations Fund	EQUITY	VEONEER INC	112968.05		4901	0.270148	0
MML Special Situations Fund	EQUITY	AVAYA HOLDINGS CORP	106846.8		3972	0.25551	0
MML Special Situations Fund	EQUITY	NEWMARK GROUP INC CLASS A	102241.13		8513	0.244496	0
MML Special Situations Fund	EQUITY	APPROVIN CORP CLASS A	102005.69		1357	0.243933	0
MML Special Situations Fund	EQUITY	AGILON HEALTH INC	99315.36		2448	0.237499	0
MML Special Situations Fund	EQUITY	SOTERA HEALTH CO	92994.74		3838	0.222384	0
MML Special Situations Fund	EQUITY	ORTHO CLINICAL DIAGNOSTICS H	89236.88		4168	0.213398	0
MML Special Situations Fund	EQUITY	ARRAY TECHNOLOGIES INC	88920		5700	0.21264	0
MML Special Situations Fund	EQUITY	PLAYTIKA HOLDING CORP	86634.56		3634	0.207175	0
MML Special Situations Fund	EQUITY	REYNOLDS CONSUMER PRODUCTS I	86376.1		2846	0.206557	0
MML Special Situations Fund	EQUITY	PETCO HEALTH AND WELLNESS CO	84754.62		3782	0.202679	0
MML Special Situations Fund	EQUITY	UIPATH INC CLASS A	77440.2		1140	0.185188	0
MML Special Situations Fund	EQUITY	MADISON SQUARE GARDEN ENTERT	77336.37		921	0.184939	0
MML Special Situations Fund	CASH	US DOLLAR	73219.86	73219.86		0.175095	0
MML Special Situations Fund	EQUITY	MARQETA INC A	66582.04		2372	0.159222	0
MML Special Situations Fund	EQUITY	VAREX IMAGING CORP	55007.82		2051	0.131544	0
MML Special Situations Fund	EQUITY	C3.AI INC A	54025.92		864	0.129196	0
MML Special Situations Fund	EQUITY	DRIVEN BRANDS HOLDINGS INC	51327.2		1660	0.122742	0
MML Special Situations Fund	EQUITY	OSCAR HEALTH INC CLASS A	42527		1978	0.101698	0
MML Strategic Emerging Markets Fund	EQUITY	TAIWAN SEMICONDUCTOR MANUFAC	8178914.31		383000	7.320989	0
MML Strategic Emerging Markets Fund	EQUITY	TENCENT HOLDINGS LTD	7154016.88		95109	6.403598	0
MML Strategic Emerging Markets Fund	EQUITY	HOUSING DEVELOPMENT FINANCE	4850482.41		145237	4.341692	0
MML Strategic Emerging Markets Fund	EQUITY	GRAB HOLDINGS INC PREF H SHARE	4809436.24		350542	4.304952	0
MML Strategic Emerging Markets Fund	EQUITY	NOVATEK PJSC SPONS GDR REG S	4250236.78		19370	3.804409	0
MML Strategic Emerging Markets Fund	EQUITY	YUM CHINA HOLDINGS INC	3752201.25		56637	3.358615	0
MML Strategic Emerging Markets Fund	EQUITY	KERING	3705924.06		4235	3.317192	0
MML Strategic Emerging Markets Fund	EQUITY	AIA GROUP LTD	3659003.39		294400	3.275193	0
MML Strategic Emerging Markets Fund	EQUITY	VALE SA SP ADR	3299580.55		144655	2.953472	0
MML Strategic Emerging Markets Fund	EQUITY	YANDEX NV A	3296808.5		46598	2.950991	0
MML Strategic Emerging Markets Fund	EQUITY	HUAZHU GROUP LTD ADR	3159886.35		59835	2.828431	0
MML Strategic Emerging Markets Fund	EQUITY	KOTAK MAHINDRA BANK LTD	3103809.49		135214	2.778236	0
MML Strategic Emerging Markets Fund	EQUITY	TATA CONSULTANCY SVCS LTD	2745055.6		60829	2.457114	0
MML Strategic Emerging Markets Fund	EQUITY	MEITUAN CLASS B	2651560.84		64200	2.373426	0

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Strategic Emerging Markets Fund	EQUITY	GRUPO MEXICO SAB DE CV SER B	2365959.37	501948	2.117783	0	
MML Strategic Emerging Markets Fund	EQUITY	PINDUODUO INC ADR	2139651.9	16845	1.915214	0	
MML Strategic Emerging Markets Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	2137770.49	17657	1.91353	0	
MML Strategic Emerging Markets Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2123598.44	2123598.44	1.900844	0	7/1/2021
MML Strategic Emerging Markets Fund	EQUITY	WUXI BIOLOGICS CAYMAN INC	2043660.38	111500	1.829291	0	
MML Strategic Emerging Markets Fund	EQUITY	NETEASE INC ADR	1889293.25	16393	1.691116	0	
MML Strategic Emerging Markets Fund	EQUITY	ZTO EXPRESS CAYMAN INC ADR	1759419.85	57971	1.574866	0	
MML Strategic Emerging Markets Fund	EQUITY	FOMENTO ECONOMICO MEXICA UBD	1681684.71	198818	1.505285	0	
MML Strategic Emerging Markets Fund	EQUITY	SAMSUNG BIOLOGICS CO LTD	1658590.63	2222	1.484613	0	
MML Strategic Emerging Markets Fund	EQUITY	PING AN INSURANCE GROUP CO A	1603621.57	161162	1.43541	0	
MML Strategic Emerging Markets Fund	EQUITY	INFOSYS LTD	1502976.97	71250	1.345323	0	
MML Strategic Emerging Markets Fund	EQUITY	LOJAS AMERICANAS SA PREF	1401072.97	322922	1.254108	0	
MML Strategic Emerging Markets Fund	EQUITY	ALIBABA GROUP HOLDING SP ADR	1396284.46	6157	1.249822	0	
MML Strategic Emerging Markets Fund	EQUITY	PERINOD RICARD SA	1335523.94	6017	1.195434	0	
MML Strategic Emerging Markets Fund	EQUITY	PRADA S.P.A.	1320325.72	173900	1.18183	0	
MML Strategic Emerging Markets Fund	EQUITY	WALMART DE MEXICO SAB DE CV	1319720.32	404044	1.181289	0	
MML Strategic Emerging Markets Fund	EQUITY	BEIGENE LTD ADR	1238572.71	3609	1.108653	0	
MML Strategic Emerging Markets Fund	EQUITY	SM INVESTMENTS CORP	1196406.23	58435	1.070909	0	
MML Strategic Emerging Markets Fund	EQUITY	SAMSUNG ELECTRONICS CO LTD	1117705.32	15594	1.000464	0	
MML Strategic Emerging Markets Fund	EQUITY	ZEE ENTERTAINMENT ENTERPRISE	913281.46	315798	0.817483	0	
MML Strategic Emerging Markets Fund	EQUITY	BANCO BRADESCO SA PREF	795675.6	153810	0.712213	0	
MML Strategic Emerging Markets Fund	EQUITY	NEW ORIENTAL EDUCATIO SP ADR	776092.59	94761	0.694685	0	
MML Strategic Emerging Markets Fund	EQUITY	BANK CENTRAL ASIA TBK PT	765611.95	368500	0.685303	0	
MML Strategic Emerging Markets Fund	EQUITY	KUAISHOU TECHNOLOGY	765220.3	30500	0.684953	0	
MML Strategic Emerging Markets Fund	EQUITY	KUALA LAND INC	734591.71	994600	0.657537	0	
MML Strategic Emerging Markets Fund	EQUITY	AMBEV SA	703944.45	205113	0.630104	0	
MML Strategic Emerging Markets Fund	EQUITY	PAGSEGURO DIGITAL LTD CL A	701740.08	12549	0.628131	0	
MML Strategic Emerging Markets Fund	EQUITY	B3 SA BRASIL BOLSA BALCAO	684321.52	202359	0.61254	0	
MML Strategic Emerging Markets Fund	EQUITY	BUDWEISER BREWING CO APAC LT	666658.63	211800	0.59673	0	
MML Strategic Emerging Markets Fund	EQUITY	FIRSTRAND LTD	654929.89	174444	0.586231	0	
MML Strategic Emerging Markets Fund	EQUITY	FALABELLA SA	651020.27	146258	0.582732	0	
MML Strategic Emerging Markets Fund	EQUITY	COMMERCIAL INTERNATIONAL BAN	567618.32	169690	0.508078	0	
MML Strategic Emerging Markets Fund	EQUITY	TENCENT MUSIC ENTERTAINM ADR	565004.52	36499	0.505739	0	
MML Strategic Emerging Markets Fund	EQUITY	MONCLER SPA	546217.56	8069	0.488922	0	
MML Strategic Emerging Markets Fund	EQUITY	POLYUS PJSC	536257.66	2773	0.480007	0	
MML Strategic Emerging Markets Fund	EQUITY	FULL TRUCK ALLIANCE SPN ADR	529818.86	25997	0.474244	0	
MML Strategic Emerging Markets Fund	EQUITY	HDFC BANK LIMITED	516661.03	25633	0.462466	0	
MML Strategic Emerging Markets Fund	EQUITY	CREDICORP LTD	470027.91	3881	0.420724	0	
MML Strategic Emerging Markets Fund	EQUITY	OBEROI REALTY LTD	456254.36	53869	0.408396	0	
MML Strategic Emerging Markets Fund	EQUITY	JIANGSU HENGRUI MEDICINE C A	450589.77	42824	0.403325	0	
MML Strategic Emerging Markets Fund	EQUITY	LOJAS RENNER S.A.	449076.16	50500	0.40197	0	
MML Strategic Emerging Markets Fund	EQUITY	ZAI LAB LTD ADR	447784.7	2530	0.400814	0	
MML Strategic Emerging Markets Fund	EQUITY	INNOVENT BIOLOGICS INC	408207.22	35000	0.365388	0	
MML Strategic Emerging Markets Fund	EQUITY	TAL EDUCATION GROUP ADR	385943.31	15297	0.34546	0	
MML Strategic Emerging Markets Fund	EQUITY	SM PRIME HOLDINGS INC	385341.08	515112	0.344921	0	
MML Strategic Emerging Markets Fund	EQUITY	FOMENTO ECONOMICO MEX SP ADR	382576.77	4527	0.342446	0	
MML Strategic Emerging Markets Fund	EQUITY	ONECONNECT FINANCIAL TECHNO	372427.68	30984	0.333362	0	
MML Strategic Emerging Markets Fund	EQUITY	GREE ELECTRIC APPLIANCES I A	363757.85	45100	0.325602	0	
MML Strategic Emerging Markets Fund	EQUITY	PRUDENTIAL PLC	357125.65	18822	0.319665	0	
MML Strategic Emerging Markets Fund	EQUITY	GRUPO AVAL ACCIONES Y VALORE	329574	57820	0.295003	0	
MML Strategic Emerging Markets Fund	EQUITY	GRUPO AEROPORT DEL SURESTE B	312696.79	16984	0.279897	0	
MML Strategic Emerging Markets Fund	EQUITY	AKBANK T.A.S.	301302.22	495533	0.269697	0	
MML Strategic Emerging Markets Fund	EQUITY	ALSEA SAB DE CV	285265.1	159285	0.255342	0	
MML Strategic Emerging Markets Fund	CASH	INDIAN RUPEE	267726.57	19900115.87	0.239643	0	
MML Strategic Emerging Markets Fund	EQUITY	POLYUS PJSC 144A GDR	260257.5	2690	0.232958	0	
MML Strategic Emerging Markets Fund	EQUITY	GODREJ PROPERTIES LTD	249452.39	13286	0.223286	0	
MML Strategic Emerging Markets Fund	EQUITY	BANK RAKYAT INDONESIA PERSER	248355.86	914000	0.222305	0	
MML Strategic Emerging Markets Fund	EQUITY	NEW HORIZON HEALTH LTD	244498.95	24000	0.218852	0	
MML Strategic Emerging Markets Fund	EQUITY	HDFC LIFE INSURANCE CO LTD	235770.82	25449	0.21104	0	
MML Strategic Emerging Markets Fund	EQUITY	INPOST SA	234298.19	11662	0.209722	0	
MML Strategic Emerging Markets Fund	EQUITY	SBERBANK OF RUSSIA PJSC	230951.79	55417	0.206726	0	
MML Strategic Emerging Markets Fund	EQUITY	SUNNY OPTICAL TECH	217499.17	6900	0.194685	0	
MML Strategic Emerging Markets Fund	EQUITY	CONTEMPORARY AMPEREX TECHN A	190493.1	2300	0.170511	0	
MML Strategic Emerging Markets Fund	EQUITY	TURKIYE GARANTI BANKASI	176190.51	184307	0.157709	0	
MML Strategic Emerging Markets Fund	EQUITY	REMEGEN CO LTD H	161776.85	10659	0.144807	0	

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Strategic Emerging Markets Fund	EQUITY	BLUE MOON GROUP HOLDINGS LTD	157521.43	111432	0.140998	0	
MML Strategic Emerging Markets Fund	EQUITY	INDOCEMENT TUNGGAL PRAKARSA	155069.38	218397	0.138803	0	
MML Strategic Emerging Markets Fund	EQUITY	ZTO EXPRESS CAYMAN INC	140187.88	4637	0.125483	0	
MML Strategic Emerging Markets Fund	EQUITY	SEMEN INDONESIA PERSERO TBK	122653.55	187200	0.109788	0	
MML Strategic Emerging Markets Fund	EQUITY	HAVELLS INDIA LTD	90054.74	6811	0.080608	0	
MML Strategic Emerging Markets Fund	EQUITY	HANSOH PHARMACEUTICAL GROUP	78593.72	18000	0.07035	0	
MML Strategic Emerging Markets Fund	EQUITY	LVMH MOET HENNESSY LOUIS VUI	56532.01	72	0.050602	0	
MML Strategic Emerging Markets Fund	EQUITY	CIE FINANCIERE RICHEMO A REG	32598.5	48648	0.029179	0	
MML Strategic Emerging Markets Fund	EQUITY	ALIBABA GROUP HOLDING LTD	25499.52	900	0.022825	0	
MML Strategic Emerging Markets Fund	CASH	THAILAND BAHT	22605.27	724498.96	0.020234	0	
MML Strategic Emerging Markets Fund	CASH	HONG KONG DOLLAR	15351.45	119193.29	0.013741	0	
MML Strategic Emerging Markets Fund	EQUITY	ZEE ENTERTAINMENT ENTERP	13489.06	503840	0.012074	0	
MML Strategic Emerging Markets Fund	CASH	EGYPTIAN POUND	5565.5	87350.58	0.004982	0	
MML Strategic Emerging Markets Fund	EQUITY	POLYUS PJSC 144A GDR	3483	36	0.003118	0	
MML Strategic Emerging Markets Fund	EQUITY	NOVATEK PJSC SPONS GDR REG S	219.3	1	0.000196	0	
MML Strategic Emerging Markets Fund	CASH	MEXICAN PESO (NEW)	190.46	3796.61	0.00017	0	
MML Strategic Emerging Markets Fund	CASH	SOUTH AFRICAN RAND	168.19	2401.73	0.000151	0	
MML Strategic Emerging Markets Fund	CASH	POUND STERLING	147.71	106.78	0.000132	0	
MML Strategic Emerging Markets Fund	CASH	SWISS FRANC	117.05	108.3	0.000105	0	
MML Strategic Emerging Markets Fund	CASH	PHILIPPINE PESO	9.69	473.2	0.000009	0	
MML Strategic Emerging Markets Fund	CASH	EURO CURRENCY	2.99	2.52	0.000003	0	
MML Strategic Emerging Markets Fund	CASH	YUAN RENMINBI	0.15	1	0	0	
MML Strategic Emerging Markets Fund	CASH	INDONESIAN RUPIAH	0	1.04	0	0	
MML Strategic Emerging Markets Fund	CASH	SOUTH KOREAN WON	0.55	616	0	0	
MML Strategic Emerging Markets Fund	CASH	RUSSIAN RUBLE	0	-0.01	0	0	
MML Strategic Emerging Markets Fund	CASH	NEW TAIWAN DOLLAR	0.18	5	0	0	
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	32395281.41	32465000	8.074609	0.125	5/31/2023
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	23567653.1	23610000	5.8743	0.125	4/30/2023
MML Total Return Bond Fund	FIXED INCOME	FNMA TBA 30 YR 2.5	22207147.9	21500000	5.53519	2.5	8/12/2051
MML Total Return Bond Fund	FIXED INCOME	FNMA TBA 30 YR 2	22045454.81	21850000	5.494888	2	8/12/2051
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	16909579.04	15825000	4.214757	2.375	5/15/2051
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	15050903.39	15130000	3.751477	0.75	5/31/2026
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	13337494.36	13400000	3.324406	0.75	4/30/2026
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	11112580	11140000	2.76984	0.125	6/30/2023
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	11005024.21	11005000	2.743031	0.875	6/30/2026
MML Total Return Bond Fund	FIXED INCOME	FNMA TBA 15 YR 2	5693124.09	5525000	1.419026	2	8/17/2036
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	5549658.18	5550000	1.383267	0	8/19/2021
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	4681203.08	4605000	1.166802	1.625	5/15/2031
MML Total Return Bond Fund	FIXED INCOME	GNMA II TBA 30 YR 2.5	4573479.55	4425000	1.139952	2.5	8/19/2051
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	4159603.64	4356000	1.036792	1.875	2/15/2051
MML Total Return Bond Fund	FIXED INCOME	FNMA TBA 15 YR 1.5	4092714.95	4050000	1.02012	1.5	8/17/2036
MML Total Return Bond Fund	FIXED INCOME	US TREASURY N/B	3936631.48	4017000	0.981216	1.875	2/15/2041
MML Total Return Bond Fund	FIXED INCOME	GNMA II TBA 30 YR 2	3383057.49	3325000	0.843236	2	8/19/2051
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	3294880.82	3295000	0.821258	0	7/29/2021
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67707	3001749.08	2763531.05	0.748194	3.5	1/1/2048
MML Total Return Bond Fund	CASH EQUIVALENT	FIXED INC CLEARING CORP.REPO	2963113.45	2963113.45	0.738564	0	7/1/2021
MML Total Return Bond Fund	FIXED INCOME	CASH MGMT BILL	2844658.6	2845000	0.709039	0	10/5/2021
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA4176	2064112.65	2022379.63	0.514486	2	11/1/2040
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	1894968.68	1895000	0.472326	0	7/15/2021
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	1854659.14	1855000	0.462279	0	11/4/2021
MML Total Return Bond Fund	FIXED INCOME	MIDAMERICAN ENERGY CO	1822016.92	1400000	0.454143	4.8	9/15/2043
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G07848	1770141.43	1619297.84	0.441212	3.5	4/1/2044
MML Total Return Bond Fund	FIXED INCOME	AT+T INC	1764397.47	1692000	0.439781	3.8	12/1/2057
MML Total Return Bond Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	1751596.24	1767183.86	0.43659	0.3815	8/25/2036
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G60023	1730053.12	1584891.05	0.43122	3.5	4/1/2045
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	1724957.89	1725000	0.42995	0	7/20/2021
MML Total Return Bond Fund	FIXED INCOME	FREDDIE MAC	1650030.21	1536897.78	0.411274	3.25	4/15/2053
MML Total Return Bond Fund	FIXED INCOME	VENTAS REALTY LP	1619260.7	1500000	0.403605	3.5	2/1/2025
MML Total Return Bond Fund	FIXED INCOME	SAXON ASSET SECURITIES TRUST	1584080.39	1835583.19	0.394836	0.3315	5/25/2047
MML Total Return Bond Fund	FIXED INCOME	GE CAPITAL INTL FUNDING	1566345.34	1305000	0.390416	4.418	11/15/2035
MML Total Return Bond Fund	FIXED INCOME	CVS HEALTH CORP	1494166.25	1150000	0.372425	5.05	3/25/2048
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67710	1487419.95	1394503.88	0.370743	3.5	3/1/2048
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4900	1480130.61	1398627.02	0.368926	3.5	12/20/2047
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	1440279.56	1430000	0.358993	2.42575	10/25/2083
MML Total Return Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	1428728	1400000	0.356114	5.596	1/7/2022

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	1419939.25		1420000	0.353924	0 8/5/2021
MML Total Return Bond Fund	FIXED INCOME	COLLEGIATE FUNDING SERVICES ED	1419544.27		1439719.2	0.353825	0.346 3/28/2035
MML Total Return Bond Fund	FIXED INCOME	SPRINT SPECTRUM / SPEC I	1418186.81		1321875	0.353487	4.738 3/20/2025
MML Total Return Bond Fund	CASH EQUIVALENT	TREASURY BILL	1409906.78		1410000	0.351423	0 8/26/2021
MML Total Return Bond Fund	FIXED INCOME	MORGAN STANLEY CAPITAL INC	1334639.56		1371678.87	0.332662	0.6715 1/25/2036
MML Total Return Bond Fund	FIXED INCOME	VODAFONE GROUP PLC	1327754.88		1052000	0.330946	4.875 6/19/2049
MML Total Return Bond Fund	FIXED INCOME	HARBORVIEW MORTGAGE LOAN TRUST	1256610.03		1479257.17	0.313213	0.29338 11/19/2036
MML Total Return Bond Fund	FIXED INCOME	LOS ANGELES CA UNIF SCH DIST	1252867.8		1000000	0.312281	5.755 7/1/2029
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA1148	1246589.79		1155722.28	0.310716	3.5 8/1/2042
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE MORTGAGE TRUST	1234628.6		1170470.32	0.307734	3.85 9/25/2057
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67703	1227139.3		1138185.86	0.305868	3.5 4/1/2047
MML Total Return Bond Fund	FIXED INCOME	FARMERS EXCHANGE CAP III	1215515.61		970000	0.30297	5.454 10/15/2054
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08726	1203414.11		1143367.43	0.299954	3 10/1/2046
MML Total Return Bond Fund	FIXED INCOME	LG+E AND KU ENERGY LLC	1200000		1200000	0.299103	4.375 10/1/2021
MML Total Return Bond Fund	FIXED INCOME	DUKE ENERGY CAROLINAS	1179305.01		1000000	0.293945	4 9/30/2042
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08741	1168532.03		1110555.59	0.29126	3 1/1/2047
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA5399	1132131.3		1049797.47	0.282187	4.5 8/20/2048
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67706	1129440.71		1048557.01	0.281516	3.5 12/1/2047
MML Total Return Bond Fund	FIXED INCOME	GS MORTGAGE BACKED SECURITIES	1127320.46		1106470.25	0.280988	3.75 10/25/2057
MML Total Return Bond Fund	FIXED INCOME	ANHEUSER BUSCH CO/INBEV	1110581.28		880000	0.276815	4.9 2/1/2046
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67711	1087367.33		994201.87	0.271029	4 3/1/2048
MML Total Return Bond Fund	FIXED INCOME	COUNTRYWIDE ALTERNATIVE LOAN T	1063438.06		1129120.58	0.265065	0.6915 8/25/2035
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL BL1132	1061454.88		920000	0.26457	3.73 1/1/2029
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	1055434.05		1052803.2	0.26307	1.27575 7/25/2023
MML Total Return Bond Fund	FIXED INCOME	COUNTRYWIDE ALTERNATIVE LOAN T	1053670.73		1104672.58	0.26263	0.3015 7/25/2046
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA4152	1052255.82		1031296.67	0.262278	2 10/1/2040
MML Total Return Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	1037754.27		1040000	0.258663	1.542 9/10/2027
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4126	1031955.69		979133.31	0.257218	3 12/20/2046
MML Total Return Bond Fund	FIXED INCOME	MAGNETITE CLO LTD	992924.1		992862.54	0.247489	0.98375 1/15/2028
MML Total Return Bond Fund	FIXED INCOME	TRICON AMERICAN HOMES	984831.19		981900.81	0.245472	2.716 9/17/2034
MML Total Return Bond Fund	FIXED INCOME	NOMURA ASSET ACCEPTANCE CORP	982685.25		991664.37	0.244937	1.1615 2/25/2035
MML Total Return Bond Fund	FIXED INCOME	BAYER US FINANCE II LLC	974634.12		850000	0.24293	4.375 12/15/2028
MML Total Return Bond Fund	FIXED INCOME	DRYDEN SENIOR LOAN FUND	972855		975000	0.242487	1.08375 4/15/2029
MML Total Return Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	964280.8		895000	0.24035	2.95 10/1/2026
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G60344	958374.98		874761.91	0.238877	4 12/1/2045
MML Total Return Bond Fund	FIXED INCOME	NEW YORK NY	919206.83		750000	0.229115	5.206 10/1/2031
MML Total Return Bond Fund	FIXED INCOME	NEW YORK ST DORM AUTH ST PERSO	913581.38		750000	0.227713	5.289 3/15/2033
MML Total Return Bond Fund	FIXED INCOME	CIGNA CORP	896847.48		800000	0.223542	4.125 11/15/2025
MML Total Return Bond Fund	FIXED INCOME	INDYMAC INDX MORTGAGE LOAN TRU	896183.69		1494786.23	0.223376	0.3615 10/25/2036
MML Total Return Bond Fund	FIXED INCOME	BSPT 2018 FL3 ISSUER, LTD	876725.94		877000	0.218526	1.42288 3/15/2028
MML Total Return Bond Fund	FIXED INCOME	NELNET STUDENT LOAN TRUST	872525.57		879844.47	0.217479	0.6815 4/25/2046
MML Total Return Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	870822.58		870000	0.217055	2.013 9/22/2028
MML Total Return Bond Fund	FIXED INCOME	JERSEY CENTRAL PWR + LT	870436.83		800000	0.216959	4.7 4/1/2024
MML Total Return Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	869850		900000	0.216812	6.625 6/15/2035
MML Total Return Bond Fund	FIXED INCOME	JERSEY CITY NJ MUNI UTILITIES	862860.86		745000	0.21507	5.47 5/15/2027
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G18627	853697.73		809134.26	0.212786	3 1/1/2032
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL CA1710	853160.57		792737.93	0.212653	4.5 5/1/2048
MML Total Return Bond Fund	FIXED INCOME	BAT CAPITAL CORP	851310.82		800000	0.212191	4.54 8/15/2047
MML Total Return Bond Fund	FIXED INCOME	ROCKFORD TOWER CLO LTD	851263.1		850000	0.21218	1.25303 7/20/2034
MML Total Return Bond Fund	FIXED INCOME	ALLEGRO CLO LTD	850283.9		850000	0.211936	1.466 1/21/2032
MML Total Return Bond Fund	FIXED INCOME	FLATIRON CLO LTD	850084.15		850000	0.211886	1.7513 7/19/2034
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67700	845638		783884.59	0.210778	3.5 8/1/2046
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	841905.24		859290.58	0.209847	0.7915 1/25/2029
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08716	828267.86		777524.22	0.206448	3.5 8/1/2046
MML Total Return Bond Fund	FIXED INCOME	WELLS FARGO HOME EQUITY TRUST	821036.14		825670.13	0.204645	1.1415 10/25/2034
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G61556	814326.82		760311.05	0.202973	3 8/1/2048
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL ZM1779	812456.95		772196.41	0.202507	3.5 9/1/2046
MML Total Return Bond Fund	FIXED INCOME	CEDAR FUNDING LTD	800332.8		800000	0.199485	1.26 7/15/2033
MML Total Return Bond Fund	FIXED INCOME	GLP CAPITAL LP / FIN II	799951.95		695000	0.19939	5.375 4/15/2026
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	789611.73		783183.44	0.196813	1.67575 4/25/2023
MML Total Return Bond Fund	FIXED INCOME	CENTERPOINT ENERGY RESOU	777389.85		595000	0.193766	6.25 2/1/2037
MML Total Return Bond Fund	FIXED INCOME	BAYER US FINANCE II LLC	753842.62		635000	0.187897	4.625 6/25/2038
MML Total Return Bond Fund	FIXED INCOME	AIMCO	751365		750000	0.18728	1.56375 10/15/2031
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	744618.14		737038.29	0.185598	0.7415 5/26/2026
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	729736.73		724267.93	0.181889	1.0415 9/25/2028

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	FIXED INCOME	INDYMAC INDX MORTGAGE LOAN TRU	723232.14	786879.52	0.180268	2.78945	10/25/2035
MML Total Return Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	720992.89	715000	0.179709	1.658	3/11/2027
MML Total Return Bond Fund	FIXED INCOME	HCA INC	714935.29	647000	0.1782	5	3/15/2024
MML Total Return Bond Fund	FIXED INCOME	RBCF TRUST	714223.42	670000	0.178022	3.961387	1/15/2032
MML Total Return Bond Fund	FIXED INCOME	AMCOR FINANCE USA INC	712730.97	650000	0.17765	3.625	4/28/2026
MML Total Return Bond Fund	FIXED INCOME	BANC OF AMERICA MERRILL LYNCH	711935.52	620000	0.177452	4.227108	8/10/2038
MML Total Return Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	705695.59	700000	0.175896	1.734	7/22/2027
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	700568.26	700000	0.174618	2.02575	7/25/2073
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	700091.6	714034.84	0.1745	0.50575	1/25/2022
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL FN0039	698281.26	633309.99	0.174048	3.182	9/1/2027
MML Total Return Bond Fund	FIXED INCOME	BANK OF AMERICA CORP	690932.1	685000	0.172217	2.087	6/14/2029
MML Total Return Bond Fund	FIXED INCOME	SLM STUDENT LOAN TRUST	685760.25	691765.19	0.170928	0.82575	1/25/2022
MML Total Return Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	683836.02	675000	0.170448	4.2	11/6/2021
MML Total Return Bond Fund	FIXED INCOME	AMERICAN CAMPUS CMNTYS	681005.62	650000	0.169742	3.75	4/15/2023
MML Total Return Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	680061.17	655000	0.169507	2.164	2/11/2026
MML Total Return Bond Fund	FIXED INCOME	SFAVE COMMERCIAL MORTGAGE SECU	677907.32	655000	0.16897	3.872	1/5/2043
MML Total Return Bond Fund	FIXED INCOME	HCA INC	674068.5	525000	0.168013	5.25	6/15/2049
MML Total Return Bond Fund	FIXED INCOME	SANTANDER UK GROUP HLDGS	671164.61	645000	0.16729	3.373	1/5/2024
MML Total Return Bond Fund	FIXED INCOME	INTEL CORP	664712.2	500000	0.165681	4.75	3/25/2050
MML Total Return Bond Fund	FIXED INCOME	BOEING CO	663054.04	660000	0.165268	1.167	2/4/2023
MML Total Return Bond Fund	FIXED INCOME	IMPAC CMB TRUST	657591.05	680836.02	0.163906	0.6115	4/25/2035
MML Total Return Bond Fund	FIXED INCOME	AMERICAN HOME MORTGAGE INVESTM	643963.18	642725.23	0.16051	2.17875	6/25/2045
MML Total Return Bond Fund	FIXED INCOME	WASHINGTON MUTUAL MORTGAGE PAS	633686.56	651248.12	0.157948	5.75	2/25/2036
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08742	633489.46	595027.98	0.157899	3.5	1/1/2047
MML Total Return Bond Fund	FIXED INCOME	AT+I INC	628964.97	634000	0.156771	2.55	12/1/2033
MML Total Return Bond Fund	FIXED INCOME	UNITED MEXICAN STATES	623893.82	638000	0.155507	2.659	5/24/2031
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL BL6060	594691.89	570000	0.148229	2.455	4/1/2040
MML Total Return Bond Fund	FIXED INCOME	LEVEL 3 FINANCING INC	590436	600000	0.147168	0	3/1/2027
MML Total Return Bond Fund	FIXED INCOME	AIR LEASE CORP	584497.42	575000	0.145688	3.5	1/15/2022
MML Total Return Bond Fund	FIXED INCOME	KRAFT HEINZ FOODS CO	582347.12	480000	0.145152	4.875	10/1/2049
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4262	580279.27	546671.49	0.144636	3.5	2/20/2047
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08711	579964.45	544413.13	0.144558	3.5	6/1/2046
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA5466	574396.82	540926.1	0.14317	4	9/20/2048
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL CA2208	569929.88	529228.16	0.142057	4.5	8/1/2048
MML Total Return Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	563161.12	550000	0.140369	3.15	6/30/2022
MML Total Return Bond Fund	FIXED INCOME	JERSEY CENTRAL PWR + LT	562713.01	425000	0.140258	6.4	5/15/2036
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4127	562626.45	529885.06	0.140236	3.5	12/20/2046
MML Total Return Bond Fund	FIXED INCOME	ORACLE CORP	552773.3	505000	0.13778	3.95	3/25/2051
MML Total Return Bond Fund	FIXED INCOME	SANTANDER UK GROUP HLDGS	541779.01	540000	0.13504	1.089	3/15/2025
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA5078	534321.23	501194.53	0.133181	4	3/20/2048
MML Total Return Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	521875.36	510000	0.130079	2.55	3/21/2031
MML Total Return Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	519414.7	490000	0.129465	2.879	10/30/2030
MML Total Return Bond Fund	FIXED INCOME	TEACHERS INSUR + ANNUITY	516178.96	500000	0.128659	3.3	5/15/2050
MML Total Return Bond Fund	CASH	US DOLLAR	515800.75	515800.75	0.128565	0	
MML Total Return Bond Fund	FIXED INCOME	LLOYDS BANKING GROUP PLC	515496.57	515000	0.128489	1.627	5/11/2027
MML Total Return Bond Fund	FIXED INCOME	SL GREEN OPERATING PARTN	514599.96	500000	0.128265	3.25	10/15/2022
MML Total Return Bond Fund	FIXED INCOME	COMMONSPIRIT HEALTH	514201.68	495000	0.128166	2.782	10/1/2030
MML Total Return Bond Fund	FIXED INCOME	CITIGROUP INC	513225.47	515000	0.127923	1.462	6/9/2027
MML Total Return Bond Fund	FIXED INCOME	MACQUARIE GROUP LTD	512935.1	515000	0.12785	1.629	9/23/2027
MML Total Return Bond Fund	FIXED INCOME	FANNIE MAE	512806.03	485959.4	0.127818	3	6/25/2048
MML Total Return Bond Fund	FIXED INCOME	ATHENE GLOBAL FUNDING	509075.35	505000	0.126888	0.724737	5/24/2024
MML Total Return Bond Fund	FIXED INCOME	ONE BRYANT PARK TRUST	508463.79	490000	0.126736	2.51641	9/15/2054
MML Total Return Bond Fund	FIXED INCOME	MORGAN STANLEY	508366.01	505000	0.126712	1.593	5/4/2027
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	506947.44	495000	0.126358	2.193	6/5/2026
MML Total Return Bond Fund	FIXED INCOME	AETNA INC	504718.55	485000	0.125802	2.8	6/15/2023
MML Total Return Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	504614.26	505000	0.125776	0.976	5/24/2025
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA1146	503228.84	459515.12	0.125431	4	8/1/2042
MML Total Return Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	502813.42	500000	0.125328	1.578	4/22/2027
MML Total Return Bond Fund	FIXED INCOME	TCI FLATIRON CLO LTD	500138.5	500000	0.124661	1.33975	1/17/2032
MML Total Return Bond Fund	FIXED INCOME	GOLDMAN SACHS GROUP INC	498806.8	500000	0.124329	1.431	3/9/2027
MML Total Return Bond Fund	FIXED INCOME	INTL FLAVOR + FRAGRANCES	491777.66	380000	0.122577	5	9/26/2048
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08816	490378.94	465629.03	0.122228	3.5	6/1/2048
MML Total Return Bond Fund	FIXED INCOME	MKT 2020 525M MORTGAGE TRUST	488148.26	465000	0.121672	2.694	2/12/2040
MML Total Return Bond Fund	FIXED INCOME	ABBVIE INC	485041.41	400000	0.120898	4.45	5/14/2046
MML Total Return Bond Fund	FIXED INCOME	WAMU MORTGAGE PASS THROUGH CER	483713.29	489021.52	0.120567	0.6715	10/25/2045

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	FIXED INCOME	WAMU MORTGAGE PASS THROUGH CER	477395.74	480251.07	0.118992	0.7515	1/25/2045
MML Total Return Bond Fund	FIXED INCOME	SANTANDER UK PLC	474228.3	435000	0.118203	5	11/7/2023
MML Total Return Bond Fund	FIXED INCOME	CALI MORTGAGE TRUST 2019 101C	473815.09	415000	0.1181	3.957	3/10/2039
MML Total Return Bond Fund	FIXED INCOME	LCM LTD PARTNERSHIP	471313.43	471298.35	0.117476	1.06825	4/20/2028
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	467054.69	394000	0.116415	5.4	10/1/2047
MML Total Return Bond Fund	FIXED INCOME	ACCESS GROUP INC	465378.11	462348.94	0.115997	0.7915	7/25/2056
MML Total Return Bond Fund	FIXED INCOME	CENTENE CORP	465357.84	453000	0.115992	3	10/15/2030
MML Total Return Bond Fund	FIXED INCOME	BAYER US FINANCE II LLC	464895.52	370000	0.115876	4.875	6/25/2048
MML Total Return Bond Fund	FIXED INCOME	GOVERNMENT NATIONAL MORTGAGE A	463955.71	433774.95	0.115642	3.5	9/20/2048
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	462914.18	400000	0.115383	5.15	3/15/2045
MML Total Return Bond Fund	FIXED INCOME	IHS MARKIT LTD	453722.5	385000	0.113092	4.75	8/1/2028
MML Total Return Bond Fund	FIXED INCOME	LLOYDS BANKING GROUP PLC	437337.31	430000	0.109007	2.858	3/17/2023
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08732	436645.92	414858.62	0.108835	3	11/1/2046
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA1607	436538.6	412699.94	0.108808	3	10/1/2033
MML Total Return Bond Fund	FIXED INCOME	AMWINS GROUP INC	434879.87	437800	0.108395	0	2/19/2028
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA6209	434744.89	423542.98	0.108361	3	10/20/2049
MML Total Return Bond Fund	FIXED INCOME	BAT CAPITAL CORP	431635.53	400000	0.107586	4.39	8/15/2037
MML Total Return Bond Fund	FIXED INCOME	EXXON MOBIL CORPORATION	428080.2	393000	0.1067	3.452	4/15/2051
MML Total Return Bond Fund	FIXED INCOME	JP MORGAN CHASE COMMERCIAL MOR	425363.17	385000	0.106023	3.3973	6/5/2039
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	424907.3	375000	0.105909	4.55	4/17/2026
MML Total Return Bond Fund	FIXED INCOME	JPMORGAN CHASE +	420529.2	420000	0.104818	0.969	6/23/2025
MML Total Return Bond Fund	FIXED INCOME	HUDSON YARDS	420250.79	385000	0.104749	3.228	7/10/2039
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4836	417431.72	396240.99	0.104046	3	11/20/2047
MML Total Return Bond Fund	FIXED INCOME	GENERAL ELECTRIC CO	416690.66	300000	0.103861	6.75	3/15/2032
MML Total Return Bond Fund	FIXED INCOME	WELLS FARGO + COMPANY	415058	400000	0.103454	2.393	6/2/2028
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	414375	375000	0.103284	3.75	4/15/2027
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA3811	413485.13	401583.13	0.103062	3	10/1/2049
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA3521	413065.63	388913.3	0.102958	3.5	3/20/2046
MML Total Return Bond Fund	FIXED INCOME	BERRY GLOBAL INC	410123	410000	0.102224	1.57	1/15/2026
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4837	407382.07	384949.52	0.101541	3.5	11/20/2047
MML Total Return Bond Fund	FIXED INCOME	ELANCO ANIMAL HEALTH INCORPORA	406100.13	412632.1	0.101222	0	8/2/2027
MML Total Return Bond Fund	FIXED INCOME	HUDSON YARDS	404742.19	375000	0.100883	3.040893	12/10/2041
MML Total Return Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	404482.96	405000	0.100818	1.06775	10/12/2021
MML Total Return Bond Fund	FIXED INCOME	FED REPUBLIC OF BRAZIL	403772	400000	0.100641	3.875	6/12/2030
MML Total Return Bond Fund	FIXED INCOME	DC OFFICE TRUST	401436.6	375000	0.100059	2.965	9/15/2045
MML Total Return Bond Fund	FIXED INCOME	NATIONWIDE BLDG SOCIETY	393743.98	375000	0.098142	3.766	3/8/2024
MML Total Return Bond Fund	FIXED INCOME	RUBY PIPELINE LLC	393203.23	431818.18	0.098007	8	4/1/2022
MML Total Return Bond Fund	FIXED INCOME	GALAXY PIPELINE ASSETS	392519.51	400000	0.097837	2.16	3/31/2034
MML Total Return Bond Fund	FIXED INCOME	NATIXIS COMMERCIAL MORTGAGE SE	392247.23	375000	0.097769	2.966	12/15/2038
MML Total Return Bond Fund	FIXED INCOME	HCA INC	388846.75	345000	0.096921	4.125	6/15/2029
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AM2808	386157.11	375000	0.096251	2.7	3/1/2023
MML Total Return Bond Fund	FIXED INCOME	REYNOLDS AMERICAN INC	385936.9	315000	0.096196	5.85	8/15/2045
MML Total Return Bond Fund	FIXED INCOME	FANNIE MAE	385198.01	378379.16	0.096012	3.5	5/25/2046
MML Total Return Bond Fund	FIXED INCOME	GE CAPITAL FUNDING LLC	384939.51	330000	0.095947	4.4	5/15/2030
MML Total Return Bond Fund	FIXED INCOME	BSPRT 2018 FL4 ISSUER, LTD.	383794.24	383793.51	0.095662	1.12288	9/15/2035
MML Total Return Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	383742.5	395000	0.095649	5.95	1/28/2031
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AB4262	380752.16	357346.33	0.094903	3.5	1/1/2032
MML Total Return Bond Fund	FIXED INCOME	CPT MORTGAGE TRUST	379062.93	355000	0.094482	2.865	11/13/2039
MML Total Return Bond Fund	FIXED INCOME	AT+I INC	376756.39	310000	0.093908	4.75	5/15/2046
MML Total Return Bond Fund	FIXED INCOME	HORIZON THERAPEUTICS USA INC	372303.75	375000	0.092798	0	3/15/2028
MML Total Return Bond Fund	FIXED INCOME	WALT DISNEY COMPANY/THE	363018.93	320000	0.090483	3.6	1/13/2051
MML Total Return Bond Fund	FIXED INCOME	GLP CAPITAL LP / FIN II	361150	310000	0.090018	5.3	1/15/2029
MML Total Return Bond Fund	FIXED INCOME	KRAFT HEINZ FOODS CO	359057.33	250000	0.089496	6.875	1/26/2039
MML Total Return Bond Fund	FIXED INCOME	TENCENT HOLDINGS LTD	358882.51	335000	0.089452	3.68	4/22/2041
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA3027	356907.41	332353.13	0.08896	4	6/1/2047
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	346885.07	300000	0.086462	4.95	6/15/2028
MML Total Return Bond Fund	FIXED INCOME	ZAYO GROUP HOLDINGS INC	346513.35	350427.63	0.086369	0	3/9/2027
MML Total Return Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	345027.77	335000	0.085999	2.875	2/15/2025
MML Total Return Bond Fund	FIXED INCOME	INTELSAT JACKSON HLDG	340762.5	585000	0.084936	9.75	7/15/2025
MML Total Return Bond Fund	FIXED INCOME	AT+I INC	340385.97	270000	0.084842	5.25	3/1/2037
MML Total Return Bond Fund	FIXED INCOME	FRESENIUS MED CARE III	340176.49	340000	0.08479	1.875	12/1/2026
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	338896.9	290000	0.084471	4.375	4/15/2040
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4838	337997.8	316347.25	0.084247	4	11/20/2047
MML Total Return Bond Fund	FIXED INCOME	IMPERIAL BRANDS FIN PLC	336867.23	320000	0.083965	3.125	7/26/2024
MML Total Return Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	336340.86	320000	0.083834	4.5	3/15/2023

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	FIXED INCOME	GOVERNMENT NATIONAL MORTGAGE A	331931.82	310191.93	0.082735	3.5	2/20/2049
MML Total Return Bond Fund	FIXED INCOME	ORACLE CORP	328157.35	315000	0.081794	2.875	3/25/2031
MML Total Return Bond Fund	FIXED INCOME	CYRUSONE LP/CYRUSONE FIN	327306.74	345000	0.081582	2.15	11/1/2030
MML Total Return Bond Fund	FIXED INCOME	PLAINS ALL AMER PIPELINE	321200.12	300000	0.08006	3.8	9/15/2030
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4722	320487.42	292207.7	0.079882	5	9/20/2047
MML Total Return Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	318818.49	290000	0.079466	5.5	2/15/2024
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	313461.24	305000	0.078131	3.091	5/14/2032
MML Total Return Bond Fund	FIXED INCOME	HSBC HOLDINGS PLC	310737.6	310000	0.077452	1.589	5/24/2027
MML Total Return Bond Fund	FIXED INCOME	DIAMOND SPORTS GR/DIAMON	301645.5	465000	0.075186	5.375	8/15/2026
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	301465.8	270000	0.075141	3.875	4/15/2030
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	298043.42	254000	0.074288	5.5	6/1/2027
MML Total Return Bond Fund	FIXED INCOME	GRIFOLS WORLDWIDE OPERATIONS U	294933.01	297987.38	0.073513	0	11/15/2027
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL CA1711	290531.27	268768.99	0.072416	4.5	5/1/2048
MML Total Return Bond Fund	FIXED INCOME	CHASE MORTGAGE FINANCE CORPORA	288925.88	296621.85	0.072016	3.066996	3/25/2037
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G18592	287136.66	272077.47	0.07157	3	3/1/2031
MML Total Return Bond Fund	FIXED INCOME	IHS MARKIT LTD	285447	255000	0.071148	4.75	2/15/2025
MML Total Return Bond Fund	FIXED INCOME	FREDDIE MAC	284511.55	269450.81	0.070915	3	4/15/2048
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67708	281314.82	262501.52	0.070118	3.5	3/1/2048
MML Total Return Bond Fund	FIXED INCOME	IHS MARKIT LTD	280450.5	253000	0.069903	4	3/1/2026
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08843	277910.37	258104.35	0.06927	4.5	10/1/2048
MML Total Return Bond Fund	FIXED INCOME	NATIONWIDE BLDG SOCIETY	276853.24	270000	0.069006	3.622	4/26/2023
MML Total Return Bond Fund	FIXED INCOME	ORGANON AND CO.	275173.25	275000	0.068588	0	6/2/2028
MML Total Return Bond Fund	FIXED INCOME	VIRGIN MEDIA SECURED FIN	274048.5	255000	0.068307	5.5	5/15/2029
MML Total Return Bond Fund	FIXED INCOME	VIRGIN MEDIA BRISTOL LLC	272404	275000	0.067897	0	1/31/2028
MML Total Return Bond Fund	FIXED INCOME	FREDDIE MAC	271571.97	259544.27	0.06769	4	6/15/2047
MML Total Return Bond Fund	FIXED INCOME	UNIV OF CALIFORNIA CA RGTS MED	270893.26	255000	0.067521	3.256	5/15/2060
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF SOUTH AFRICA	265100	250000	0.066077	4.85	9/30/2029
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4454	265048.65	240257.49	0.066064	5	5/20/2047
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AS9830	264822.97	246603.85	0.066008	4	6/1/2047
MML Total Return Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	264354.3	230000	0.065891	4.8	3/1/2050
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AS9972	260299.42	242391.51	0.06488	4	7/1/2047
MML Total Return Bond Fund	FIXED INCOME	GLP CAPITAL LP / FIN II	258899.5	230000	0.064531	5.25	6/1/2025
MML Total Return Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	254714.85	200000	0.063488	5.75	4/1/2048
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	254657.15	260000	0.063474	1.305	2/2/2027
MML Total Return Bond Fund	FIXED INCOME	ROCKIES EXPRESS PIPELINE	250477.5	250000	0.062432	4.8	5/15/2030
MML Total Return Bond Fund	FIXED INCOME	ZEP INC	250388.63	254341.09	0.06241	0	8/12/2024
MML Total Return Bond Fund	FIXED INCOME	AVANTOR INC	248645.53	248750	0.061976	0	11/8/2027
MML Total Return Bond Fund	FIXED INCOME	INDONESIA ASAHAN ALUMINI	245000	200000	0.061067	6.53	11/15/2028
MML Total Return Bond Fund	FIXED INCOME	FANNIE MAE	242558.31	234697.15	0.060458	3.5	1/25/2047
MML Total Return Bond Fund	FIXED INCOME	MICHAELS COMPANIES, INC.	240873.6	240000	0.060038	0	4/15/2028
MML Total Return Bond Fund	FIXED INCOME	LLOYDS BANKING GROUP PLC	238459.58	220000	0.059437	3.87	7/9/2025
MML Total Return Bond Fund	FIXED INCOME	CITIGROUP MORTGAGE LOAN TRUST	237781.5	233287.34	0.059268	2.53	10/25/2035
MML Total Return Bond Fund	FIXED INCOME	STATE OF QATAR	236000	200000	0.058824	4.5	4/23/2028
MML Total Return Bond Fund	FIXED INCOME	MOLINA HEALTHCARE INC	235406.25	225000	0.058676	5.375	11/15/2022
MML Total Return Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	232325.25	205000	0.057908	4.908	7/23/2025
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA4333	228110.48	223225.07	0.056857	2	5/1/2041
MML Total Return Bond Fund	FIXED INCOME	GENTIVA HEALTH SERVICES INC	226973.23	227612.82	0.056574	0	7/2/2025
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF PANAMA	219592	200000	0.054734	3.875	3/17/2028
MML Total Return Bond Fund	FIXED INCOME	FIRST HORIZON MORTGAGE PASS TH	217022.55	257401.51	0.054093	2.708454	11/25/2035
MML Total Return Bond Fund	FIXED INCOME	GRAPHIC PACKAGING INTERN	214500	200000	0.053465	4.125	8/15/2024
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF PANAMA	209740	200000	0.052278	3.16	1/23/2030
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08833	209134.77	190558.72	0.052127	5	7/1/2048
MML Total Return Bond Fund	FIXED INCOME	ABU DHABI GOVT INT L	208828	200000	0.052051	2.5	9/30/2029
MML Total Return Bond Fund	FIXED INCOME	CLARIOS GLOBAL LP	207444.04	209539.43	0.051706	0	4/30/2026
MML Total Return Bond Fund	FIXED INCOME	KAZMUNAYGAS NATIONAL CO	207329.6	200000	0.051677	3.5	4/14/2033
MML Total Return Bond Fund	FIXED INCOME	ROCKIES EXPRESS PIPELINE	206545	200000	0.051482	4.95	7/15/2029
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL CA0996	205556.63	192117.6	0.051236	3.5	1/1/2048
MML Total Return Bond Fund	FIXED INCOME	PT PERTAMINA (PERSERO)	205059.67	200000	0.051112	3.1	8/27/2030
MML Total Return Bond Fund	FIXED INCOME	DOMINICAN REPUBLIC	204502	200000	0.050973	4.5	1/30/2030
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF CHILE	204500	200000	0.050972	2.55	1/27/2032
MML Total Return Bond Fund	FIXED INCOME	SAUDI ARABIAN OIL CO	201900	200000	0.050324	1.625	11/24/2025
MML Total Return Bond Fund	FIXED INCOME	ABBVIE INC	198565	165000	0.049493	4.5	5/14/2035
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4719	198083.11	187009.97	0.049373	3.5	9/20/2047
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA1512	196705.06	183804.47	0.049029	3.5	7/1/2033
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF COLOMBIA	196126	200000	0.048885	3	1/30/2030

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	FIXED INCOME	BX TRUST 2019 OC11	194011.33	180000	0.048358	3.202	12/9/2041
MML Total Return Bond Fund	FIXED INCOME	REPUBLIC OF PANAMA	191902	200000	0.047832	2.252	9/29/2032
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA3663	191846.65	180629.2	0.047818	3.5	5/20/2046
MML Total Return Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	186387.5	185000	0.046458	3.813	10/12/2021
MML Total Return Bond Fund	FIXED INCOME	GFL ENVIRONMENTAL INC	180941.25	175000	0.0451	4.75	6/15/2029
MML Total Return Bond Fund	FIXED INCOME	BANC OF AMERICA FUNDING CORPOR	180609.05	180756	0.045017	2.5	3/25/2040
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08844	176425.17	1661542.21	0.043974	5	10/1/2048
MML Total Return Bond Fund	FIXED INCOME	MAGIC MERGECO INC	1744008.1	170000	0.043472	5.25	5/1/2028
MML Total Return Bond Fund	FIXED INCOME	CENTENE CORP	173868.75	165000	0.043337	4.25	12/15/2027
MML Total Return Bond Fund	FIXED INCOME	VERIZON COMMUNICATIONS	173641.4	170000	0.043281	2.1	3/22/2028
MML Total Return Bond Fund	FIXED INCOME	GFL ENVIRONMENTAL INC	173498.88	164000	0.043245	5.125	12/15/2026
MML Total Return Bond Fund	FIXED INCOME	JPMORGAN CHASE + CO	170677.31	165000	0.042542	2.083	4/22/2026
MML Total Return Bond Fund	FIXED INCOME	BACARDI LTD	169598.95	130000	0.042273	5.3	5/15/2048
MML Total Return Bond Fund	FIXED INCOME	ABBVIE INC	168274.03	140000	0.041943	4.25	11/21/2049
MML Total Return Bond Fund	FIXED INCOME	HOLOGIC INC	168000	160000	0.041874	4.625	2/1/2028
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08757	166665.52	156592.61	0.041542	3.5	4/1/2047
MML Total Return Bond Fund	FIXED INCOME	CENTENE CORP	161975	155000	0.040373	5.375	8/15/2026
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08710	161744.45	153673.9	0.040315	3	6/1/2046
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA3937	159615.21	150326.59	0.039785	3.5	9/20/2046
MML Total Return Bond Fund	FIXED INCOME	POST HOLDINGS INC	156937.5	150000	0.039117	5.75	3/1/2027
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	156607.35	155000	0.039035	2.55	2/15/2031
MML Total Return Bond Fund	FIXED INCOME	TEACHERS INSUR + ANNUITY	155529.49	130000	0.038766	4.27	5/15/2047
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4382	152747.81	143901.18	0.038073	3.5	4/20/2047
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4199	152619.72	135616.97	0.038041	5	1/20/2047
MML Total Return Bond Fund	FIXED INCOME	MORGAN STANLEY REREMIC TRUST	152518	154509.88	0.038016	0.9675	11/26/2046
MML Total Return Bond Fund	FIXED INCOME	JAZZ FINANCING LUX SARL	150421.5	150000	0.037493	0	4/21/2028
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	150361.32	130000	0.037478	5	5/15/2050
MML Total Return Bond Fund	FIXED INCOME	BERRY GLOBAL INC	149771.71	151014.56	0.037331	0	7/1/2026
MML Total Return Bond Fund	FIXED INCOME	SINCLAIR TELEVISION GROUP INC	148500	150000	0.037014	0	4/1/2028
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4901	147916.51	138492.3	0.036869	4	12/20/2047
MML Total Return Bond Fund	FIXED INCOME	CHANGE HEALTH / FIN INC	146340	144000	0.036476	5.75	3/1/2025
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08722	143731.98	134926.27	0.035826	3.5	9/1/2046
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA3666	142734.55	126868.3	0.035577	5	5/20/2046
MML Total Return Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	138666.6	130000	0.034563	3.95	7/1/2044
MML Total Return Bond Fund	FIXED INCOME	ICON LUXEMBOURG SARL	136284.37	136092.48	0.033969	0	6/16/2028
MML Total Return Bond Fund	FIXED INCOME	KRAFT HEINZ FOODS CO	134251.75	110000	0.033463	5	6/4/2042
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL 988578	132335.19	113670.76	0.032985	5.5	8/1/2038
MML Total Return Bond Fund	FIXED INCOME	CENTRAL GARDEN + PET CO	129950.73	123000	0.032391	5.125	2/1/2028
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA3597	128895.91	121359.25	0.032128	3.5	4/20/2046
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	127478.75	119000	0.031774	4.75	2/1/2028
MML Total Return Bond Fund	FIXED INCOME	HOSSTESS BRANDS LLC	127404.9	128045.13	0.031756	0	8/3/2025
MML Total Return Bond Fund	FIXED INCOME	TRANSOCEAN PONTUS LTD	126894.35	125425	0.031629	6.125	8/1/2025
MML Total Return Bond Fund	FIXED INCOME	CENTENE CORP	124660.5	123000	0.031072	2.45	7/15/2028
MML Total Return Bond Fund	FIXED INCOME	COUNTRYWIDE ASSET BACKED CERTI	122777.75	122302.34	0.030603	4.470761	10/25/2046
MML Total Return Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	116490.1	95000	0.029035	5.375	5/1/2047
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4718	116425.26	110457.65	0.029019	3	9/20/2047
MML Total Return Bond Fund	FIXED INCOME	ROMANIA	113896.2	110000	0.028389	3	2/14/2031
MML Total Return Bond Fund	FIXED INCOME	ORGANON + CO/ORG	112178	110000	0.027961	4.125	4/30/2028
MML Total Return Bond Fund	FIXED INCOME	PETROLEOS MEXICANOS	110687.5	115000	0.027589	7.69	1/23/2050
MML Total Return Bond Fund	FIXED INCOME	NORTHWEST AIR 2001 1 A1	107901.28	107907.75	0.026895	7.041	10/1/2023
MML Total Return Bond Fund	FIXED INCOME	TRANSOCEAN GUARDIAN LTD	107169.5	110200	0.026712	5.875	1/15/2024
MML Total Return Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	106931.19	105000	0.026653	3.45	4/10/2022
MML Total Return Bond Fund	FIXED INCOME	T MOBILE USA INC	105988.48	104000	0.026418	4.5	2/1/2026
MML Total Return Bond Fund	FIXED INCOME	POWERTEAM SERVICES LLC	104500	95000	0.026047	9.033	12/4/2025
MML Total Return Bond Fund	FIXED INCOME	USA COM PART/USA COM FIN	102554.88	96000	0.025562	6.875	9/1/2027
MML Total Return Bond Fund	FIXED INCOME	CHARTER COMM OPT LLC/CAP	101541.08	92000	0.025309	3.75	2/15/2028
MML Total Return Bond Fund	FIXED INCOME	SAXON ASSET SECURITIES TRUST	101361.71	101345.6	0.025265	0.7815	5/25/2035
MML Total Return Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	101070	100000	0.025192	3.219	1/9/2022
MML Total Return Bond Fund	FIXED INCOME	INTELSAT JACKSON HLDG	100890	171000	0.025147	8.5	10/15/2024
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AI2733	100618.82	88544.35	0.02508	5	5/1/2041
MML Total Return Bond Fund	FIXED INCOME	SPIN HOLDCO INC	100013	100000	0.024929	0	3/1/2028
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL 995482	99808.01	85667.21	0.024877	5.5	1/1/2039
MML Total Return Bond Fund	FIXED INCOME	SBA COMMUNICATIONS CORP	99715	98000	0.024854	4.875	9/1/2024
MML Total Return Bond Fund	FIXED INCOME	PARK AEROSPACE HOLDINGS	99403.21	95000	0.024777	5.25	8/15/2022
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	98812.47	95000	0.024629	2.593	9/11/2025

Fund Name	Asset Class	Security Name	Base Market Value	Shares/Par Value	Percent of Fund	Interest Rate	Maturity Date
MML Total Return Bond Fund	FIXED INCOME	TRANSOCEAN POSEIDON LTD	98000	98000	98000	0.024427	6.875 2/1/2027
MML Total Return Bond Fund	FIXED INCOME	BERRY GLOBAL INC	95234.4	90000	0.023737	4.875	7/15/2026
MML Total Return Bond Fund	FIXED INCOME	CAESARS RESORT COLLECTION LLC	94711.72	95582.48	0.023607	0	12/23/2024
MML Total Return Bond Fund	FIXED INCOME	MOLINA HEALTHCARE INC	93712.5	90000	0.023358	3.875	11/15/2030
MML Total Return Bond Fund	FIXED INCOME	FORD MOTOR CREDIT CO LLC	89782.6	90000	0.022379	1.416	3/28/2022
MML Total Return Bond Fund	FIXED INCOME	GENERAL MOTORS FINL CO	85786.19	85000	0.021382	4.375	9/25/2021
MML Total Return Bond Fund	FIXED INCOME	BAYER US FINANCE II LLC	83581.5	75000	0.020833	4.25	12/15/2025
MML Total Return Bond Fund	FIXED INCOME	TRANSMONTAIGE PARTNERS	82822.5	81000	0.020644	6.125	2/15/2026
MML Total Return Bond Fund	FIXED INCOME	GNMA II POOL MA4653	79273.37	74162.95	0.019759	4	8/20/2047
MML Total Return Bond Fund	FIXED INCOME	LUMEN TECHNOLOGIES INC	77520	76000	0.019322	4	2/15/2027
MML Total Return Bond Fund	FIXED INCOME	SPRINT SPECTRUM / SPEC I	72548.44	72187.5	0.018083	3.36	3/20/2023
MML Total Return Bond Fund	FIXED INCOME	CREDIT SUISSE GROUP AG	72339.59	65000	0.018031	4.282	1/9/2028
MML Total Return Bond Fund	FIXED INCOME	GFL ENVIRONMENTAL INC	67825.93	67816.44	0.016906	0	5/30/2025
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G08800	61428.8	58259.28	0.015311	3.5	2/1/2048
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL 931504	60151.68	54086.5	0.014993	4.5	7/1/2039
MML Total Return Bond Fund	FIXED INCOME	ENERGY TRANSFER LP	57874.09	50000	0.014425	5.35	5/15/2045
MML Total Return Bond Fund	FIXED INCOME	ANTERO RESOURCES CORP	56875	50000	0.014176	8.375	7/15/2026
MML Total Return Bond Fund	FIXED INCOME	VICI PPTY S 1 LLC	49557	50000	0.012352	0	12/20/2024
MML Total Return Bond Fund	FIXED INCOME	TRANSDIGM INC	48520.12	49250	0.012094	0	5/30/2025
MML Total Return Bond Fund	FIXED INCOME	TRANSOCEAN PROTEUS LTD	46106.5	45650	0.011492	6.25	12/1/2024
MML Total Return Bond Fund	OPTIONS	SWTN275GS 3Y30Y SWAPTION 2.75	45981	1350000	0.011461	0	1/19/2024
MML Total Return Bond Fund	FIXED INCOME	CHANGE HEALTHCARE HLDGS INC	45804.62	45864.24	0.011417	0	3/1/2024
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL MA3305	44972.25	42692.89	0.011209	3.5	3/1/2048
MML Total Return Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	43238.94	40000	0.010777	5.125	10/1/2023
MML Total Return Bond Fund	FIXED INCOME	DIAMOND SPORTS GROUP LLC	38828.4	64835.03	0.009678	0	8/24/2026
MML Total Return Bond Fund	FIXED INCOME	AVOLON HOLDINGS FNDG LTD	38499.34	35000	0.009596	5.25	5/15/2024
MML Total Return Bond Fund	FIXED INCOME	GLP CAPITAL LP / FIN II	37565.85	35000	0.009363	4	1/15/2030
MML Total Return Bond Fund	FIXED INCOME	SPRINT CORP	37490.51	33000	0.009345	7.875	9/15/2023
MML Total Return Bond Fund	FIXED INCOME	ICON LUXEMBOURG SARL	33955.33	33907.52	0.008463	0	6/16/2028
MML Total Return Bond Fund	FIXED INCOME	AMERICAN AIRLS INC	32935.77	34500	0.008209	0	1/29/2027
MML Total Return Bond Fund	FIXED INCOME	PILGRIM S PRIDE CORP	31950	30000	0.007964	5.875	9/30/2027
MML Total Return Bond Fund	FIXED INCOME	SEALED AIR CORP	31820.1	30000	0.007931	4	12/1/2027
MML Total Return Bond Fund	FIXED INCOME	CSC HOLDINGS LLC	31727.4	30000	0.007908	5.375	2/1/2028
MML Total Return Bond Fund	FIXED INCOME	USA COM PART/USA COM FIN	31425	30000	0.007833	6.875	4/1/2026
MML Total Return Bond Fund	FIXED INCOME	MAUSER PACKAGING SOLUT	30300	30000	0.007552	5.5	4/15/2024
MML Total Return Bond Fund	FIXED INCOME	EXXON MOBIL CORPORATION	27327.73	22000	0.006812	4.327	3/19/2050
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL 977014	21124.59	18118.87	0.005265	5.5	5/1/2038
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL 985524	19959.56	17152.98	0.004975	5.5	6/1/2038
MML Total Return Bond Fund	FIXED INCOME	FNMA POOL AD6374	15051.59	13245.37	0.003752	5	5/1/2040
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL ZA5103	7730.39	7325.55	0.001927	3.5	12/1/2047
MML Total Return Bond Fund	FIXED INCOME	FED HM LN PC POOL G67713	4632.04	4269.32	0.001155	4	6/1/2048
MML Total Return Bond Fund	FUTURE	US ULTRA BOND CBT SEP21	0	100000	0.00028	0	9/21/2021
MML Total Return Bond Fund	FUTURE	US 2YR NOTE (CBT) SEP21	0	-3800000	0.000111	0	9/30/2021
MML Total Return Bond Fund	CASH	EURO CURRENCY	7	5.9	0.000002	0	
MML Total Return Bond Fund	CASH	POUND STERLING	-0.01	-0.01	0	0	
MML Total Return Bond Fund	CASH	MEXICAN PESO (NEW)	-0.02	-0.32	0	0	
MML Total Return Bond Fund	FIXED INCOME	DELOS FIN S A R L	0	0	0	0	10/6/2023