

Contribution from Dr Jitka Rychtarikova

vik	qx	px	lx	dx	Lx_1	Tx	ex
0	0.0058	0.9942	100000	575.824415	99470.24154	7113288.045	71.13288045
1	0.0006	0.9994	99424.17559	60.17371674	99394.08873	7013817.803	70.54438985
2	0.0002	0.9998	99364.00187	20.87040569	99353.56667	6914423.714	69.58680794
3	0.0003	0.9997	99343.13146	28.82156494	99328.72068	6815070.148	68.60132198
4	0.0001	0.9999	99314.3099	14.25380412	99307.183	6715741.427	67.62108536
5	0.0002	0.9998	99300.05609	17.86898511	99291.1216	6616434.244	66.63072011
6	0.0002	0.9998	99282.18711	18.55148544	99272.91137	6517143.122	65.64262243
7	0.0002	0.9998	99263.63562	23.14493861	99252.06315	6417870.211	64.654797
8	0.0002	0.9998	99240.49068	24.13043174	99228.42547	6318618.148	63.66975923
9	0.0002	0.9998	99216.36025	20.57534435	99206.07258	6219389.722	62.68512276
10	0.0002	0.9998	99195.78491	15.15285696	99188.20848	6120183.65	61.6980213
11	0.0001	0.9999	99180.63205	12.45107286	99174.40651	6020995.441	60.70737116
12	0.0002	0.9998	99168.18098	16.69794966	99159.832	5921821.035	59.7149305
13	0.0003	0.9997	99151.48303	25.27466382	99138.8457	5822661.203	58.7249028
14	0.0004	0.9996	99126.20836	36.41491136	99108.00091	5723522.357	57.73974867
15	0.0005	0.9995	99089.79345	46.82819466	99066.37936	5624414.356	56.76078393
16	0.0006	0.9994	99042.96526	62.2146504	99011.85793	5525347.977	55.78738442
17	0.0007	0.9993	98980.75061	69.95659424	98945.77231	5426336.119	54.82213547
18	0.0009	0.9991	98910.79401	85.39475076	98868.09664	5327390.347	53.86055587
19	0.0010	0.9990	98825.39926	96.32021767	98777.23915	5228522.25	52.90666457
20	0.0010	0.9990	98729.07905	95.88229331	98681.1379	5129745.011	51.95779258
21	0.0009	0.9991	98633.19675	90.42030551	98587.9866	5031063.873	51.0078152
22	0.0009	0.9991	98542.77645	90.31212616	98497.62038	4932475.886	50.05415987
23	0.0009	0.9991	98452.46432	90.83162095	98407.04851	4833978.266	49.09961675
24	0.0010	0.9990	98361.6327	98.56161256	98312.35189	4735571.218	48.14449585
25	0.0011	0.9989	98263.07109	104.4530109	98210.84458	4637258.866	47.1922851
26	0.0010	0.9990	98158.61808	100.4581989	98108.38898	4539048.021	46.24197152
27	0.0011	0.9989	98058.15988	103.9016186	98006.20907	4440939.632	45.28883305
28	0.0010	0.9990	97954.25826	102.442856	97903.03683	4342933.423	44.33634127
29	0.0011	0.9989	97851.8154	105.4695085	97799.08065	4245030.386	43.38223434
30	0.0011	0.9989	97746.34589	110.1082316	97691.29178	4147231.306	42.4285048
31	0.0011	0.9989	97636.23766	110.0618258	97581.20675	4049540.014	41.47578922
32	0.0012	0.9988	97526.17584	116.6830833	97467.8343	3951958.807	40.52203189
33	0.0013	0.9987	97409.49275	127.2643101	97345.8606	3854490.973	39.56997274
34	0.0014	0.9986	97282.22844	136.615885	97213.9205	3757145.112	38.62108396
35	0.0015	0.9985	97145.61256	147.1844979	97072.02031	3659931.192	37.67469364
36	0.0016	0.9984	96998.42806	159.5400073	96918.65806	3562859.171	36.73110217
37	0.0018	0.9982	96838.88805	175.1192229	96751.32844	3465940.513	35.79079214
38	0.0021	0.9979	96663.76883	206.0154303	96560.76112	3369189.185	34.85472608
39	0.0024	0.9976	96457.7534	229.8748583	96342.81597	3272628.424	33.92810125
40	0.0028	0.9972	96227.87854	270.0684118	96092.84434	3176285.608	33.00795628
41	0.0031	0.9969	95957.81013	297.5747142	95809.02277	3080192.763	32.09944828
42	0.0034	0.9966	95660.23542	327.8773304	95496.29675	2984383.741	31.19774614
43	0.0038	0.9962	95332.35809	359.0494702	95152.83335	2888887.444	30.30332514
44	0.0042	0.9958	94973.30862	395.5678792	94775.52468	2793734.61	29.41599752
45	0.0047	0.9953	94577.74074	445.1679764	94355.15675	2698959.086	28.5369376
46	0.0053	0.9947	94132.57276	501.0415628	93882.05198	2604603.929	27.66952876
47	0.0056	0.9944	93631.5312	528.2077318	93367.42733	2510721.877	26.81491849
48	0.0062	0.9938	93103.32347	577.2712496	92814.68784	2417354.45	25.96421223
49	0.0068	0.9932	92526.05222	626.6173844	92212.74352	2324539.762	25.12308378
50	0.0076	0.9924	91899.43483	702.2067626	91548.33145	2232327.018	24.29097657
51	0.0085	0.9915	91197.22807	777.7760762	90808.34003	2140778.687	23.47146399
52	0.0096	0.9904	90419.45199	867.3368004	89985.78359	2049970.347	22.67178469
53	0.0103	0.9897	89552.11519	926.5572042	89088.83659	1959984.563	21.8865245
54	0.0116	0.9884	88625.55799	1028.345923	88111.38503	1870895.727	21.11011506
55	0.0124	0.9876	87597.21206	1088.384172	87053.01998	1782784.342	20.35206715
56	0.0136	0.9864	86508.82789	1175.162104	85921.24684	1695731.322	19.60182981
57	0.0146	0.9854	85333.66579	1244.255663	84711.53796	1609810.075	18.86488832
58	0.0158	0.9842	84089.41013	1330.408822	83424.20571	1525098.537	18.13663022
59	0.0172	0.9828	82759.0013	1425.959096	82046.02176	1441674.331	17.42015139
60	0.0187	0.9813	81333.04221	1523.894164	80571.09513	1359628.309	16.71680135
61	0.0205	0.9795	79809.14804	1638.582662	78989.85671	1279057.214	16.02644867
62	0.0224	0.9776	78170.56538	1748.374672	77296.37805	1200067.358	15.35190838
63	0.0245	0.9755	76422.19071	1870.941139	75486.72014	1122770.98	14.69168797
64	0.0265	0.9735	74551.24957	1978.858544	73561.8203	1047284.259	14.04784313
65	0.0296	0.9704	72572.39103	2148.968553	71497.90675	973722.4391	13.41725724
66	0.0318	0.9682	70423.42247	2239.890538	69303.4772	902224.5324	12.81142695
67	0.0350	0.9650	68183.53193	2384.927176	66991.06835	832921.0552	12.21586843
68	0.0374	0.9626	65798.60476	2459.887939	64568.66079	765929.9868	11.64052019
69	0.0407	0.9593	63338.71682	2579.858324	62048.78766	701361.3261	11.07318495
70	0.0447	0.9553	60758.8585	2717.984664	59399.86616	639312.5384	10.52212886
71	0.0493	0.9507	58040.87383	2860.316009	56610.71583	579912.6722	9.99145316
72	0.0530	0.9470	55180.55782	2923.581475	53718.76708	523301.9564	9.483448103
73	0.0586	0.9414	52256.97635	3061.957197	50725.99775	469583.1893	8.98603827
74	0.0645	0.9355	49195.01915	3174.660759	47607.68877	418857.1916	8.514219505
75	0.0694	0.9306	46020.35839	3192.692971	44424.01191	371249.5028	8.067071092
76	0.0770	0.9230	42827.66542	3297.858774	41178.73603	326825.4909	7.631176897
77	0.0821	0.9179	39529.80665	3245.893683	37906.8598	285646.7549	7.226110601
78	0.0882	0.9118	36283.91296	3200.89588	34683.46502	247739.8951	6.827816375

79	0.0963	0.9037	33083.01708	3186.288187	31489.87299	213056.43	6.440054409
80	0.1035	0.8965	29896.7289	3094.13317	28349.66231	181566.557	6.073124511
81	0.1119	0.8881	26802.59573	2999.794498	25302.69848	153216.8947	5.716494638
82	0.1219	0.8781	23802.80123	2902.312692	22351.64488	127914.1963	5.373913559
83	0.1320	0.8680	20900.48853	2759.109731	19520.93367	105562.5514	5.050721719
84	0.1429	0.8571	18141.3788	2591.66331	16845.54715	86041.61771	4.742837832
85	0.1545	0.8455	15549.71549	2402.48781	14348.47159	69196.07056	4.449989493
86	0.1670	0.8330	13147.22768	2195.444889	12049.50524	54847.59897	4.171799583
87	0.1804	0.8196	10951.7828	1975.261971	9964.15181	42798.09373	3.907865462
88	0.1947	0.8053	8976.520825	1747.359932	8102.840859	32833.94192	3.657758119
89	0.2099	0.7901	7229.160893	1517.60514	6470.358323	24731.10106	3.421019594
90	0.2262	0.7738	5711.555753	1291.996439	5065.557533	18260.74274	3.1971574
91	0.2435	0.7565	4419.559314	1076.308216	3881.405206	13195.18521	2.985633696
92	0.2619	0.7381	3343.251098	875.720719	2905.390738	9313.780003	2.785845194
93	0.2814	0.7186	2467.530379	694.4764325	2120.292162	6408.389265	2.597086269
94	0.3021	0.6979	1773.053946	535.6041494	1505.251871	4288.097103	2.4184809
95	0.3239	0.6761	1237.449797	400.7487453	1037.075424	2782.845231	2.248855055
96	0.3468	0.6532	836.7010514	290.1335533	691.6342747	1745.769807	2.08649171
97	0.3708	0.6292	546.567498	202.664476	445.23526	1054.135532	1.928646574
98	0.3959	0.6041	343.903022	136.1631685	275.8214378	608.9002724	1.770558074
99	0.4221	0.5779	207.7398535	87.69511113	163.892298	333.0788346	1.603345862
100	0.4494	0.5506	120.0447424	53.94225994	93.07361243	169.1865366	1.40936232
101	0.4775	0.5225	66.10248246	31.5636593	50.32065281	76.11292419	1.151438212
102	0.5065	0.4935	34.53882316	17.49310356	25.79227138	25.79227138	0.746761731
103	0.5362	0.4638	17.0457196	17.0457196	0	0	0

vik	qx	px	lx	dx	Lx_1	Tx	ex
0	0.0046	0.9954	100000	460.781605	99576.08092	7806177.143	78.06177143
1	0.0004	0.9996	99539.21839	40.87013632	99518.78333	7706601.062	77.42276046
2	0.0004	0.9996	99498.34826	39.67941875	99478.50855	7607082.279	76.4543574
3	0.0002	0.9998	99458.66884	16.23086265	99450.55341	7507603.77	75.48465969
4	0.0001	0.9999	99442.43798	13.82240246	99435.52678	7408153.217	74.49689858
5	0.0001	0.9999	99428.61557	8.758830967	99424.23616	7308717.69	73.50718551
6	0.0001	0.9999	99419.85674	13.01056865	99413.35146	7209293.454	72.5136174
7	0.0001	0.9999	99406.84618	13.77158827	99399.96038	7109880.103	71.52304269
8	0.0001	0.9999	99393.07459	13.39577257	99386.3767	7010480.142	70.53288342
9	0.0001	0.9999	99379.67881	13.07858715	99373.13952	6911093.766	69.54232342
10	0.0002	0.9998	99366.60023	16.42146472	99358.38949	6811720.626	68.55141074
11	0.0002	0.9998	99350.17876	15.69209857	99342.33271	6712362.237	67.56265887
12	0.0002	0.9998	99334.48666	18.29147104	99325.34093	6613019.904	66.57325291
13	0.0001	0.9999	99316.19519	14.88002938	99308.75518	6513694.563	65.5854219
14	0.0002	0.9998	99301.31516	16.21172721	99293.2093	6414385.808	64.59517477
15	0.0002	0.9998	99285.10344	21.60550541	99274.30068	6315092.598	63.60564052
16	0.0003	0.9997	99263.49793	28.25535595	99249.37025	6215818.298	62.61937598
17	0.0003	0.9997	99235.24257	33.67286937	99218.40614	6116568.927	61.63706329
18	0.0004	0.9996	99201.56971	36.44348775	99183.34796	6017350.521	60.65781559
19	0.0004	0.9996	99165.12622	35.54593881	99147.35325	5918167.173	59.67992377
20	0.0003	0.9997	99129.58028	32.3855857	99113.38749	5819019.82	58.70114454
21	0.0003	0.9997	99097.19469	33.64777743	99080.3708	5719906.433	57.72016504
22	0.0003	0.9997	99063.54692	32.21783945	99047.438	5620826.062	56.73960036
23	0.0003	0.9997	99031.32908	32.32346624	99015.16734	5521778.624	55.75789677
24	0.0003	0.9997	98999.00561	29.10124558	98984.45499	5422763.456	54.77593864
25	0.0003	0.9997	98969.90436	27.85271523	98955.97801	5323779.001	53.79189801
26	0.0002	0.9998	98942.05165	24.40918887	98929.84705	5224823.023	52.80689996
27	0.0003	0.9997	98917.64246	27.45233782	98903.91629	5125893.176	51.81980736
28	0.0003	0.9997	98890.19012	29.98753978	98875.19635	5026989.26	50.83405395
29	0.0004	0.9996	98860.20258	36.1746414	98842.11526	4928114.064	49.84932192
30	0.0004	0.9996	98824.02794	37.84848971	98805.1037	4829271.949	48.86738629
31	0.0004	0.9996	98786.17945	35.48512077	98768.43689	4730466.845	47.88591756
32	0.0004	0.9996	98750.69433	34.80226571	98733.2932	4631698.408	46.90294523
33	0.0004	0.9996	98715.89207	40.89020239	98695.44696	4532965.115	45.91930458
34	0.0005	0.9995	98675.00186	53.78680702	98648.10846	4434269.668	44.93812601
35	0.0007	0.9993	98621.21506	68.3704499	98587.02983	4335621.559	43.96236202
36	0.0008	0.9992	98552.84461	76.04450811	98514.82235	4237034.529	42.99251378
37	0.0008	0.9992	98476.8001	79.43337772	98437.08341	4138519.707	42.02532681
38	0.0008	0.9992	98397.36672	78.16740072	98358.28302	4040082.624	41.05884902
39	0.0009	0.9991	98319.19932	85.52605112	98276.43629	3941724.341	40.0910948
40	0.0009	0.9991	98233.67327	91.90762642	98187.71946	3843447.904	39.12556435
41	0.0011	0.9989	98141.76564	109.8773485	98086.82697	3745260.185	38.16173635
42	0.0014	0.9986	98031.88829	136.3492555	97963.71367	3647173.358	37.20394885
43	0.0017	0.9983	97895.53904	162.1796934	97814.44919	3549209.644	36.25507024
44	0.0019	0.9981	97733.35934	183.6797892	97641.51945	3451395.195	35.31440256
45	0.0021	0.9979	97549.67956	201.3494606	97449.00483	3353753.676	34.37995584
46	0.0021	0.9979	97348.33009	205.3720959	97245.64405	3256304.671	33.45003112
47	0.0023	0.9977	97142.958	223.1384918	97031.38875	3159059.027	32.51969151
48	0.0025	0.9975	96919.81951	243.7664818	96797.93627	3062027.638	31.59341045
49	0.0027	0.9973	96676.05303	261.9678446	96545.0691	2965229.702	30.67181178
50	0.0030	0.9970	96414.08518	287.3614031	96270.40448	2868684.633	29.75379196
51	0.0033	0.9967	96126.72378	312.9563698	95970.24559	2772414.228	28.8412433
52	0.0037	0.9963	95813.76741	355.0829022	95636.22596	2676443.983	27.93381426
53	0.0043	0.9957	95458.68451	410.0183817	95253.67531	2580807.757	27.03586133
54	0.0047	0.9953	95048.66612	449.9883608	94823.67194	2485554.081	26.15033101
55	0.0054	0.9946	94598.67776	506.7420148	94345.30676	2390730.409	25.27234488
56	0.0059	0.9941	94091.93575	550.7709083	93816.55029	2296385.103	24.40575895
57	0.0061	0.9939	93541.16484	572.932205	93254.69874	2202568.552	23.54651619
58	0.0069	0.9931	92968.23263	640.8092318	92647.82802	2109313.854	22.68854418
59	0.0075	0.9925	92327.4234	692.1950291	91981.32589	2016666.026	21.84254636
60	0.0081	0.9919	91635.22837	741.07196	91264.69239	1924684.7	21.00376388
61	0.0088	0.9912	90894.15641	800.290797	90494.01102	1833420.007	20.17093375
62	0.0097	0.9903	90093.86562	870.201256	89658.76499	1742925.996	19.34566781
63	0.0104	0.9896	89223.66436	930.0387384	88758.64499	1653267.231	18.52947022
64	0.0116	0.9884	88293.62562	1027.437202	87779.90702	1564508.586	17.7193832
65	0.0128	0.9872	87266.18842	1121.357706	86705.50957	1476728.679	16.92211733
66	0.0144	0.9856	86144.83071	1237.598835	85526.0313	1390023.17	16.13588602
67	0.0164	0.9836	84907.23188	1390.263079	84212.10034	1304497.138	15.36379304
68	0.0189	0.9811	83516.9688	1579.206921	82727.36534	1220285.038	14.61122279
69	0.0214	0.9786	81937.76188	1750.314022	81062.60487	1137557.673	13.88319191
70	0.0237	0.9763	80187.44786	1902.192179	79236.35177	1056495.068	13.17531729
71	0.0263	0.9737	78285.25568	2059.495271	77255.50804	977258.7161	12.4833049
72	0.0293	0.9707	76225.76041	2234.17387	75108.67347	900003.2081	11.80707419
73	0.0327	0.9673	73991.58654	2416.871371	72783.15085	824894.5346	11.14849097
74	0.0370	0.9630	71574.71517	2644.92932	70252.25051	752111.3837	10.50805975
75	0.0413	0.9587	68929.78585	2849.475129	67505.04828	681859.1332	9.892082571
76	0.0469	0.9531	66080.31072	3096.599404	64532.01102	614354.0849	9.297082267
77	0.0521	0.9479	62983.71131	3280.899335	61343.26165	549822.0739	8.729591548
78	0.0578	0.9422	59702.81198	3452.594447	57976.51475	488478.8123	8.181839282

79	0.0644	0.9356	56250.21753	3621.531619	54439.45172	430502.2975	7.653344581
80	0.0719	0.9281	52628.68591	3785.300779	50736.03552	376062.8458	7.145586847
81	0.0802	0.9198	48843.38513	3918.971971	46883.89915	325326.8103	6.66061145
82	0.0895	0.9105	44924.41316	4018.68931	42915.06851	278442.9111	6.198031127
83	0.0997	0.9003	40905.72385	4077.04135	38867.20318	235527.8426	5.757821167
84	0.1110	0.8890	36828.6825	4086.981819	34785.19159	196660.6395	5.339877131
85	0.1235	0.8765	32741.70068	4042.40007	30720.50065	161875.4479	4.94401465
86	0.1372	0.8628	28699.30061	3938.789187	26729.90602	131154.9472	4.569970153
87	0.1524	0.8476	24760.51143	3773.96535	22873.52875	104425.0412	4.217402435
88	0.1691	0.8309	20986.54608	3548.762176	19212.16499	81551.51244	3.885894904
89	0.1874	0.8126	17437.7839	3267.593799	15803.987	62339.34745	3.574958137
90	0.2074	0.7926	14170.1901	2938.758024	12700.81109	46535.36045	3.284032191
91	0.2292	0.7708	11231.43208	2574.346543	9944.258806	33834.54936	3.012487555
92	0.2529	0.7471	8657.085535	2189.65448	7562.258295	23890.29056	2.759622792
93	0.2786	0.7214	6467.431055	1802.045382	5566.408364	16328.03226	2.524655017
94	0.3064	0.6936	4665.385673	1429.33087	3950.720238	10761.6239	2.306695448
95	0.3362	0.6638	3236.054803	1087.85293	2692.128338	6810.903659	2.104693546
96	0.3680	0.6320	2148.201872	790.5802415	1752.911752	4118.775321	1.917312974
97	0.4019	0.5981	1357.621631	545.602591	1084.820335	2365.86357	1.742653119
98	0.4377	0.5623	812.0190399	355.3833833	634.3273483	1281.043234	1.577602459
99	0.4752	0.5248	456.6356566	216.9853072	348.143003	646.7158861	1.416262346
100	0.5142	0.4858	239.6503494	123.2392557	178.0307216	298.5728831	1.245868758
101	0.5546	0.4454	116.4110937	64.55606223	84.13306258	120.5421615	1.035486891
102	0.5957	0.4043	51.85503146	30.89186504	36.40909894	36.40909894	0.702132424
103	0.6374	0.3626	20.96316642	20.96316642	0	0	0