Appendix

The tables provide two examples of utility functions for money. Table A.I is for a decision-maker with constant risk-aversion: Table A.II for someone with decreasing aversion to risk. For a sum of money equal to x dollars the tables give the corresponding utility $u(x)$, correct to 3 places of decimals. Thus for II with $x = 34$ we have a utility of 0.487 utiles for 34 dollars.

The successive values of x are at intervals of one dollar for the smallest values of x, for higher values the intervals change first to 5 and then to 10, and, for a brief section in Table A.II, to 100. For the highest values of x *critical values* are given. A critical value for x of $u(x)$ means that the utility equals that value until the next critical value is reached. Thus in Table A.I against $x = 541$ we have a utility of 0.996: this means that the utility stays at 0.996 from $x = 541$ until the next cited value, namely $x = 566$, where it reaches 0.997. Thus $u(552) = 0.996$. $u(x) = 1$ for all x greater than 761. Similar remarks apply to Table A.II.

The utility for other values of x may be obtained by *interpolation*. This can best be explained by examples. Table A.II has the successive entries:

x	$u(x)$
230	0.842
240	0.849

Thus an increase of 10 in x gives an increase of 7 in the last place of $u(x)$. Hence if we want the utility for $x = 233$, an increase of 3 in x from 230, we argue that this must give an increase of 3/10 of 7, namely 21/10, or 2, in utility. Hence $u(233) = 0.844$, an increase of 2 over 0.842.

The tables may also be used to find what sum of money has a given utility. Thus in Table A.II, a utility of $1/2 (= 0.500)$ is provided by 36 dollars. Generally this procedure will require interpolation and only rarely will the given utility appear in the table. We illustrate using Table A.II to find what sum of money has a utility of 0.700. We find successive entries

x	$u(x)$
100	0.693
105	0.702

Table A.I. Utility function for a decision-maker with constant risk-aversion

x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.
0	000	30	259	60	451	90	593	175	826	350	970
1	010	31	267	61	457	91	597	180	835	360	973
2	020	32	274	62	462	92	601	185	843	370	975
3	030	33	281	63	467	93	605	190	850	380	978
4	039	34	288	64	473	94	609	195	858	390	980
5	049	35	295	65	478	95	613	200	865	400	982
6	058	36	302	66	483	96	617	205	871	410	983
7	068	37	309	67	488	97	621	210	878	420	985
8	077	38	316	68	493	98	625	215	884	430	986
9	086	39	323	69	498	99	628	220	889	440	988
10	095	40	330	70	503			225	895	450	989
11	104	41	336	71	508			230	900	460	990
12	113	42	343	72	513	100	632	235	905	470	991
13	122	43	349	73	518	105	650	240	909	480	992
14	131	44	356	74	523	110	667	245	914	490	993
15	139	45	362	75	528	115	683				
16	148	46	369	76	532	120	699			Critical values	
17	156	47	375	77	537	125	713	250	918		
18	165	48	381	78	542	130	727	260	926	500	993
19	173	49	387	79	546	135	741	270	933	504	994
20	181	50	393	80	551	140	753	280	939	521	995
21	189	51	400	81	555	145	765	290	945	541	996
22	197	52	405	82	560	150	777	300	950	566	997
23	205	53	411	83	564	155	788	310	955	600	998
24	213	54	417	84	568	160	798	320	959	651	999
25	221	55	423	85	573	165	808	330	963	761	1.000
26	229	56	429	86	577	170	817	340	967		
27	237	57	434	87	581						
28	244	58	440	88	585						
29	252	59	446	89	589						

Table A.II. Utility function for a decision-maker with decreasing risk-aversion

x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.	x	$u(x)$ 0.
0	000	30	458	60	605	150	764	350	913	Critical values	
1	027	31	466	61	608	155	769	360	917		
2	053	32	473	62	611	160	775	370	921		
3	077	33	480	63	614	165	781	380	925	800	991
4	101	34	487	64	617	170	786	390	929	815	992
										840	993
5	123	35	493	65	619	175	791	400	932	869	994
6	144	36	500	66	622	180	797	410	936	902	995
7	165	37	506	67	625	185	802	420	939		
8	184	38	512	68	627	190	807	430	942	943	996
9	203	39	517	69	630	195	811	440	945	993	997
										1060	998
10	221	40	523	———		———		450	947	1162	999
11	238	41	528					460	950	1382	1.000
12	255	42	533	70	633	200	816	470	952		
13	270	43	538	75	645	210	825	480	955		
14	286	44	543	80	656	220	834	490	957		
				85	666	230	842				
15	300	45	548	90	676	240	849	500	959		
16	314	46	553	95	685			510	961		
17	327	47	557			250	857	520	963		
18	340	48	561	100	693	260	864	530	965		
19	352	49	566	105	702	270	870	540	966		
				110	709	280	877				
20	364	50	570	115	717	290	883	550	968		
21	375	51	574	120	724			560	970		
22	386	52	577			300	888	570	971		
23	396	53	581	125	731	310	894	580	972		
24	406	54	585	130	738	320	899	590	974		
				135	745	330	904				
25	415	55	588	140	751	340	909	———			
26	425	56	592	145	757						
27	434	57	595					600	975		
28	442	58	598					700	985		
29	450	59	602					800	991		

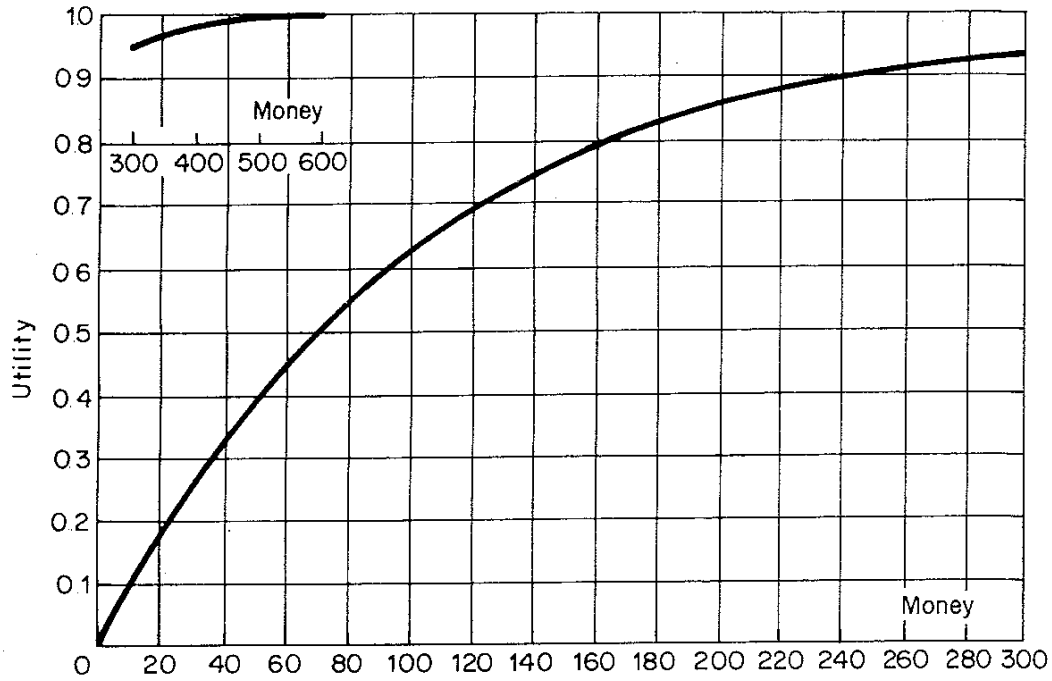

Figure A.I. Utility for money for a decision-maker, I, with constant aversion to risk

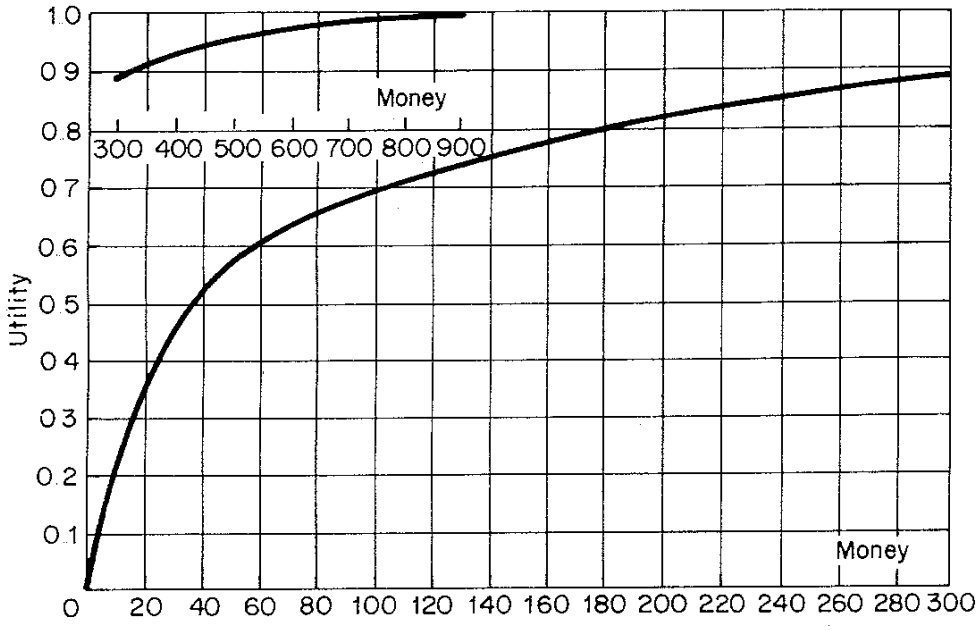

Figure A.II. Utility for money for a decision-maker, II, with decreasing aversion to risk

with utilities either side of the given value. Thus a change of 9 in the last place of $u(x)$ corresponds to a change of 5 in x. We require a change of 7 in $u(x)$ (from 0.693 to 0.700) so this must correspond to a change of 7/9 of 5, namely 35/9, or 4, in x. Hence $x = 104$ has a utility of 0.700.

Since the tables are only to three places of decimals in the utility, and to the

nearest dollar, some arithmetical inaccuracies can arise in their use. Consequently readers should not worry if the values given in the text for the results of calculations, or in the answers, disagree a little (usually by 1 or 2 in the last place quoted) with those they obtain themselves.

The figures are simply graphs of the entries in the corresponding tables and may be used in place of the tables in an obvious way. Their accuracy is less than that provided by the tables. In each figure a supplementary inset figure is provided for amounts in excess of 300 dollars.