

“Infant Mortality Rates in Four World Cities: London, Manhattan, Paris, and Tokyo”

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Data Appendix

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Part A. Data for Income-Related Variables

Manhattan: Period 1 (1990)		Manhattan: Period 2 (1995)	
Sub-borough	Mean Household Income (1990)	Sub-borough	Mean Household Income (1995)
Greenwich Village/Financial District	\$56,849.00	Greenwich Village/Financial District	\$90,412
Lower East Side/Chinatown	\$21,879.00	Lower East Side/Chinatown	\$34,118
Chelsea/Clinton/Midtown	\$42,934.00	Chelsea/Clinton/Midtown	\$70,696
Stuyvesant Town/Turtle Bay	\$55,884.00	Stuyvesant Town/Turtle Bay	\$77,194
Upper West Side	\$48,142.00	Upper West Side	\$71,702
Upper East Side	\$67,118.00	Upper East Side	\$92,876
Morningside Heights	\$21,412.00	Morningside Heights	\$37,739
Central Harlem	\$13,336.00	Central Harlem	\$23,730
East Harlem	\$15,423.00	East Harlem	\$25,498
Washington Heights/Inwood	\$25,558.00	Washington Heights/Inwood	\$33,364

Paris Period 1 (1990)		Paris: Period 2 (1995)	
Arrondissement	Mean Household Income (1990)	Arrondissement	Mean Household Income (1995)
1	154,292	1	161,130
2	97,233	2	103,366
3	119,518	3	124,847
4	149,045	4	154,584
5	144,385	5	153,308
6	205,004	6	216,161
7	274,850	7	269,735
8	257,633	8	235,728
9	125,092	9	129,740
10	90,711	10	93,865
11	91,126	11	99,304
12	109,137	12	114,915
13	98,018	13	106,400
14	115,327	14	122,385
15	129,141	15	137,460
16	288,155	16	261,657
17	148,730	17	150,725
18	84,414	18	87,839
19	86,346	19	91,474
20	84,632	20	90,198

Tokyo: Period 1 (1990)		Tokyo: Period 2 (1995)	
Ward	Mean Household Income 1990 (1,000 yen)	Ward	Mean Household Income (1998)
Chiyoda	643	Chiyoda	8312
Chuoh	6,946	Chuoh	5462
Minato	8,031	Minato	7001
Shinjuku	4,818	Shinjuku	4605
Bunkyo	6,430	Bunkyo	5791
Taito	4,595	Taito	4496
Sumida	4,054	Sumida	4137
Kohtoh	4,128	Kohtoh	4256
Shibuya	6,392	Shibuya	5738
Toshima	4,025	Toshima	3996
Arakawa	4,165	Arakawa	4027

London: Period 1 (1990)		London: Period 2 (1998)	
Borough	Carstairs Index (1991)	Borough	Ranking from DETR Index of Local Deprivation (1998)
City of London	-1	City of London	0.005464481
Croydon	0.04	Croydon	0.011363636
Hackney	8.87	Hackney	0.250000000
Hammersmith & Fulham	4.09	Hammersmith & Fulham	0.055555556
Haringey	4.91	Haringey	0.076923077
Islington	5.89	Islington	0.100000000
Kensington & Chelsea	2.82	Kensington & Chelsea	0.015873016
Lambeth	5.45	Lambeth	0.083333333
Lewisham	3.57	Lewisham	0.071428571
Newham	8.04	Newham	0.500000000
Southwark	6.52	Southwark	0.125000000
Tower Hamlets	12.96	Tower Hamlets	0.166666667
Wandsworth	2.46	Wandsworth	0.033333333
Westminster, City of	4.56	Westminster, City of	0.01754386

Part B. Infant Births and Infant Deaths (1988-1997)

London: Number of Infant Births and Deaths by Borough and Year

BIRTHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
City of London	32	31	59	43	45	41	47	49	53	49	210	239
Camden	2,229	2,332	2,412	2,301	2,446	2,437	2,550	2,511	2,615	2,648	11,720	12,761
Hackney	3,607	3,768	3,862	3,806	3,621	3,538	3,601	3,635	3,787	3,804	18,664	18,365
Hammersmith-Fulham	2,107	2,151	2,189	2,214	2,288	2,182	2,313	2,205	2,333	2,292	10,949	11,325
Haringey	3,202	3,334	3,535	3,485	3,502	3,431	3,481	3,550	3,598	3,613	17,058	17,673
Islington	2,516	2,563	2,810	2,737	2,735	2,771	2,572	2,622	2,484	2,562	13,361	13,011
Kensington-Chelsea	1,844	1,770	1,850	1,839	1,816	1,843	1,895	1,879	1,997	1,963	9,119	9,577
Lambeth	4,135	4,419	4,345	4,323	4,346	4,248	4,329	4,222	4,396	4,417	21,568	21,612
Lewisham	3,566	3,632	4,005	3,933	4,135	3,825	3,924	3,872	3,784	3,973	19,271	19,378
Newham	4,176	4,131	4,417	4,538	4,517	4,511	4,491	4,606	4,821	4,607	21,779	23,036
Southwark	3,625	3,835	4,072	4,094	4,076	4,048	4,165	4,166	4,056	4,313	19,702	20,748
Tower Hamlets	2,986	3,152	3,220	3,213	3,271	3,265	3,308	3,429	3,445	3,571	15,842	17,018
Wandsworth	3,560	3,696	3,854	4,047	4,152	4,035	4,074	4,145	4,189	4,069	19,309	20,512
City of Westminster	2,220	2,301	2,399	2,513	2,393	2,337	2,362	2,358	2,400	2,379	11,826	11,836

Note: For 1988 and 1989 above figures are for population less than one year rather than number of live births.

DEATHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
City of London	1	0	0	0	0	0	0	1	0	0	1	1
Camden	16	21	18	27	16	12	19	13	9	10	98	63
Hackney	35	36	34	33	30	31	42	32	27	43	168	175
Hammersmith-Fulham	17	25	23	20	14	16	24	10	6	14	99	70
Haringey	39	31	31	25	34	26	28	27	15	17	160	113
Islington	23	22	31	19	25	17	13	17	13	7	120	67
Kensington-Chelsea	11	17	15	8	9	14	5	14	16	14	60	63
Lambeth	47	37	45	32	34	42	27	36	43	36	195	184
Lewisham	32	36	29	30	35	24	32	34	41	30	162	161
Newham	35	45	25	46	31	29	38	25	36	41	182	169
Southwark	50	36	43	36	42	29	47	33	30	40	207	179
Tower Hamlets	36	30	25	17	26	17	22	29	22	20	134	110
Wandsworth	38	38	30	27	26	33	14	27	29	13	159	116
City of Westminster	12	22	22	22	18	24	14	8	13	18	96	77

Manhattan: Number of Infant Births and Deaths by Sub-borough and Year

BIRTHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
Greenwich Village	1,089	1,080	1,127	1,029	1,020	1,024	1,159	1,067	1,001	1,001	5345	5252
Lower East Side	2194	2289	2289	2155	2118	2174	2177	2070	2102	2041	11045	10564
Chelsea/Clinton	1,583	1,442	1,210	1,244	1,220	1,160	1,158	1,100	1,145	1,092	6,699	5,655
Stuyvesant Town	1,022	1,156	1,145	1,094	1,105	1,114	1,107	1,129	1,085	1174	5522	5609
Upper West Side	2,335	2,502	2,468	2,463	2,530	2,449	2,476	2,486	2,364	2,389	12298	12164
Upper East Side	2,092	1,950	2,105	2,138	2,219	2,180	2,303	2,438	2,627	2,606	10,504	12,154
Morningside Heights	2,267	2,334	2,248	2,244	2,159	1,961	1,935	1,789	1,718	1,560	11,252	8,963
Central Harlem	2,172	2,326	2,331	2,449	2,266	2,179	1,954	1,955	1,823	1,766	11,544	9,677
East Harlem	2,148	2,484	2,398	2,398	2,292	2,173	2,174	2,035	1,934	1,900	11,720	10,216
Washington Heights	4,344	4,621	4,677	4,538	4,409	4,367	4,366	4,244	3,940	3,555	22,589	20,472
Manhattan	21,246	22,184	21,998	21,752	21,338	20,781	20,809	20,313	19,739	19,084	108,518	100,726

DEATHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
Greenwich Village	7	9	3	7	4	7	6	4	3	3	30	23
Lower East Side	20	15	19	18	16	18	15	10	11	6	88	60
Chelsea/Clinton	26	22	11	12	7	16	9	8	13	5	78	51
Stuyvesant Town	11	16	6	5	3	6	3	11	8	1	41	29
Upper West Side	27	15	21	19	11	15	13	8	9	4	93	49
Upper East Side	11	10	6	9	11	10	5	7	8	9	47	39
Morningside Heights	45	34	28	26	23	26	16	9	10	9	156	70
Central Harlem	46	50	66	44	35	52	26	33	30	8	241	149
East Harlem	47	43	36	36	37	40	31	27	25	18	199	141
Washington Heights	36	46	33	30	36	34	26	27	21	28	181	136

Paris: Number of Infant Births by *Arrondissement* and Year

BIRTHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
I	226	265	242	258	225	211	197	204	217	192	1216	1021
II	272	312	297	329	311	256	290	239	261	289	1521	1335
III	514	535	546	517	495	513	465	471	431	468	2607	2348
IV	431	405	408	363	354	344	358	310	341	298	1961	1651
V	706	671	691	679	664	635	721	622	657	626	3411	3261
VI	529	503	485	457	479	440	434	437	412	459	2453	2182
VII	747	682	684	709	599	600	641	601	656	675	3421	3173
VIII	552	520	502	495	448	457	489	444	476	521	2517	2387
IX	887	838	909	873	839	786	797	825	752	829	4346	3989
X	1,640	1,684	1,651	1,694	1,648	1,562	1,432	1,452	1,477	1,465	8,317	7,388
XI	2,665	2,536	2,608	2,647	2,517	2,395	2,355	2,324	2,256	2,272	12,973	11,602
XII	1,750	1,904	1,822	1,914	1,792	1,843	1,820	1,896	1,938	1,911	9,182	9,408
XIII	2,571	2,355	2,442	2,458	2,348	2,280	2,311	2,255	2,220	2,224	12,174	11,290
XIV	1,771	1,743	1,741	1,699	1,612	1,618	1,559	1,661	1,664	1,644	8,566	8,146
XV	3,072	2,917	2,873	2,976	2,901	2,949	2,898	3,042	3,061	3,061	14,739	15,011
XVI	1,878	1,834	1,924	1,864	1,884	1,775	1,865	1,898	2,012	1,925	9,384	9,475
XVII	2,404	2,422	2,257	2,320	2,407	2,210	2,277	2,277	2,329	2,294	11,810	11,387
XVIII	3,335	3,335	3,415	3,504	3,383	3,220	3,124	3,088	3,059	2,984	16,972	15,475
XIX	2,990	2,909	2,995	3,026	3,074	2,949	2,902	2,998	3,039	2,941	14,994	14,829
XX	3,166	3,076	3,190	3,081	3,098	3,068	2,791	2,765	2,887	2,664	15,611	14,175

DEATHS	1993	1994	1995	1996	1997	1988-1992	1993-1997
I	1	1	1	0	2	12	5
II	1	5	1	0	3	14	10
III	2	4	1	0	2	13	9
IV	0	0	1	1	0	8	2
V	3	4	2	6	2	35	17
VI	2	3	2	0	1	14	51
VII	6	7	2	1	5	25	21
VIII	3	5	0	3	1	25	12
IX	4	0	2	4	4	36	14
X	9	12	5	11	10	57	47
XI	15	11	16	8	16	105	66
XII	4	14	4	5	9	77	36
XIII	16	9	14	12	12	95	63
XIV	9	6	10	10	14	62	49
XV	13	21	6	11	13	103	64
XVI	15	16	6	9	7	65	53
XVII	21	12	7	16	7	86	63
XVIII	25	16	13	15	22	131	91
XIX	20	19	9	11	19	115	78
XX	30	16	17	13	18	109	94

Note: For 1988-1992 the number of deaths by *arrondissement* was not available to us on an annual basis. Nevertheless we obtained the annual citywide

Tokyo: Number of Infant Births and Deaths by *Ku* and Year

BIRTHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
Chiyoda	301	297	243	224	239	192	202	194	217	210	1304	1015
Chuoh	629	609	536	571	453	485	522	493	458	503	2798	2461
Minato	1,381	1,204	1,108	1,113	1,069	959	1,072	998	1,046	1,075	5,875	5,150
Shinjuku	2,499	2,270	2,051	1,866	1,743	1,713	1,728	1,703	1,659	1,657	10,429	8,460
Bunkyo	1,422	1,279	1,241	1,142	1,100	1,045	1,158	1,029	1,029	1,040	6,184	5,301
Taito	1,191	1,109	1,060	1,090	1,068	1,030	1,079	943	969	940	5,518	4,961
Sumida	2,014	1,839	1,745	1,772	1,637	1,655	1,670	1,632	1,674	1,607	9,007	8,238
Kohtoh	3,880	3,488	3,267	3,133	2,982	2,682	2,782	2,609	2,543	2,664	16,750	13,280
Shibuya	1,676	1,525	1,451	1,285	1,196	1,210	1,251	1,099	1,250	1,262	7,133	6,072
Toshima	2,110	1,879	1,804	1,760	1,700	1,580	1,579	1,467	1,447	1,571	9,253	7,644
Arakawa	1,604	1,409	1,403	1,437	1,338	1,332	1,441	1,275	1,357	1,329	7,191	6,734
DEATHS	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988-1992	1993-1997
Chiyoda	0	1	0	3	0	1	0	1	1	1	4	4
Chuoh	0	3	0	5	2	2	1	5	5	1	10	14
Minato	3	5	4	4	7	6	3	6	5	3	23	23
Shinjuku	14	12	8	8	6	10	8	11	6	4	48	39
Bunkyo	10	8	6	3	4	3	4	3	4	8	31	22
Taito	7	4	5	3	3	7	4	3	2	1	22	17
Sumida	12	7	7	11	6	8	11	7	3	9	43	38
Kohtoh	16	18	18	13	17	13	12	10	12	13	82	60
Shibuya	11	6	6	6	3	7	5	13	4	3	32	32
Toshima	7	8	11	8	3	5	7	3	8	8	37	31
Arakawa	3	7	6	5	7	10	6	7	7	3	28	33

Part C. Sources

Births and Infant Deaths

London: Office of National Statistics. Birth registration and linked mortality files. .
Number of live births (1990-1997). Population below 1 year of age and number of infant deaths (1988-1997).
Obtained from London Health Observatory, Justine Fitzpatrick

Manhattan: Data extracted by Birgit Bogler from Birth and Death files, Division of Vital Statistics, Department of Health and Mental Hygiene. Because Infant Birth and Death data were only available for the twelve community districts of Manhattan, we had to convert these districts to the ten sub-borough units for which income data were available, as noted below:

Conversion of Community Districts to Sub-Borough Areas in Manhattan

CD#	Community Districts	SB#	Sub-Borough Area (PUMA)
1	Financial District	1	Greenwich Village/Financial District
2	Greenwich Village		
3	Lower East Side/Chinatown	2	Lower East Side/Chinatown
4	Clinton/Chelsea	3	Chelsea/Clinton/Midtown
5	Midtown		
6	Stuyvesant Town/Turtle Bay	4	Stuyvesant Town/Turtle Bay
7	Upper West Side	5	Upper West Side
8	Upper East Side	6	Upper East Side
9	Morningside Heights/Hamilton Heights	7	Morningside Heights/Hamilton Heights
10	Central Harlem	8	Central Harlem
11	East Harlem	9	East Harlem
12	Washington Heights/Inwood	10	Washington Heights/Inwood

Paris: 1988-1992 number of live births and infant deaths are from "La santé de la mère et de la Enfant à Paris," Département des Affaires Sanitaires et Sociales, Villes de Paris, July 2000 . For the period 1993-1997, these data were provided by Eric Jouglu, Institut Nationale Scientifique des Etudes et de Recherche Médicales (INSERM)

Tokyo: 1988-92 data are from Tokyo Eiseikyoku (1993), Annual Report on Health in Tokyo. 1993-97 data are from Fiscal Year 2000 Report of the Bureau of Public Health, Tokyo Metropolitan Government, 2000. Provided by Yukiko Kudo, International Longevity Center –Japan.

Income Related Variable

Manhattan: Household income, for 1990 and 1995, from the New York City Housing and Vacancy Survey, 1991 and 1996.

Paris: Household income, for 1990 and 1996, from the Ministry of Finance.

Tokyo: Household Income for 1990 and 1998, from the Ministry of Finance.

London: Carstairs Index, for 1991, from the Office of National Statistics, 1991 Census. For more on the Carstairs Index see (http://census.ac.uk/cdu/Datasets/1991Census_datasets/Area_Stats/Derived_data/Deprivation_scores/Carstairs_index.htm). Department of Transportation, Environment, and Regions (DETR) Deprivation Index 1998, from Office of National Statistics, Focus on London. (www.statistics.gov.uk/london). For more on the DETR index, see www.detr.gov.uk.