

For Online Publication

Appendix to the study

**“HOUSEHOLD AND INDIVIDUAL ECONOMIC RESPONSES TO DIFFERENT HEALTH SHOCKS:
THE ROLE OF MEDICAL INNOVATIONS”**

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Appendix A

Table – Disease groups used in the study

Group number	Group name	Broad group name
1	Malignant neoplasms of lip, oral cavity and pharynx	cancer
2	Malignant neoplasm of oesophagus	cancer
3	Malignant neoplasm of stomach	cancer
4	Malignant neoplasm of small intestine, colon, rectosigmoid junction, rectum, anus and anal canal	cancer
5	Malignant neoplasm of liver and intrahepatic bile ducts	cancer
6	Malignant neoplasm of gallbladder	cancer
7	Malignant neoplasm of pancreas	cancer
8	Malignant neoplasm of respiratory and intrathoracic organs	cancer
9	Malignant neoplasm of bone and articular cartilage	cancer
10	Melanoma and other malignant neoplasms of skin	cancer
11	Malignant neoplasms of mesothelial and soft tissue	cancer
12	Malignant neoplasm of breast	cancer
13	Malignant neoplasms of vulva, vagina, cervix uteri, corpus uteri and parts of uterus	cancer
14	Malignant neoplasms of ovary and placenta	cancer
15	Malignant neoplasms of penis, prostate, testis and other male genital organs	cancer
16	Malignant neoplasm of kidney, renal pelvis and ureter	cancer
17	Malignant neoplasm of bladder	cancer
18	Malignant neoplasms of eye and adnexa, meninges, brain, spinal cord, cranial nerves and other parts of central nervous system	cancer
19	Malignant neoplasms of thyroid gland, adrenal gland, and other endocrine glands	cancer
20	Hodgkin's disease	cancer
21	Non-Hodgkin's lymphoma	cancer
22	Malignant immunoproliferative diseases, multiple myeloma and malignant plasma cell neoplasms	cancer
23	Leukaemia	cancer
24	In situ neoplasms	cancer
25	Benign neoplasms	cancer
26	Acute rheumatic fever and chronic rheumatic heart diseases	circulatory diseases
27	Hypertensive diseases	circulatory diseases
28	Ischaemic heart diseases	circulatory diseases
29	Pulmonary heart disease and diseases of pulmonary circulation	circulatory diseases
30	Pericarditis	circulatory diseases
31	Endocarditis and myocarditis and cardiomyopathy	circulatory diseases
32	Cardiac arrhythmias and heart failure	circulatory diseases
33	Cerebrovascular diseases	circulatory diseases
34	Diseases of arteries, arterioles and capillaries	circulatory diseases
35	Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified	circulatory diseases
36	Organic, including symptomatic, mental disorders and Alzheimer disease. Systemic atrophies.	mental diseases
37	Mental and behavioural disorders due to use of alcohol and other substances	mental diseases
38	Schizophrenia, schizotypal and delusional disorders	mental diseases
39	Mood (affective) disorders	mental diseases
40	Neurotic, stress-related and somatoform disorders	mental diseases
41	Disorders of adult personality and behaviour	mental diseases
42	Mental retardation. Disorders of psychological development, behavioral and emotional disorders	mental diseases
43	Inflammatory diseases of the central nervous system	nervous diseases
44	Demyelinating diseases of the central nervous system	nervous diseases
45	Epilepsy	nervous diseases
46	Migraine and other headache syndromes	nervous diseases
47	Sleep disorders	nervous diseases
48	Nerve, nerve root and plexus disorders, polyneuropathies and myoneuropathies	nervous diseases
49	Diseases of oesophagus, stomach and duodenum	digestive diseases
50	Diseases of appendix	digestive diseases
51	Hernia	digestive diseases
52	Inflammatory bowel disease and other diseases of intestines	digestive diseases
53	Diseases of peritoneum	digestive diseases
54	Diseases of liver	digestive diseases
55	Diseases of gallbladder, biliary tract and pancreas	digestive diseases
56	Infectious arthropathies	musculoskeletal diseases
57	Rheumatoid and juvenile arthritis. Gout	musculoskeletal diseases
58	Arthrosis and systemic connective tissue disorders	musculoskeletal diseases

59	Deforming dorsopathies, osteopathies and chondropathies. Disorders of muscles	musculoskeletal diseases
60	Glomerular diseases and renal tubulo-interstitial diseases. Renal failure	urinary diseases
61	Urolithiasis	urinary diseases
62	Other diseases of the urinary system	urinary diseases
63	Diseases of male genital organs	urinary diseases
64	Diseases of female pelvic organs	urinary diseases
65	Diseases of upper respiratory tract	respiratory diseases
66	Pneumonia, other acute lower respiratory infections and diseases of pleura	respiratory diseases
67	Chronic obstructive pulmonary disease and chronic bronchitis	respiratory diseases
68	Asthma	respiratory diseases
69	Diabetes mellitus	metabolic diseases
70	Disorders of thyroid gland	metabolic diseases
71	Disorders of other endocrine glands	metabolic diseases
72	Obesity and other hyperalimentation, metabolic disorders	diseases of bloodforming organs
73	Nutritional anaemias	diseases of bloodforming organs
74	Haemolytic anaemias	diseases of bloodforming organs
75	Coagulation defects, purpura and other haemorrhagic conditions	diseases of sense organs
76	Disorders of eyelid, lacrimal system and orbit, conjunctiva, sclera, cornea, iris, ciliary body, choroid and retina.	diseases of sense organs
77	Cataract, disorders of lens	diseases of sense organs
78	Glaucoma	diseases of sense organs
79	Disorders of globe, optical nerve and visual pathways, ocular muscles, accommodation and refraction, and blindness	diseases of sense organs
80	Diseases of external and middle ear	diseases of sense organs
81	Diseases of inner ear	diseases of sense organs
82	Infections of the skin	diseases of skin
83	Bullous disorders, dermatitis and eczema, urticaria and erythema	diseases of skin
84	Intestinal infectious diseases	infectious and parasitic diseases
85	Tuberculosis	infectious and parasitic diseases
86	Bacterial diseases. Erysipelas. Meningitis	infectious and parasitic diseases
87	Sexually transmitted diseases	infectious and parasitic diseases
88	Viral infections	infectious and parasitic diseases
89	Viral hepatitis	infectious and parasitic diseases
90	HIV	infectious and parasitic diseases
91	Protozoal diseases	infectious and parasitic diseases

Appendix B

Table – Results of the *F*-test on non-linear pre-trends in responses of family income (IHS) to a health shock by disease group (β_2 is unrelated to future outcomes)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
event year -2	0.027 (0.018)	0.001 (0.017)	-0.006 (0.014)	0.007 (0.005)	-0.014 (0.024)	0.016 (0.013)	-0.001 (0.013)	-0.002 (0.007)	0.023 (0.029)	-0.001 (0.010)	-0.025* (0.015)	-0.004 (0.003)	-0.007 (0.006)
event year 0	0.075*** (0.019)	0.015 (0.027)	0.032* (0.016)	0.013** (0.006)	0.036* (0.022)	-0.013 (0.029)	0.006 (0.015)	0.029*** (0.008)	0.089* (0.052)	0.032*** (0.010)	0.023** (0.011)	0.025*** (0.003)	0.024*** (0.006)
event year 1	0.074*** (0.024)	0.027 (0.024)	0.040*** (0.015)	0.034*** (0.007)	0.057** (0.029)	-0.004 (0.018)	0.007 (0.018)	0.049*** (0.009)	0.066 (0.066)	0.055*** (0.012)	0.042*** (0.012)	0.045*** (0.004)	0.032*** (0.007)
DD _{dst} x event year -2	0.008 (0.024)	-0.027 (0.030)	0.007 (0.018)	-0.009 (0.007)	0.035 (0.031)	-0.023 (0.018)	-0.001 (0.018)	0.005 (0.011)	-0.012 (0.034)	0.004 (0.012)	0.042* (0.024)	-0.000 (0.004)	0.007 (0.008)
DD _{dst} x event year 0	-0.871*** (0.075)	-3.746*** (0.222)	-4.230*** (0.133)	-1.400*** (0.037)	-8.636*** (0.259)	-6.972*** (0.281)	-7.162*** (0.151)	-4.763*** (0.077)	-1.855*** (0.372)	-0.653*** (0.044)	-1.673*** (0.160)	-0.210*** (0.010)	-0.370*** (0.024)
DD _{dst} x event year 1	-1.882*** (0.106)	-7.648*** (0.308)	-6.024*** (0.178)	-2.185*** (0.046)	-9.979*** (0.502)	-9.404*** (0.449)	-10.571*** (0.232)	-6.973*** (0.106)	-3.673*** (0.514)	-0.978*** (0.051)	-2.063*** (0.181)	-0.414*** (0.013)	-0.894*** (0.036)
Constant	13.086*** (0.014)	13.152*** (0.034)	13.186*** (0.020)	13.233*** (0.006)	13.115*** (0.034)	13.077*** (0.039)	13.199*** (0.020)	13.133*** (0.011)	13.167*** (0.065)	13.217*** (0.008)	13.285*** (0.026)	13.272*** (0.002)	13.133*** (0.005)
Number of IDs	20,838	6,971	20,886	121,977	5,392	5,009	18,133	65,642	1,489	46,336	7,595	314,974	87,367
R-squared	0.083	0.399	0.333	0.113	0.634	0.546	0.571	0.381	0.193	0.044	0.115	0.015	0.041
Observations	4,249	1,448	4,387	24,891	1,171	1,076	3,900	13,813	306	9,470	1,562	63,588	17,691
<i>F</i> -test: DD _{dst} x event year -2 = 0	0.741	0.367	0.689	0.222	0.264	0.220	0.961	0.622	0.721	0.765	0.0753	0.933	0.363
Standardised difference	0.014	0.025	0.011	0.013	0.077	0.031	0.014	0.013	0.017	0.035	0.037	0.001	0.005
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
event year -2	0.001 (0.005)	-0.002 (0.004)	-0.008 (0.011)	0.001 (0.008)	-0.007 (0.012)	0.009 (0.008)	-0.024 (0.039)	-0.016* (0.009)	-0.032 (0.022)	0.003 (0.017)	0.000 (0.004)	-0.004** (0.002)	0.010 (0.012)
event year 0	0.020** (0.008)	0.025*** (0.006)	0.030*** (0.011)	0.049*** (0.010)	0.030* (0.017)	0.029*** (0.010)	0.040 (0.038)	0.028** (0.012)	0.029** (0.014)	0.044*** (0.015)	0.039*** (0.004)	0.036*** (0.002)	-0.025 (0.037)
event year 1	0.033*** (0.010)	0.051*** (0.006)	0.051*** (0.011)	0.047*** (0.012)	0.037** (0.017)	0.038*** (0.013)	-0.038 (0.043)	0.030* (0.015)	0.019 (0.022)	0.046*** (0.015)	0.051*** (0.005)	0.054*** (0.002)	0.031 (0.031)
DD _{dst} x event year -2	-0.006 (0.009)	-0.003 (0.007)	0.011 (0.015)	0.010 (0.012)	0.020 (0.018)	-0.002 (0.011)	0.102 (0.067)	0.025* (0.014)	0.036 (0.025)	0.011 (0.022)	0.010* (0.005)	0.008*** (0.003)	-0.024 (0.037)
DD _{dst} x event year 0	-0.882*** (0.053)	-0.410*** (0.023)	-1.935*** (0.090)	-0.525*** (0.039)	-2.780*** (0.120)	-0.549*** (0.096)	-0.329* (0.186)	-1.130*** (0.075)	-1.148*** (0.119)	-1.974*** (0.117)	-1.004*** (0.025)	-0.025*** (0.004)	-0.241** (0.094)
DD _{dst} x event year 1	-2.120*** (0.079)	-0.817*** (0.030)	-2.614*** (0.105)	-0.932*** (0.051)	-5.061*** (0.165)	-0.450*** (0.082)	-0.784*** (0.244)	-1.852*** (0.094)	-1.902*** (0.152)	-3.358*** (0.153)	-1.294*** (0.028)	-0.027*** (0.004)	-0.245*** (0.081)

Constant	13.187*** (0.010)	13.423*** (0.004)	13.231*** (0.014)	13.207*** (0.007)	13.260*** (0.019)	13.260*** (0.015)	13.130*** (0.034)	13.244*** (0.013)	13.236*** (0.020)	13.258*** (0.020)	13.220*** (0.004)	13.292*** (0.001)	13.021*** (0.015)
Number of IDs	39,213	110,851	27,074	46,275	20,133	7,814	1,653	24,594	10,070	16,168	203,555	632,599	5,169
R-squared	0.110	0.035	0.143	0.040	0.262	0.028	0.039	0.095	0.096	0.174	0.066	0.002	0.010
Observations	7,983	22,369	5,557	9,384	4,196	1,597	339	5,024	2,056	3,328	41,562	127,919	1,065
F-test: DD _{dst} x event year -2 = 0	0.483	0.605	0.460	0.365	0.273	0.832	0.128	0.0747	0.158	0.629	0.0574	0.00299	0.512
Standardised difference	0.001	0.015	0.011	0.016	0.015	0.010	0.170	0.004	0.046	0.037	0.005	0.002	0.057
	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
event year -2	-0.002 (0.006)	-0.001 (0.002)	0.007 (0.007)	-0.007 (0.010)	-0.005 (0.009)	0.000 (0.003)	-0.002 (0.003)	-0.005 (0.007)	0.000 (0.003)	-0.007 (0.009)	-0.005 (0.009)	-0.006 (0.007)	0.000 (0.009)
event year 0	0.025*** (0.006)	0.030*** (0.002)	0.040*** (0.009)	-0.008 (0.014)	0.032*** (0.009)	0.035*** (0.004)	0.025*** (0.003)	0.019*** (0.007)	0.030*** (0.003)	0.000 (0.010)	-0.006 (0.008)	-0.011 (0.008)	0.019*** (0.011)
event year 1	0.047*** (0.007)	0.043*** (0.002)	0.060*** (0.009)	-0.008 (0.017)	0.057*** (0.009)	0.054*** (0.004)	0.043*** (0.004)	0.037*** (0.008)	0.050*** (0.003)	-0.008 (0.014)	-0.012 (0.009)	0.002 (0.013)	0.004 (0.009)
DD _{dst} x event year -2	-0.005 (0.008)	0.006** (0.003)	-0.004 (0.011)	-0.007 (0.020)	-0.008 (0.012)	0.003 (0.004)	0.005 (0.004)	0.007 (0.009)	0.002 (0.004)	0.010 (0.013)	0.008 (0.010)	-0.002 (0.013)	0.007 (0.009)
DD _{dst} x event year 0	-0.091*** (0.012)	-0.576*** (0.009)	-0.673*** (0.039)	-0.264*** (0.050)	-0.424*** (0.030)	-0.320*** (0.012)	-1.057*** (0.017)	-0.830*** (0.033)	-0.096*** (0.007)	-0.729*** (0.050)	-0.159*** (0.015)	-0.113*** (0.023)	-0.222*** (0.018)
DD _{dst} x event year 1	-0.113*** (0.013)	-0.263*** (0.006)	-0.358*** (0.027)	-0.167*** (0.043)	-0.278*** (0.024)	-0.234*** (0.010)	-0.431*** (0.010)	-0.407*** (0.021)	-0.093*** (0.006)	-0.854*** (0.054)	-0.156*** (0.016)	-0.039* (0.022)	-0.123*** (0.015)
Constant	13.148*** (0.002)	13.188*** (0.001)	13.235*** (0.006)	13.302*** (0.008)	13.219*** (0.005)	13.233*** (0.002)	13.180*** (0.002)	13.103*** (0.002)	13.163*** (0.005)	13.117*** (0.001)	12.769*** (0.008)	12.613*** (0.003)	13.121*** (0.004)
Number of IDs	146,581	905,759	58,197	19,913	69,909	353,852	457,710	101,846	403,297	40,674	217,257	77,074	118,220
R-squared	0.001	0.025	0.030	0.008	0.014	0.011	0.056	0.040	0.002	0.043	0.003	0.001	0.006
Observations	29,722	183,512	11,838	4,046	14,178	71,599	93,037	20,744	82,385	8,290	44,544	15,891	24,061
F-test: DD _{dst} x event year -2 = 0	0.530	0.0375	0.676	0.712	0.504	0.532	0.234	0.421	0.658	0.448	0.391	0.900	0.396
Standardised difference	0.020	0.008	0.015	0.022	0.017	0.005	0.004	0.027	0.008	0.019	0.070	0.040	0.020
	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)
event year -2	-0.007 (0.007)	0.078** (0.038)	0.030 (0.039)	0.012 (0.019)	0.004 (0.008)	-0.025* (0.013)	0.005 (0.006)	-0.005 (0.011)	0.006 (0.005)	-0.005 (0.004)	-0.004 (0.004)	-0.001 (0.003)	0.000 (0.003)
event year 0	0.011 (0.008)	0.016 (0.051)	0.041 (0.060)	0.059*** (0.021)	0.012 (0.009)	0.012 (0.011)	0.026*** (0.007)	0.085*** (0.012)	0.025*** (0.007)	0.024*** (0.004)	0.035*** (0.005)	0.034*** (0.003)	0.037*** (0.004)
event year 1	0.020** (0.009)	0.008 (0.056)	0.055 (0.060)	0.091*** (0.021)	0.005 (0.017)	0.015 (0.013)	0.049*** (0.007)	0.123*** (0.013)	0.051*** (0.013)	0.039*** (0.007)	0.071*** (0.005)	0.052*** (0.005)	0.059*** (0.004)
DD _{dst} x event year -2	0.004 (0.010)	-0.071 (0.061)	-0.100 (0.070)	0.005 (0.024)	0.003 (0.012)	0.022 (0.016)	-0.003 (0.008)	0.010 (0.015)	-0.009 (0.008)	0.008 (0.005)	-0.003 (0.006)	0.006 (0.004)	0.004 (0.005)
DD _{dst} x event year 0	-0.184*** (0.184***)	-0.253** (0.253**)	-0.244** (0.244**)	-0.509*** (0.509***)	-0.094*** (0.094***)	-0.237*** (0.060***)	-0.060*** (0.054***)	-0.054*** (0.087***)	-0.087*** (0.117***)	-0.117*** (0.024***)	-0.024*** (0.026***)	-0.087*** (0.087***)	

	(0.017)	(0.102)	(0.117)	(0.072)	(0.035)	(0.031)	(0.014)	(0.019)	(0.016)	(0.009)	(0.008)	(0.005)	(0.008)
DD _{dst} x event year 1	-0.139*** (0.015)	-0.108 (0.091)	-0.093 (0.097)	-0.331*** (0.055)	-0.046 (0.032)	-0.309*** (0.036)	-0.072*** (0.013)	-0.062*** (0.021)	-0.143*** (0.018)	-0.140*** (0.010)	-0.033*** (0.009)	-0.034*** (0.006)	-0.096*** (0.008)
Constant	13.052*** (0.003)	12.580*** (0.020)	12.470*** (0.022)	13.232*** (0.012)	13.229*** (0.006)	13.018*** (0.006)	13.210*** (0.003)	13.366*** (0.004)	13.171*** (0.003)	13.115*** (0.003)	13.282*** (0.002)	13.160*** (0.002)	13.240*** (0.001)
Number of IDs	108,296	5,852	3,279	14,324	15,157	35,867	95,877	38,866	81,078	294,241	199,061	394,345	334,767
R-squared	0.005	0.004	0.004	0.018	0.002	0.012	0.001	0.005	0.002	0.002	0.002	0.001	0.001
Observations	22,265	1,226	672	2,916	3,102	7,378	19,540	7,854	16,578	59,941	40,485	80,213	67,903
F-test: DD _{dst} x event year -2 = 0	0.696	0.247	0.157	0.846	0.809	0.159	0.709	0.496	0.301	0.125	0.651	0.115	0.406
Standardised difference	0.009	0.111	0.102	0.020	0.036	0.060	0.010	0.020	0.008	0.001	0.008	0.010	0.001
	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)
event year -2	0.010 (0.028)	-0.001 (0.010)	0.002 (0.002)	0.005 (0.010)	-0.000 (0.003)	-0.002 (0.003)	-0.003 (0.002)	-0.002 (0.006)	-0.001 (0.004)	-0.004 (0.006)	0.006* (0.003)	0.002 (0.003)	-0.003 (0.004)
event year 0	0.038** (0.017)	-0.011 (0.013)	0.033*** (0.003)	0.040*** (0.012)	0.017*** (0.003)	0.038*** (0.004)	0.037*** (0.003)	0.035*** (0.007)	0.040*** (0.005)	0.045*** (0.005)	0.024*** (0.004)	0.044*** (0.004)	0.043*** (0.004)
event year 1	0.072*** (0.027)	0.003 (0.014)	0.054*** (0.003)	0.056*** (0.013)	0.020*** (0.003)	0.065*** (0.004)	0.055*** (0.003)	0.047*** (0.008)	0.060*** (0.005)	0.063*** (0.006)	0.038*** (0.004)	0.080*** (0.003)	0.063*** (0.004)
DD _{dst} x event year -2	0.008 (0.033)	-0.009 (0.015)	0.000 (0.003)	-0.005 (0.015)	0.002 (0.004)	0.004 (0.004)	0.006* (0.003)	0.013 (0.008)	0.004 (0.008)	0.004 (0.006)	-0.005 (0.007)	-0.003 (0.004)	0.005 (0.005)
DD _{dst} x event year 0	-0.494*** (0.107)	-1.750*** (0.067)	-0.091*** (0.006)	-0.034 (0.024)	-0.038*** (0.006)	-0.052*** (0.007)	-0.042*** (0.005)	-0.174*** (0.018)	-0.024*** (0.008)	-0.054*** (0.010)	-0.040*** (0.007)	-0.017*** (0.006)	-0.040*** (0.007)
DD _{dst} x event year 1	-0.328*** (0.079)	-1.083*** (0.052)	-0.115*** (0.006)	-0.028 (0.024)	-0.052*** (0.007)	-0.065*** (0.007)	-0.049*** (0.005)	-0.181*** (0.018)	-0.042*** (0.009)	-0.086*** (0.012)	-0.059*** (0.008)	-0.020*** (0.006)	-0.044*** (0.007)
Constant	13.240*** (0.016)	13.089*** (0.010)	13.229*** (0.001)	13.272*** (0.005)	13.136*** (0.001)	13.281*** (0.001)	13.250*** (0.001)	13.190*** (0.003)	13.227*** (0.003)	13.300*** (0.002)	13.208*** (0.002)	13.380*** (0.001)	13.264*** (0.001)
Number of IDs	6,095	45,333	575,124	24,219	219,899	277,086	596,224	102,261	197,620	120,582	230,884	288,248	225,181
R-squared	0.020	0.097	0.002	0.001	0.001	0.001	0.004	0.001	0.001	0.001	0.001	0.004	0.001
Observations	1,250	9,346	116,465	4,911	44,426	55,872	121,225	20,832	40,276	24,398	46,599	58,333	45,895
F-test: DD _{dst} x event year -2 = 0	0.807	0.555	0.897	0.739	0.618	0.377	0.0729	0.108	0.474	0.558	0.249	0.408	0.320
Standardised difference	0.105	0.045	0.003	0.002	0.011	0.008	0.004	0.009	0.015	0.011	0.010	0.007	0.015
	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)
event year -2	0.003 (0.004)	0.000 (0.008)	0.010 (0.006)	-0.003 (0.006)	0.002 (0.005)	0.002 (0.017)	-0.011 (0.009)	-0.006 (0.010)	0.013 (0.018)	0.001 (0.014)	0.002 (0.005)	-0.004 (0.008)	0.011* (0.006)
event year 0	0.032*** (0.004)	0.033*** (0.009)	0.025*** (0.008)	0.046*** (0.006)	0.033*** (0.005)	0.043*** (0.012)	0.034*** (0.009)	0.011 (0.013)	0.021 (0.018)	0.025 (0.018)	0.029*** (0.006)	0.013 (0.008)	0.020** (0.009)
event year 1	0.052*** (0.005)	0.037*** (0.010)	0.043*** (0.009)	0.051*** (0.006)	0.049*** (0.006)	0.055*** (0.014)	0.049*** (0.011)	0.035** (0.015)	0.056*** (0.022)	0.029 (0.022)	0.060*** (0.006)	0.028** (0.011)	0.024*** (0.009)

DD _{dst} x event year -2	-0.003 (0.005)	0.012 (0.010)	-0.007 (0.009)	0.018** (0.007)	0.000 (0.006)	0.006 (0.020)	0.009 (0.012)	-0.005 (0.015)	-0.026 (0.024)	-0.005 (0.021)	-0.007 (0.007)	-0.001 (0.013)	-0.002 (0.010)
DD _{dst} x event year 0	-0.396*** (0.015)	-0.340*** (0.029)	-0.148*** (0.021)	-0.154*** (0.013)	-0.044*** (0.009)	-0.126*** (0.035)	-0.149*** (0.023)	-0.138*** (0.030)	-0.640*** (0.075)	-0.508*** (0.072)	-0.015 (0.009)	0.003 (0.016)	-0.037** (0.016)
DD _{dst} x event year 1	-0.395*** (0.014)	-0.428*** (0.033)	-0.160*** (0.021)	-0.165*** (0.014)	-0.041*** (0.009)	-0.150*** (0.035)	-0.150*** (0.023)	-0.261*** (0.037)	-0.712*** (0.077)	-0.462*** (0.066)	-0.037*** (0.066)	-0.056** (0.010)	-0.066*** (0.024)
Constant	13.170*** (0.002)	12.990*** (0.005)	13.068*** (0.004)	13.024*** (0.002)	13.212*** (0.002)	13.192*** (0.007)	13.186*** (0.004)	13.051*** (0.006)	13.109*** (0.012)	13.199*** (0.012)	13.238*** (0.002)	12.994*** (0.004)	13.055*** (0.003)
Number of IDs	276,503	56,026	63,493	177,291	119,112	19,171	49,797	35,400	15,735	13,292	140,473	25,593	28,879
R-squared	0.016	0.017	0.004	0.003	0.001	0.003	0.003	0.006	0.032	0.024	0.001	0.001	0.001
Observations	56,286	11,407	12,991	36,209	24,285	3,912	10,179	7,218	3,223	2,721	28,444	5,192	5,861
F-test: DD _{dst} x event year -2 = 0	0.598	0.234	0.468	0.0120	0.940	0.751	0.462	0.715	0.270	0.807	0.339	0.960	0.839
Standardised difference	0.004	0.021	0.031	0.012	0.004	0.032	0.007	0.010	0.007	0.002	0.007	0.072	0.009
	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)	(91)
event year -2	0.019** (0.008)	0.002 (0.006)	-0.011** (0.005)	-0.000 (0.011)	0.000 (0.007)	-0.006 (0.007)	-0.007 (0.037)	-0.001 (0.006)	0.003 (0.010)	-0.015 (0.011)	0.021 (0.031)	-0.045 (0.074)	-0.006 (0.042)
event year 0	0.031*** (0.011)	0.039*** (0.006)	0.037*** (0.005)	0.048*** (0.012)	0.025*** (0.008)	0.038*** (0.007)	-0.009 (0.040)	0.026*** (0.007)	0.017 (0.014)	0.049*** (0.013)	0.104*** (0.032)	0.041 (0.048)	-0.030 (0.073)
event year 1	0.058*** (0.013)	0.057*** (0.007)	0.057*** (0.006)	0.061*** (0.014)	0.028*** (0.009)	0.065*** (0.008)	0.067** (0.031)	0.046*** (0.008)	0.028* (0.016)	0.070*** (0.013)	0.176*** (0.040)	0.466 (0.400)	0.067 (0.077)
DD _{dst} x event year -2	-0.019 (0.012)	0.003 (0.007)	0.014** (0.007)	0.015 (0.014)	0.006 (0.009)	0.003 (0.009)	0.022 (0.047)	0.003 (0.009)	0.005 (0.016)	0.021 (0.015)	-0.004 (0.039)	0.049 (0.147)	-0.008 (0.114)
DD _{dst} x event year 0	-0.066*** (0.023)	-0.033*** (0.011)	-0.016** (0.008)	-0.085*** (0.022)	-0.017 (0.014)	-0.068*** (0.014)	-0.160* (0.091)	-0.314*** (0.021)	-0.062** (0.027)	-0.118*** (0.027)	-0.185*** (0.057)	-3.116*** (1.081)	-0.060 (0.134)
DD _{dst} x event year 1	-0.075*** (0.024)	-0.061*** (0.012)	-0.028*** (0.010)	-0.069*** (0.024)	-0.031** (0.016)	-0.055*** (0.013)	-0.408*** (0.107)	-0.163*** (0.016)	-0.089*** (0.029)	-0.045** (0.022)	-0.213*** (0.061)	-1.728** (0.840)	-0.101 (0.138)
Constant	13.218*** (0.005)	13.194*** (0.002)	13.307*** (0.002)	13.109*** (0.005)	13.107*** (0.003)	13.273*** (0.003)	12.919*** (0.017)	13.169*** (0.003)	13.127*** (0.003)	13.272*** (0.005)	12.917*** (0.005)	12.426*** (0.012)	13.059*** (0.157)
Number of IDs	29,642	91,623	112,493	47,846	70,343	86,172	5,744	120,563	28,492	36,062	12,708	265	2,334
R-squared	0.001	0.001	0.002	0.001	0.000	0.001	0.009	0.009	0.001	0.002	0.003	0.186	0.001
Observations	6,060	18,738	22,778	9,782	14,427	17,582	1,186	24,499	5,851	7,365	2,621	57	487
F-test: DD _{dst} x event year -2 = 0	0.102	0.672	0.0342	0.298	0.498	0.762	0.636	0.749	0.758	0.164	0.928	0.741	0.945
Standardised difference	0.017	0.004	0.013	0.012	0.010	0.012	0.076	0.002	0.004	0.004	0.022	0.123	0.000

Note: In addition to the estimates for the terms reported in the above table, models include (experimental) individual fixed effects. Event years -3 and -1 are reference categories. Disease groups that were eventually excluded from the estimation sample – as those that have not passed the test – are in bold. Standard errors clustered at a (experimental) individual level are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

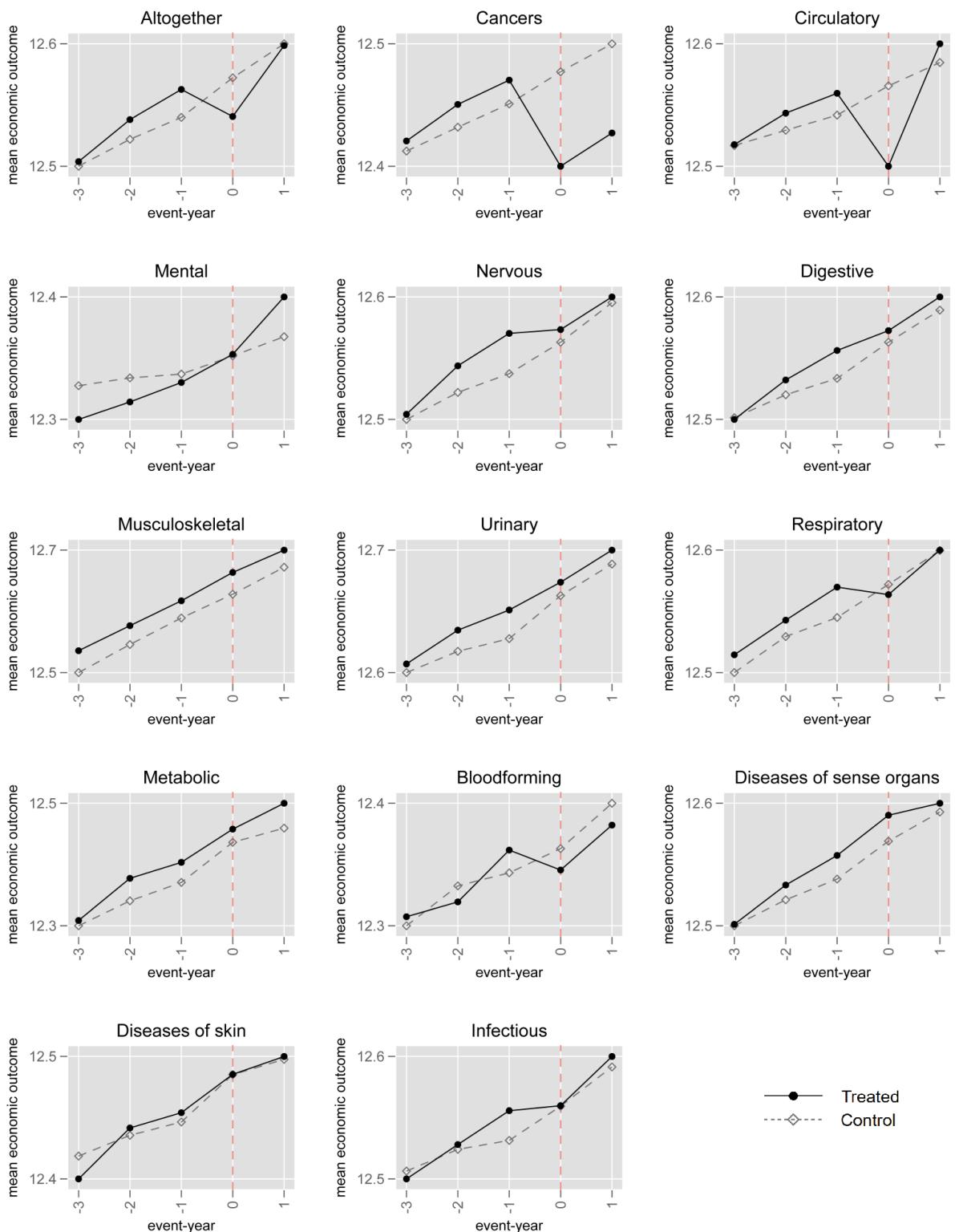


Figure B1 – Development of the individual's income (IHS) by event years for treated and control groups, both sexes

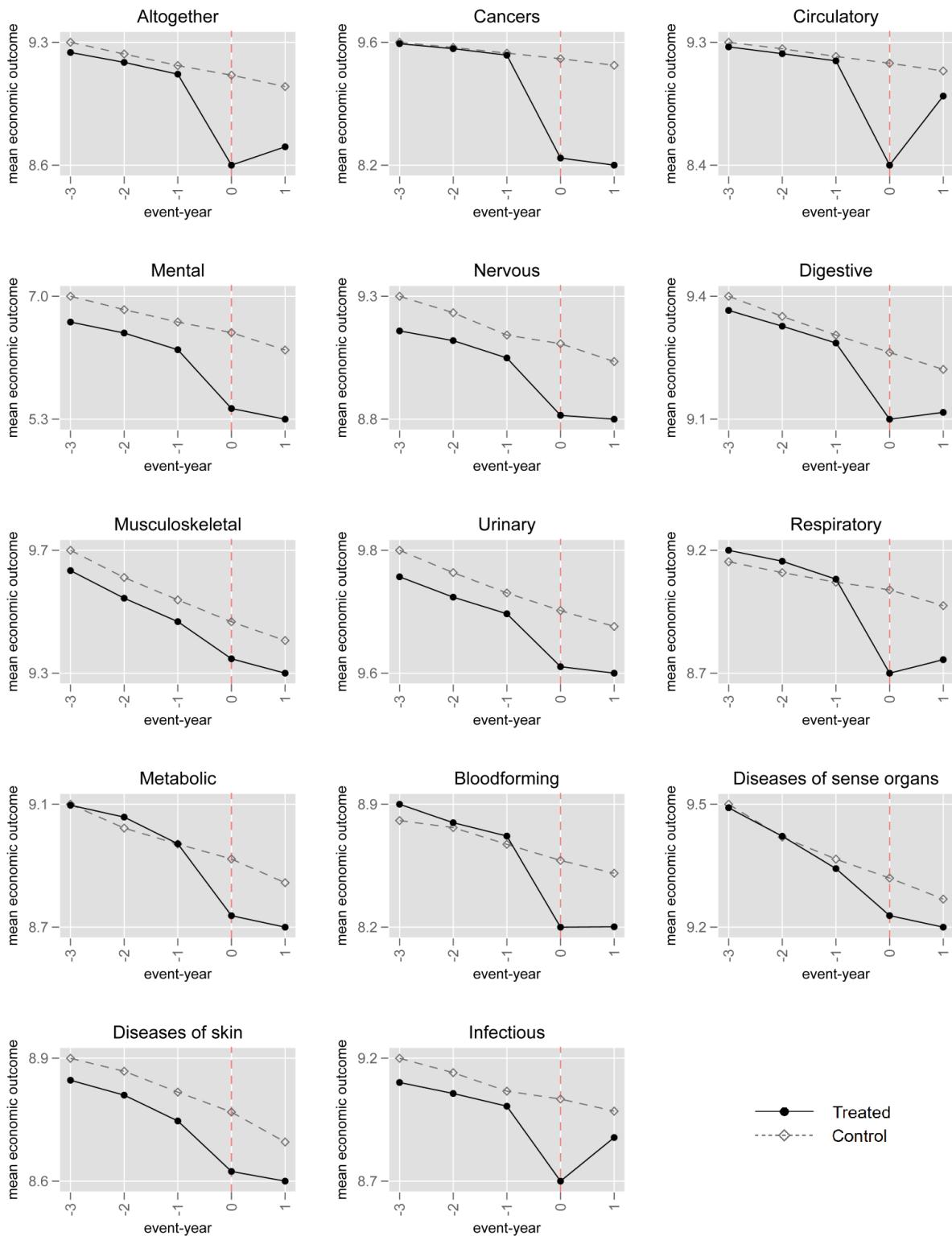


Figure B2 – Development of income of the partner or other household members (IHS) by event years for treated and control groups, both sexes

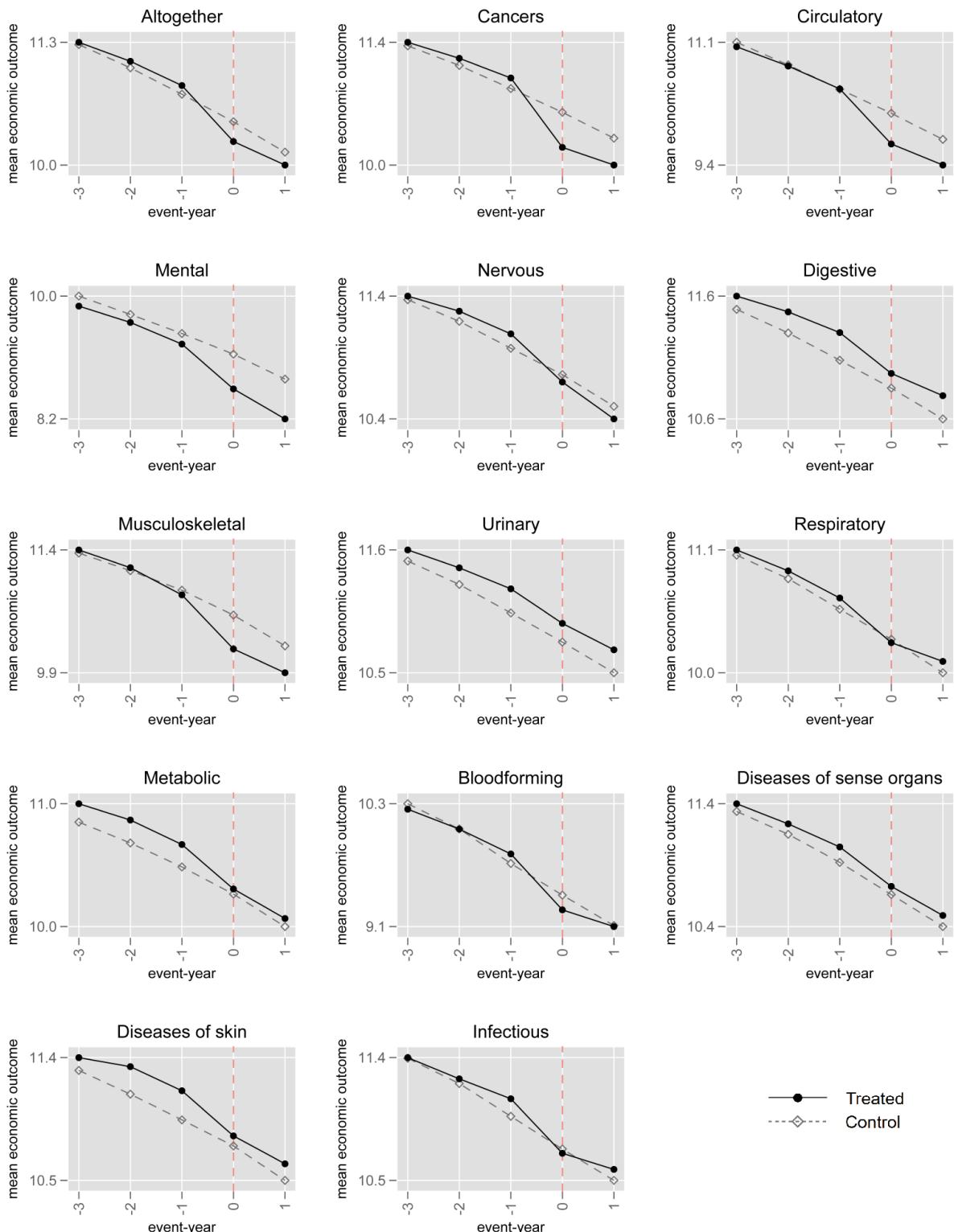


Figure B3 – Development of the individual's wage (IHS) by event years for treated and control groups, both sexes

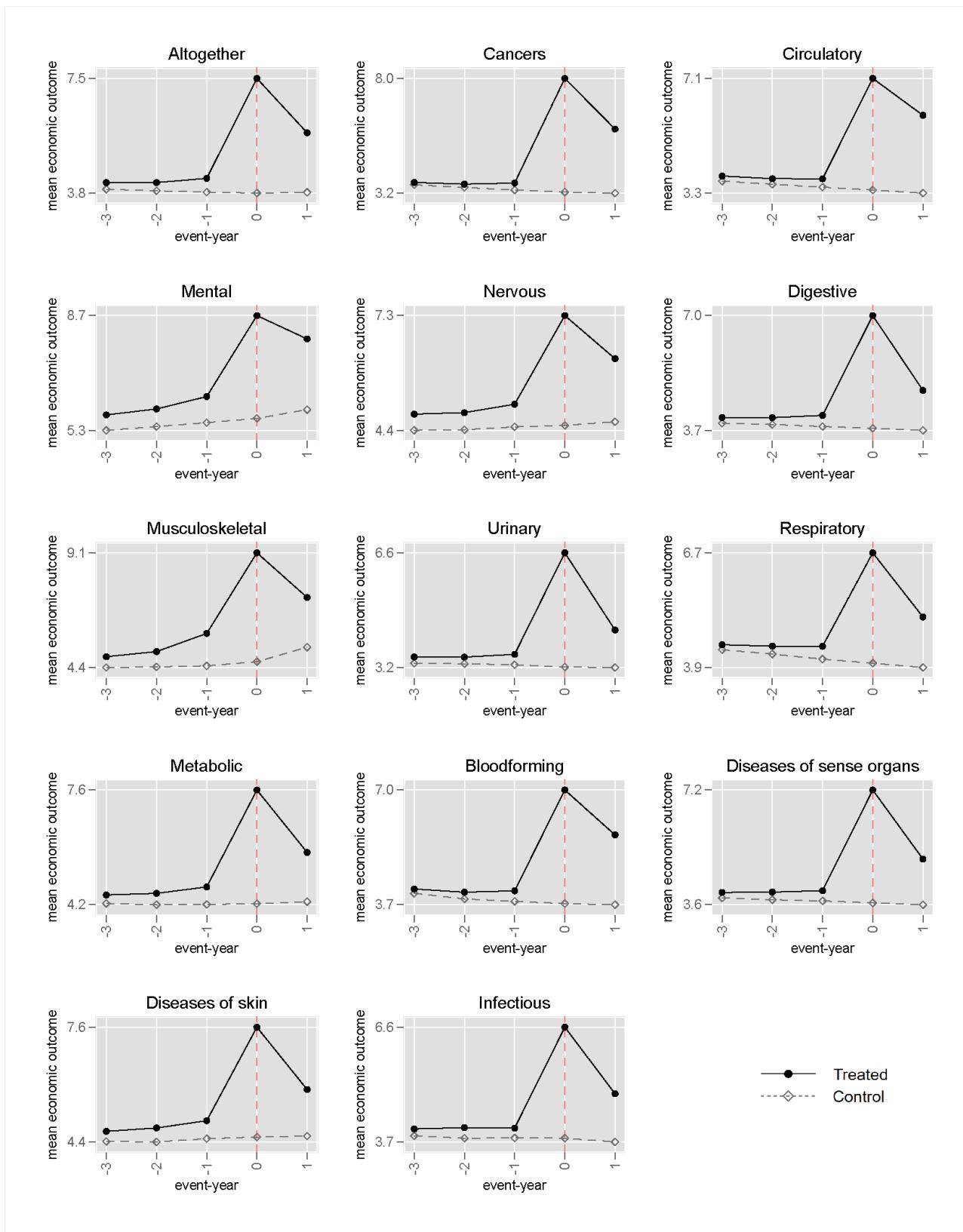


Figure B4 – Development of the individual's welfare payments (IHS) by event years for treated and control groups, both sexes

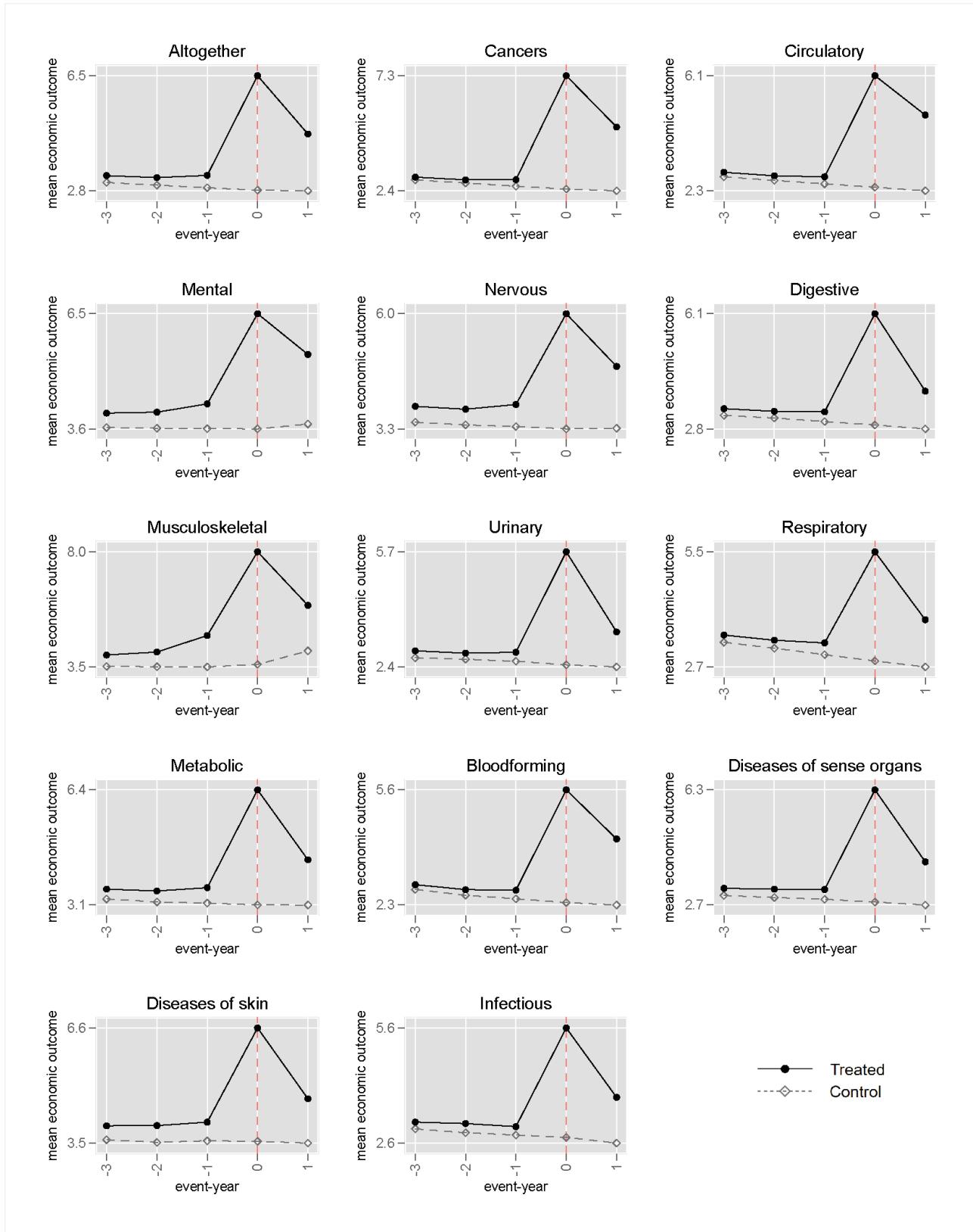


Figure B5 – Development of the individual's sickness absence payments (IHS) by event years for treated and control groups, both sexes

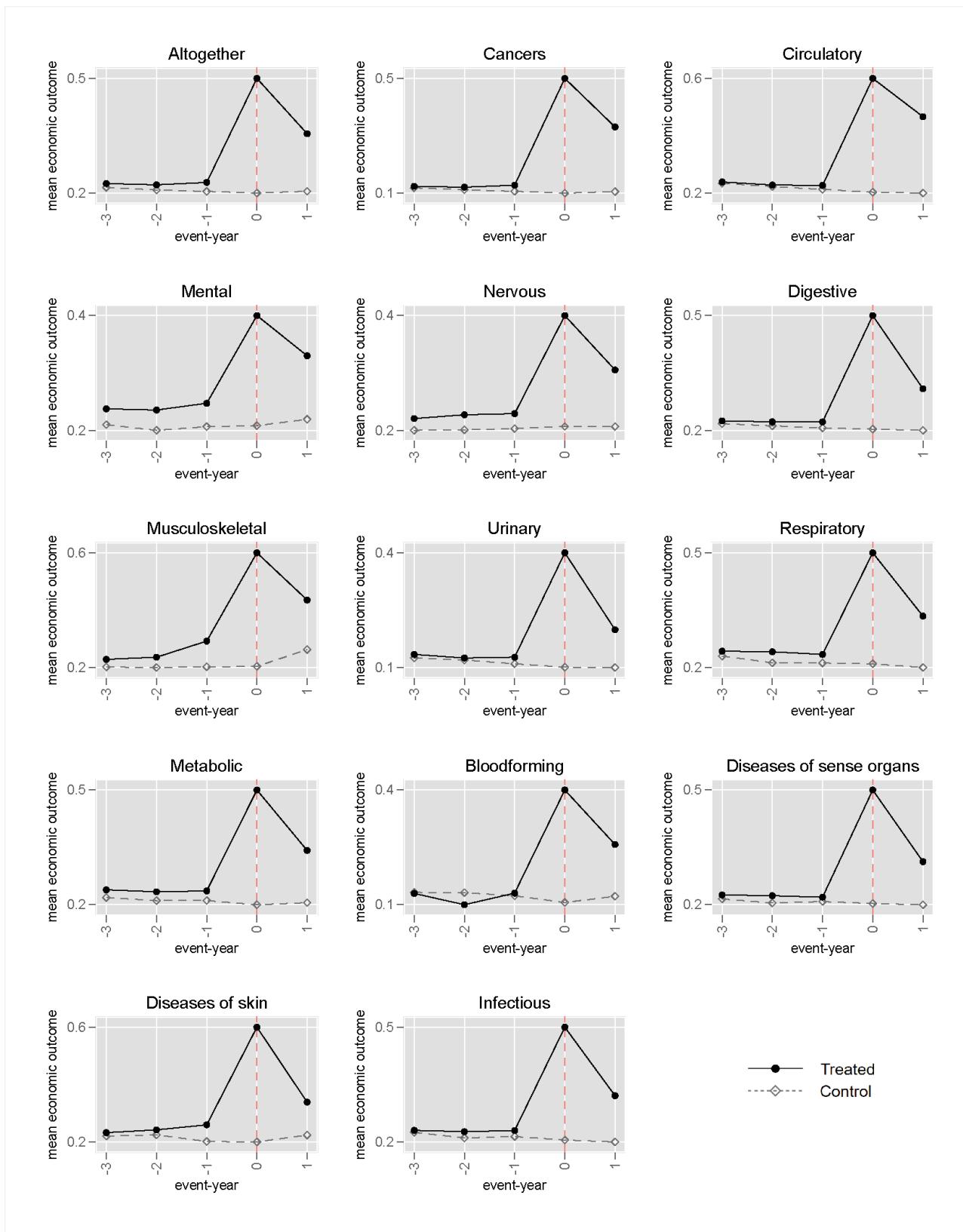


Figure B6 – Development of the individual's unemployment payments (IHS) by event years for treated and control groups, both sexes

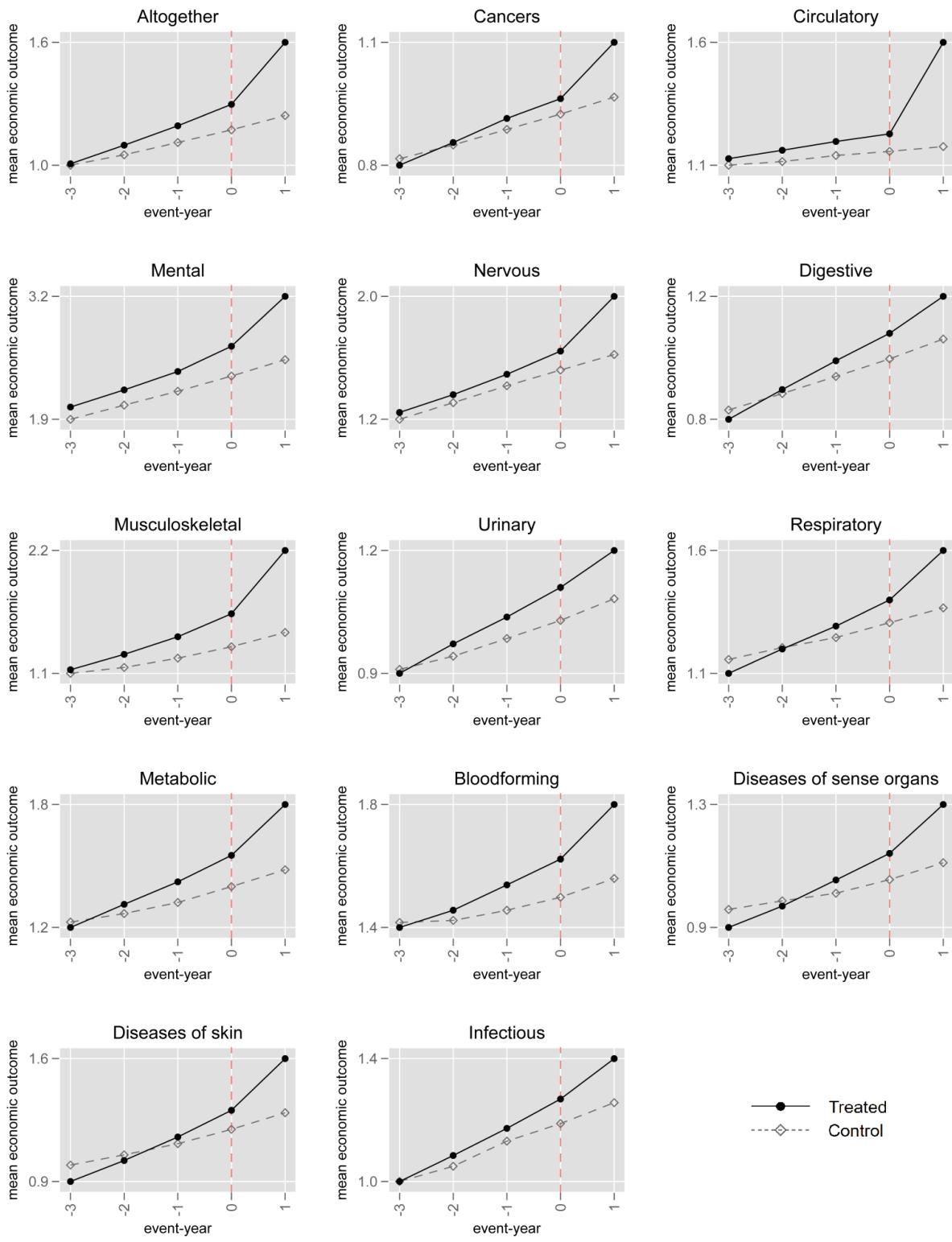


Figure B7 – Development of the individual's disability pension payments (IHS) by event years for treated and control groups, both sexes

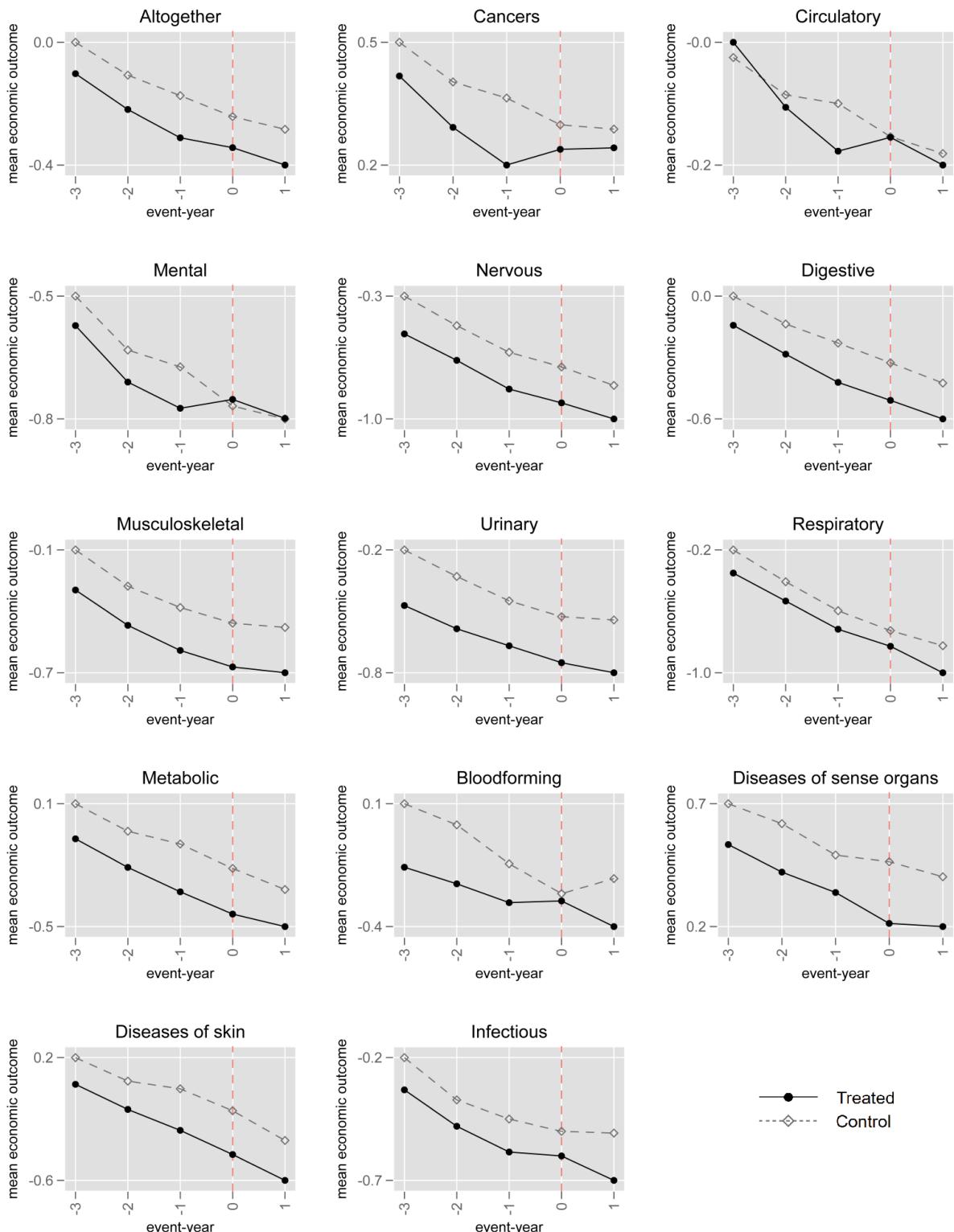


Figure B8 – Development of the individual's capital income (IHS) by event years for treated and control groups, both sexes

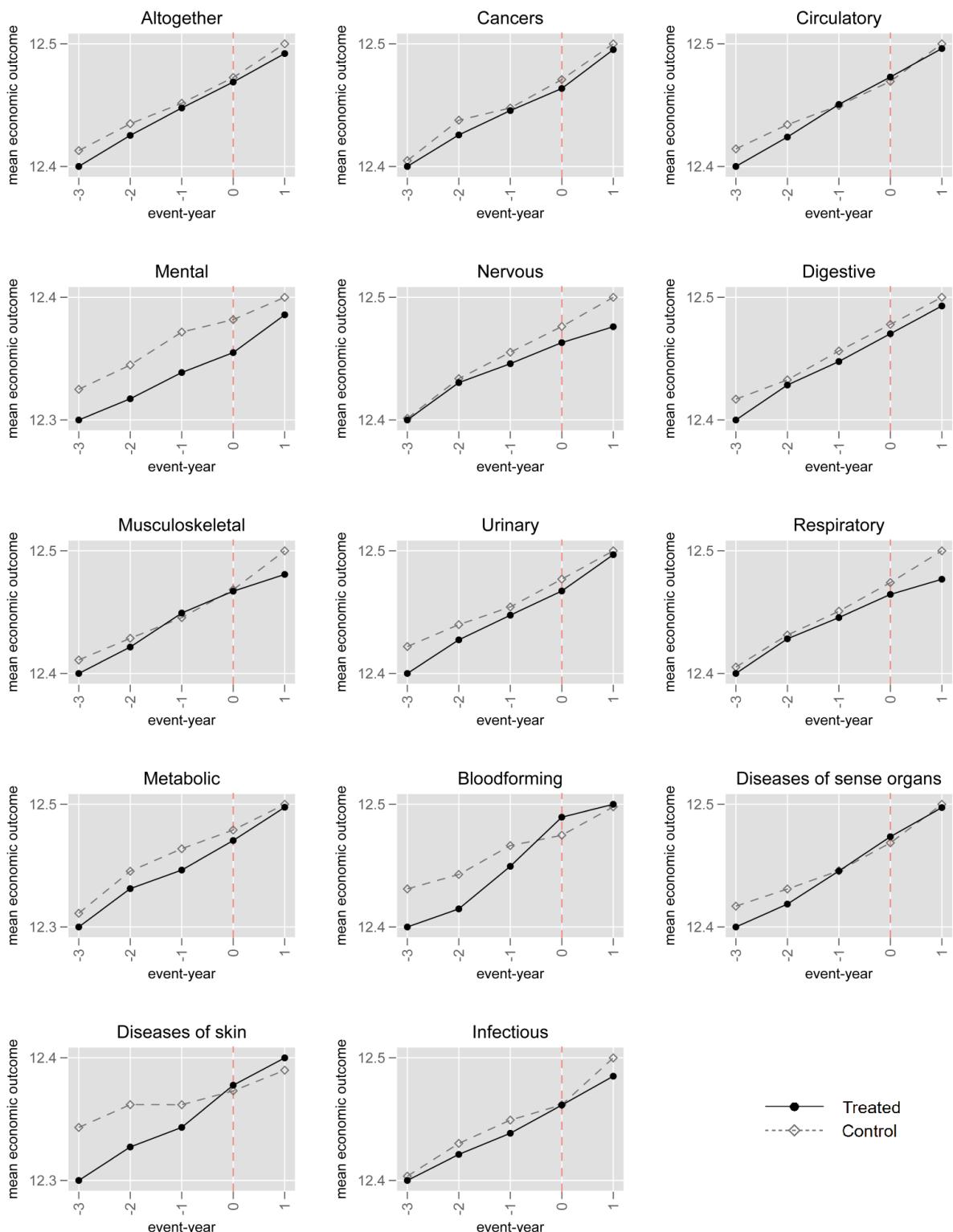


Figure B9 – Development of income of the working-age child (IHS) by event years for treated and control groups, both sexes

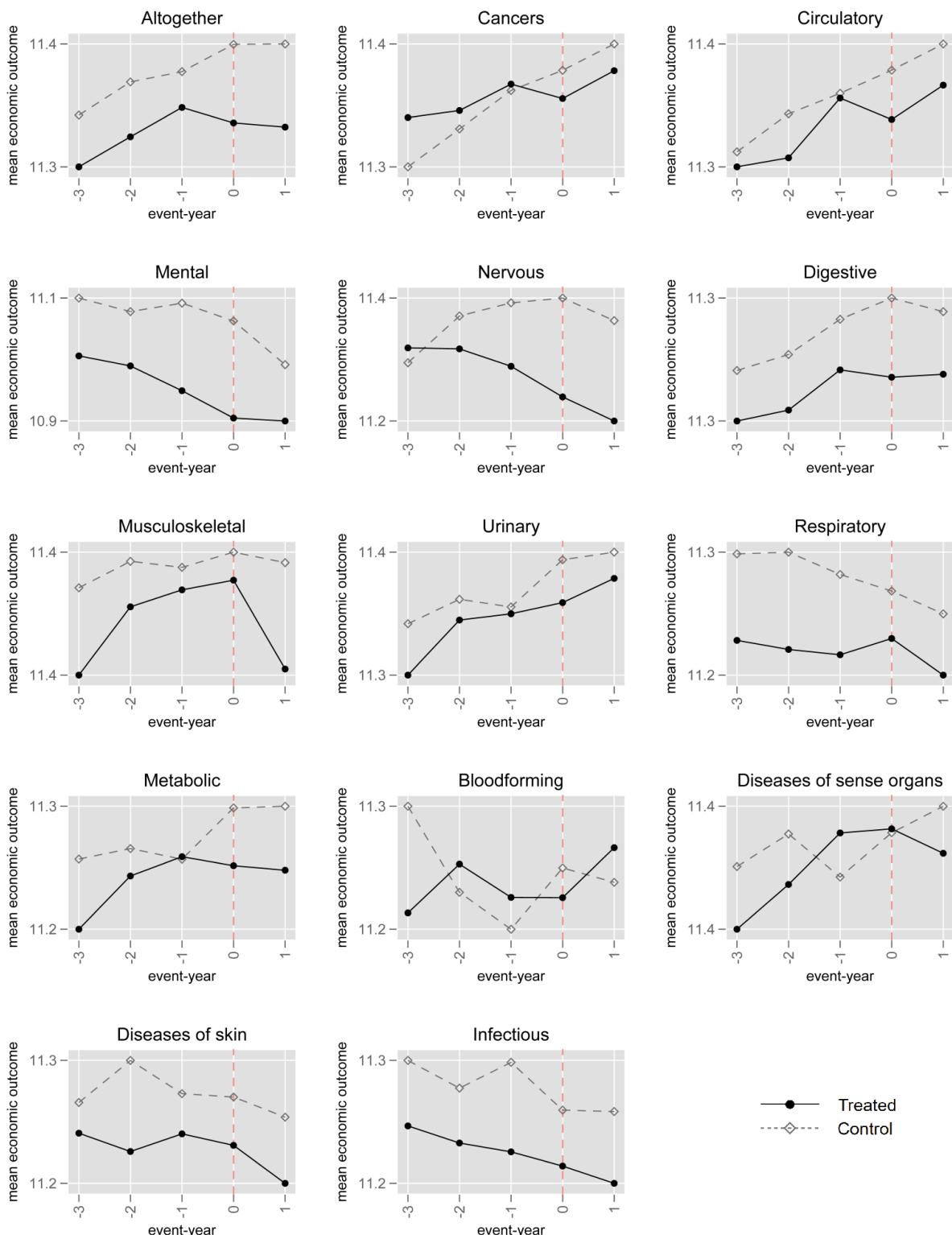


Figure B10 – Development of wage of the working-age child (IHS) by event years for treated and control groups, both sexes

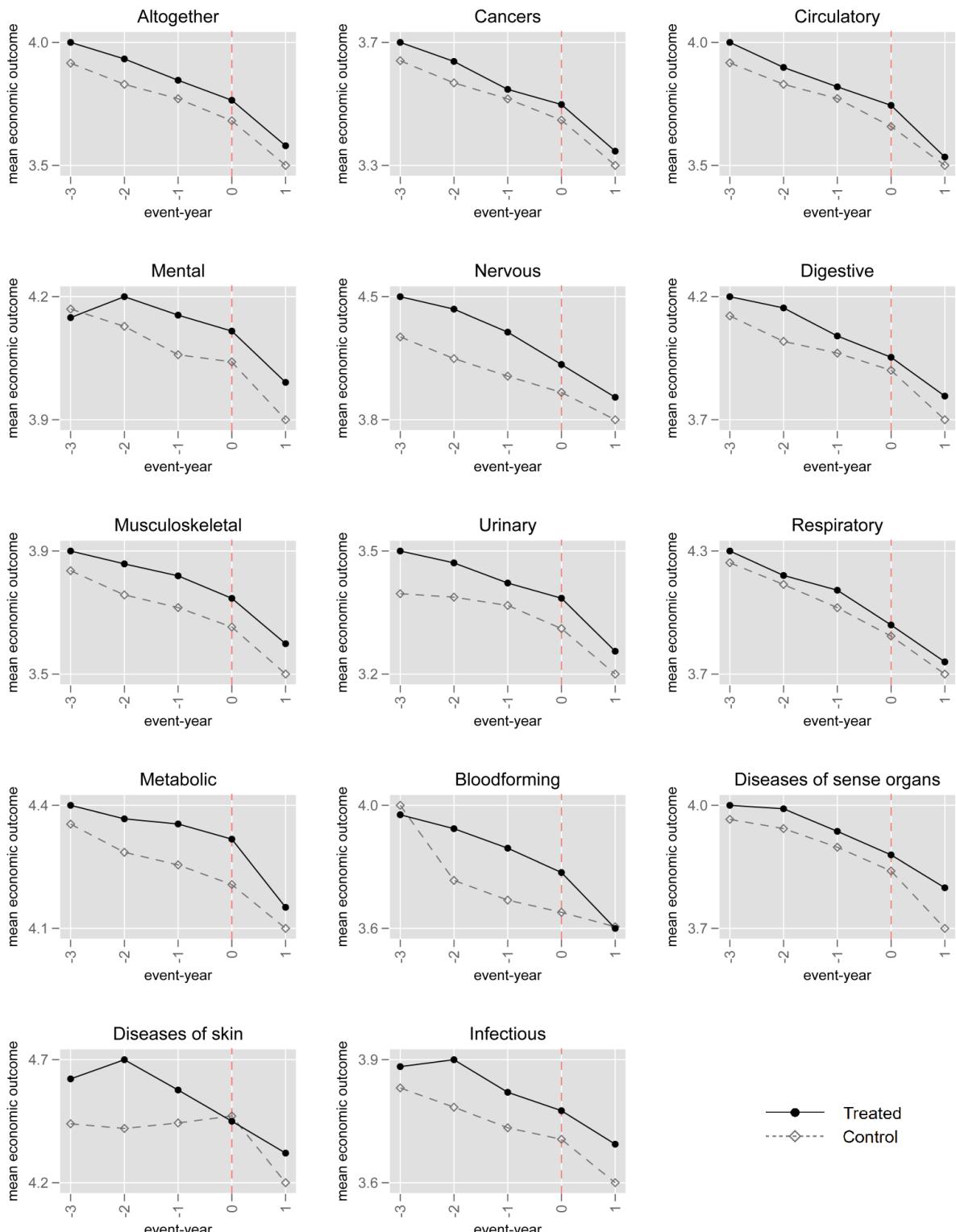


Figure B11 – Development of welfare payments of the working-age child (IHS) by event years for treated and control groups, both sexes

Appendix C

Table C1 – Impact of the health shock on welfare outcomes of the individual by type

	Sickness absence payments (1)	Unemployment payments (2)	Disability payments (3)
DD _{idt}	2.497*** (0.006)	0.246*** (0.002)	0.176*** (0.003)
<i>by event year</i>			
DD _{idst} x event year 0	3.428*** (0.006)	0.333*** (0.002)	0.067*** (0.003)
DD _{idst} x event year 1	1.547*** (0.007)	0.157*** (0.002)	0.286*** (0.004)
DD _{ids} in 10,000 SEK for DD _{ids} =0	0.825	0.036	1.041
Observations	10,665,937	11,032,884	10,665,937
Number of IDs	2,242,971	2,243,040	2,242,971

Note: Models were estimated according to Eq.4 when the interaction terms with medical innovations, M_{ds} , were excluded. Robust standard errors clustered at individual (experimental) level are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table C2 – Impact of a health shock on the individual's welfare payments by type and aggregated disease group

	Sickness absence payments	Unemployment payments	Disability pension payments
	(1)	(2)	(3)
DD _{idst X} cancers	3.651*** (0.008)	0.273*** (0.002)	0.086*** (0.005)
DD _{idst X} circulatory	2.956*** (0.012)	0.322*** (0.004)	0.219*** (0.007)
DD _{idst X} mental	1.921*** (0.027)	0.150*** (0.008)	0.354*** (0.016)
DD _{idst X} nervous	1.732*** (0.035)	0.151*** (0.010)	0.207*** (0.019)
DD _{idst X} digestive	1.937*** (0.013)	0.241*** (0.004)	0.098*** (0.007)
DD _{idst X} musculoskeletal	2.435*** (0.019)	0.234*** (0.006)	0.388*** (0.011)
DD _{idst X} urinary	1.952*** (0.018)	0.193*** (0.005)	0.077*** (0.010)
DD _{idst X} respiratory	1.697*** (0.023)	0.191*** (0.007)	0.160*** (0.013)
DD _{idst X} metabolic	2.027*** (0.030)	0.197*** (0.009)	0.212*** (0.017)
DD _{idst X} bloodforming	2.452*** (0.072)	0.235*** (0.021)	0.125*** (0.042)
DD _{idst X} sense	2.189*** (0.027)	0.210*** (0.008)	0.115*** (0.015)
DD _{idst X} skin	1.734*** (0.053)	0.197*** (0.017)	0.249*** (0.028)
DD _{idst X} infectious	1.839*** (0.033)	0.219*** (0.010)	0.093*** (0.017)
Total observations	10,665,937	11,032,884	10,665,937
Total number of IDs	2,242,971	2,243,040	2,242,971

Note: Models were estimated according to Eq.4 for subsamples of aggregated disease groups. Robust standard errors clustered at individual (experimental) level are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table C3 – Mitigating impact of medical innovations on the individual's welfare payments by type

	Sickness absence payments		Unemployment payments		Disability pension payments	
	L1.drugs	L1.patents	L1.drugs	L1.patents	L1.drugs	L1.patents
	(1)	(2)	(3)	(4)	(5)	(6)
DD _{idst} x med.innovations	-0.295*** (0.041)	-0.033*** (0.001)	-0.255*** (0.012)	-0.006*** (0.000)	0.067*** (0.022)	0.003*** (0.000)
<i>By event years</i>						
DD _{idst} x med.innovations x event year 0	-0.647*** (0.047)	-0.033*** (0.001)	-0.384*** (0.014)	-0.007*** (0.000)	0.083*** (0.020)	0.004*** (0.000)
DD _{idst} x med.innovations x event year 1	0.104** (0.049)	-0.033*** (0.001)	-0.119*** (0.013)	-0.004*** (0.000)	0.046* (0.027)	0.002*** (0.001)
Observations	10,665,937	10,665,937	11,032,884	11,032,884	10,665,937	10,665,937
Number of IDs	2,242,971	2,242,971	2,243,040	2,243,040	2,242,971	2,242,971

Note: Models are estimated according to Eq.4. Robust standard errors clustered at individual (experimental) level are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

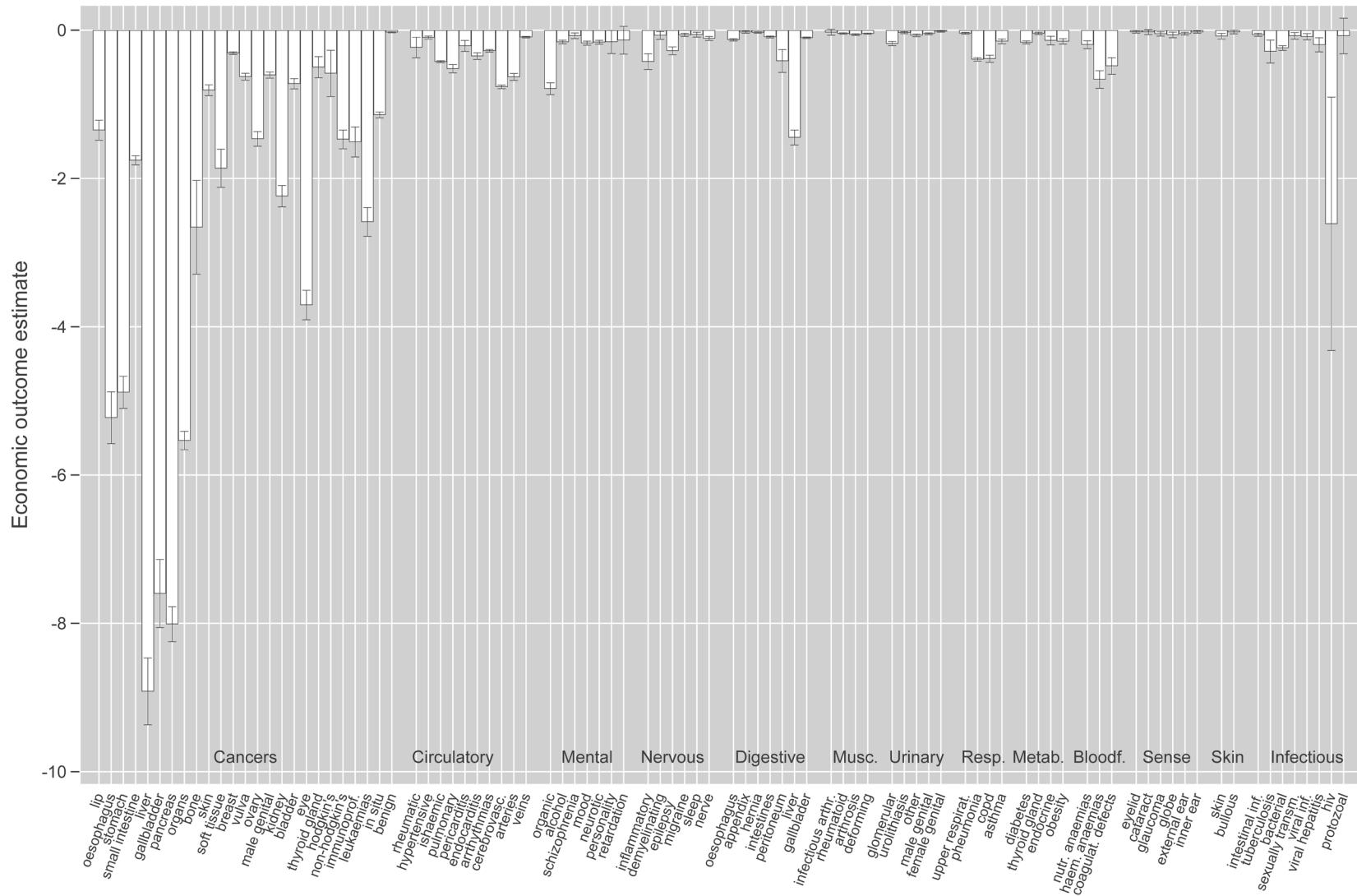


Figure C1 – The impact of the health shock on family income by disease

Note: point estimates and 95% confidence intervals.

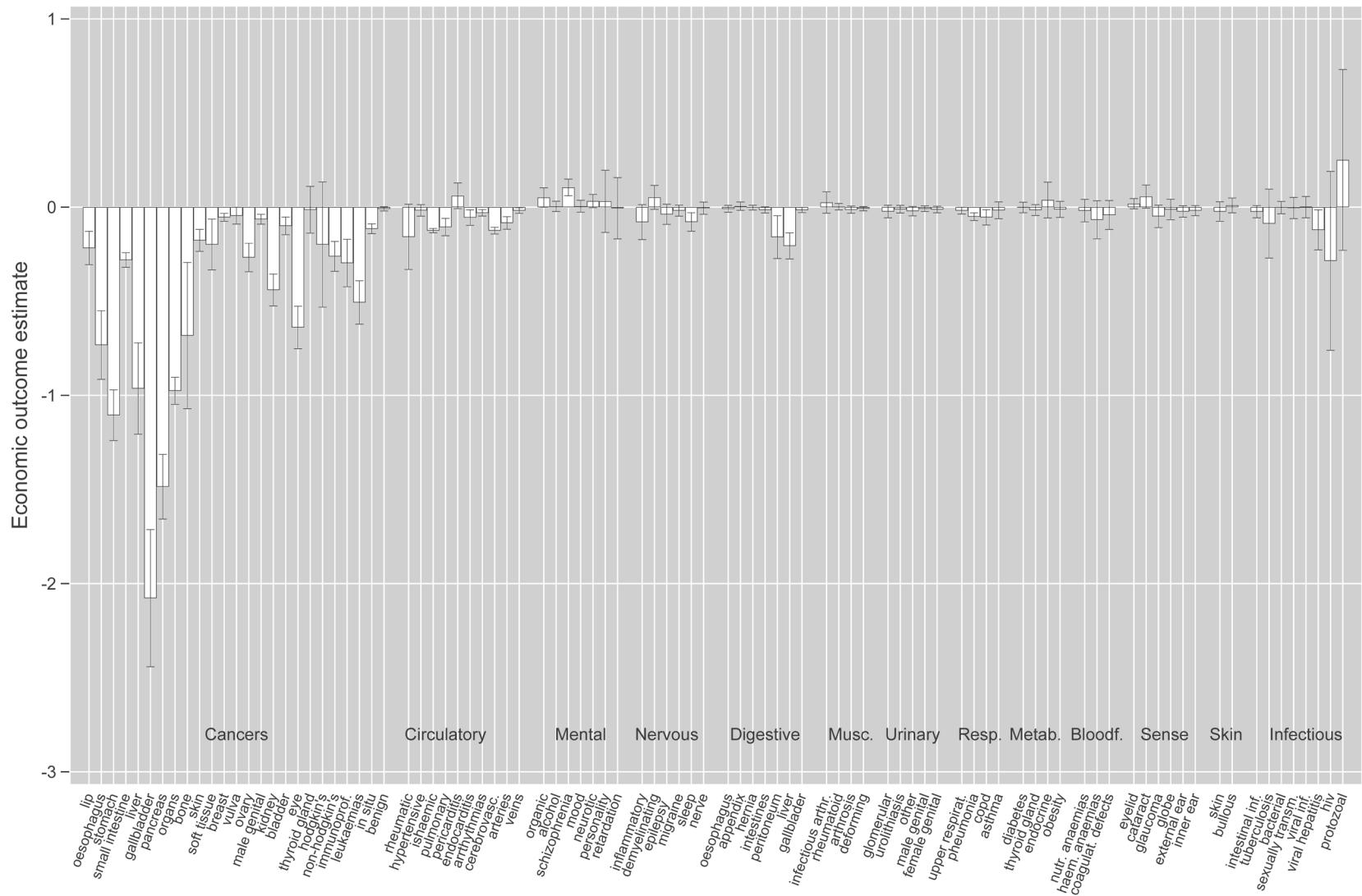


Figure C2 – The impact of the health shock on the individual's income by disease

Note: point estimates and 95% confidence intervals.

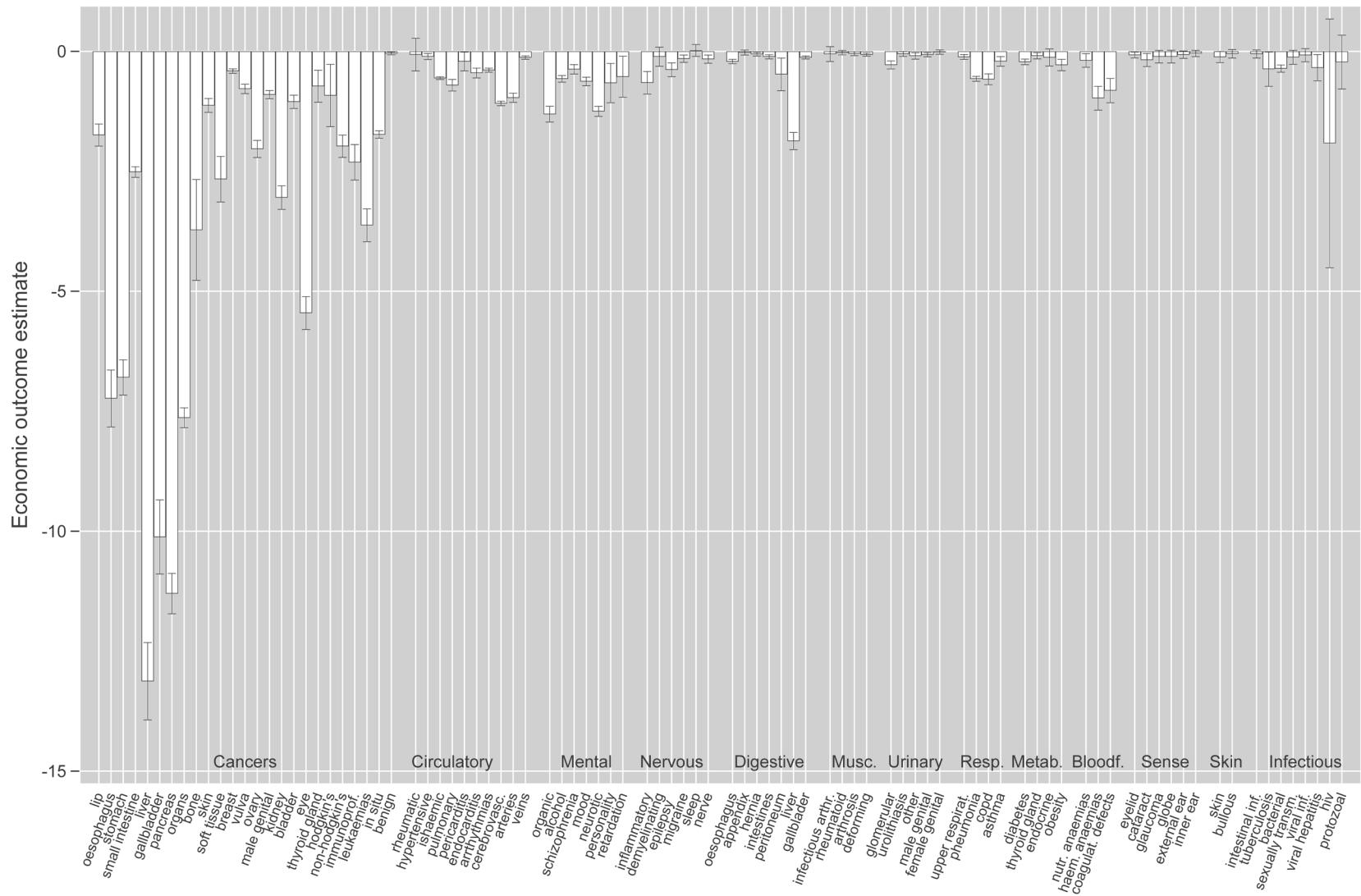


Figure C3 – The impact of the health shock on the partner's income by disease

Note: point estimates and 95% confidence intervals.

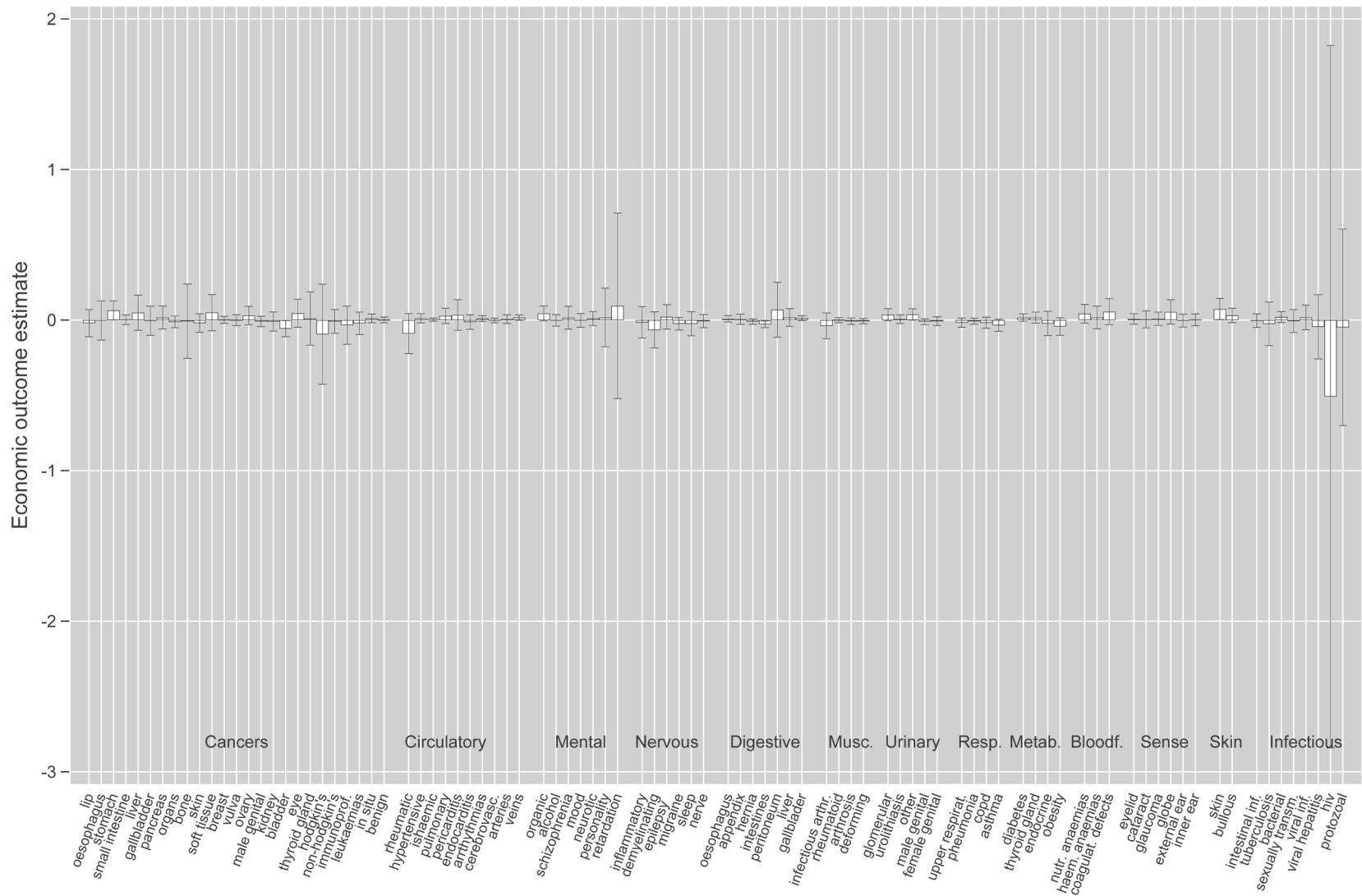


Figure C4 – The impact of the health shock on the working-age children's income by disease

Note: point estimates and 95% confidence intervals.

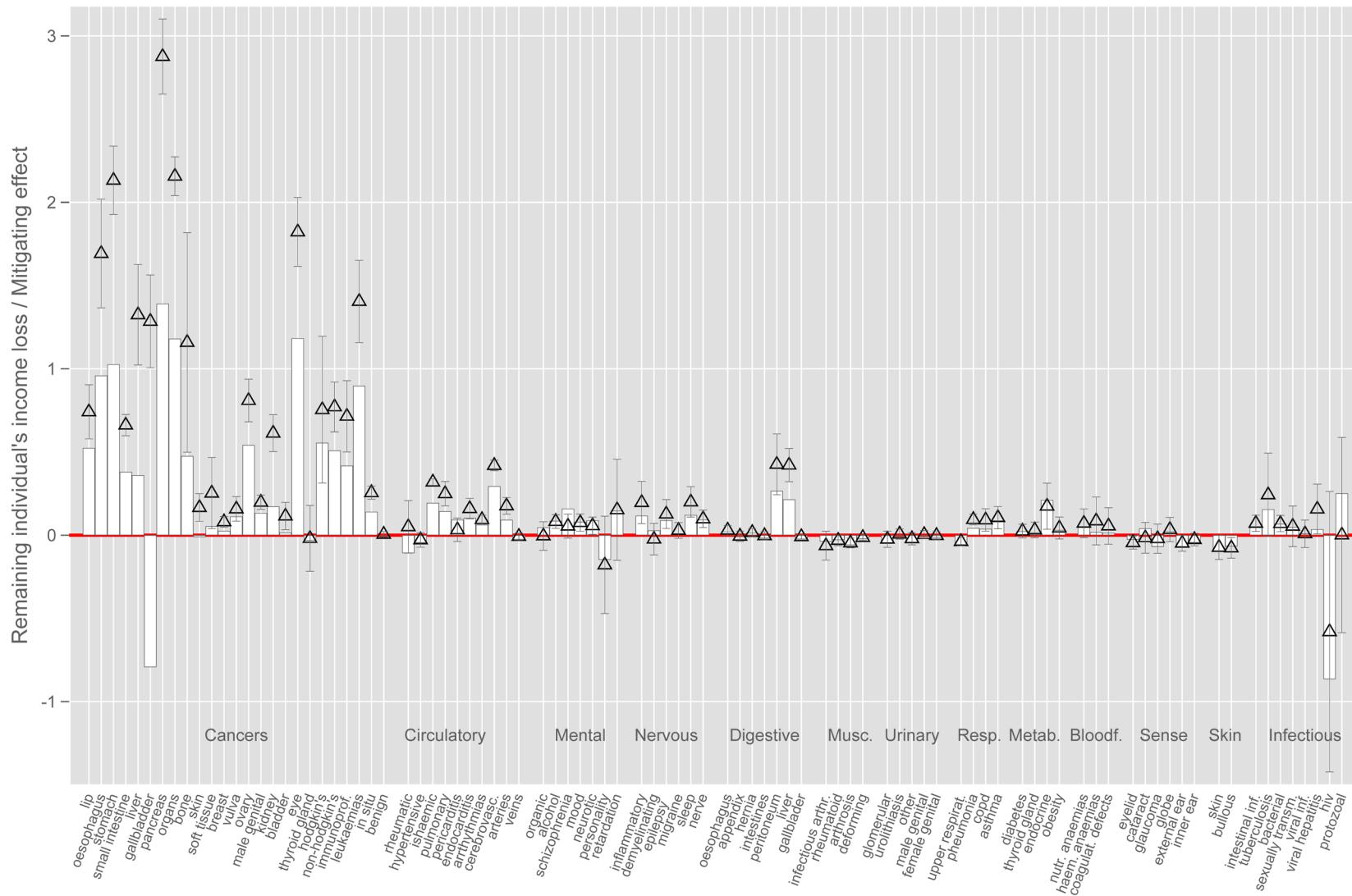


Figure C5 – Mitigating effects of medical innovations on the individual's income and remaining economic loss by disease

Note: point estimates and 95% confidence intervals.

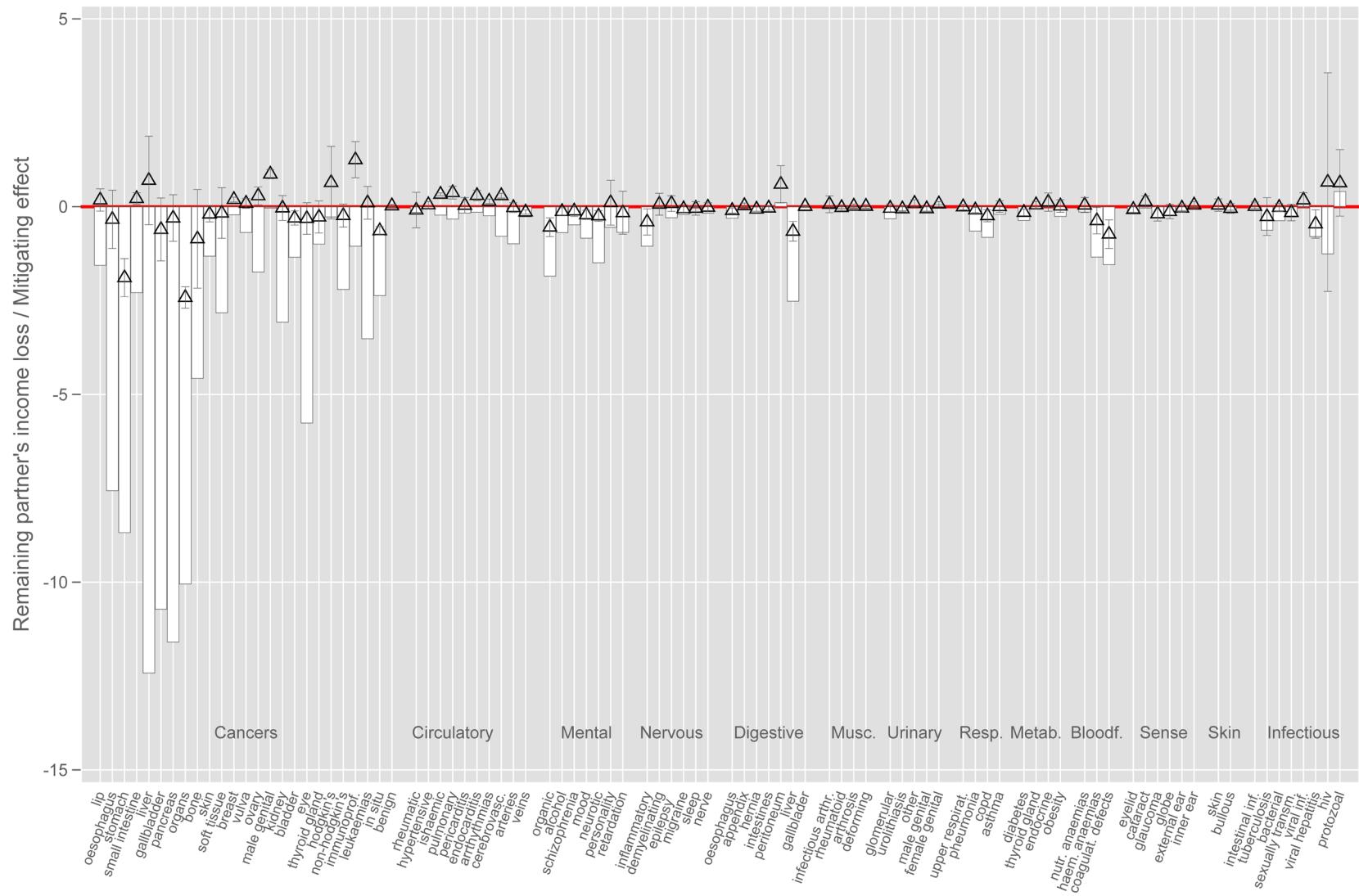


Figure C6 – Mitigating effects of medical innovations on the partner's income and remaining economic loss by disease

Note: point estimates and 95% confidence intervals.

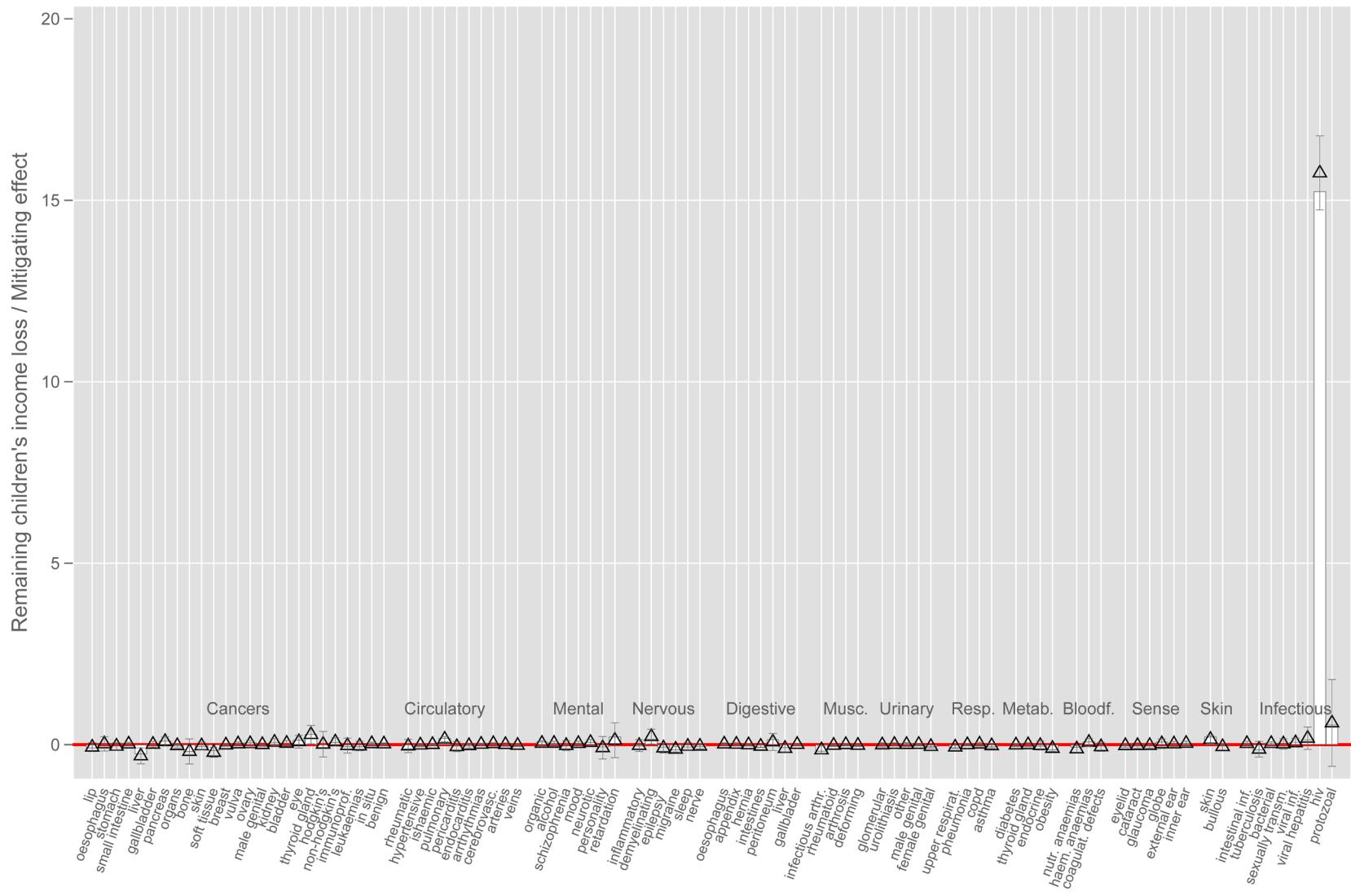


Figure C7 – Mitigating effects of medical innovations on the working-age children's income and remaining economic loss by disease

Note: point estimates and 95% confidence intervals.

Appendix D

Table – Results from the model-based recursive partitioning

Disease group	Disease group name	The combined effect of drugs and patents β_3	SE	Remaining family income loss $\beta_2 - \beta_3$	The value of the partitioned variable with largest instability	Newly-approved drugs	Recently-granted patents
1	Lip	0.380	0.099	-0.971	1986	2002	
2	Oesophagus	0.570	0.247	-4.658	1981	1981	
3	Stomach	0.043	0.157	-4.840	1981	1981	
4	Small intestine	0.493	0.044	-1.263	1994	1994	
5	Liver	0.878	0.346	-8.040	1997	1997	
6	Gallbladder	0.442	0.249	-7.156	2000	2000	
7	Pancreas	1.460	0.175	-6.552	1995	1995	
8	Respiratory	-0.432	0.090	-5.967	1995	1995	
9	Bone	0.211	0.436	-2.449	1981	1981	
10	Skin	-0.063	0.053	-0.873	1999	2003	
11	Soft tissue	0.089	0.188	-1.775	No instability	No instability	
12	Breast	0.224	0.013	-0.086	1983	1983	
13	Vulva	0.220	0.034	-0.409	2005	1997	
14	Ovary	0.629	0.071	-0.839	2005	2005	
15	Male genital	0.583	0.031	-0.024	1988	1988	
16	Kidney	0.390	0.101	-1.850	1996	2002	
17	Bladder	-0.095	0.050	-0.819	1997	1997	
18	Eye	0.888	0.139	-2.820	1992	1996	
19	Thyroid gland	-0.049	0.089	-0.549	No instability	No instability	
20	Hodgkin's	0.922	0.219	0.337	1985	1985	
21	Non-Hodgkin's	0.262	0.088	-1.212	1995	1995	
22	Immunoprof.	0.757	0.140	-0.752	1994	1994	
23	Leukaemias	0.835	0.142	-1.751	1997	1997	
24	In situ	-0.286	0.029	-1.430	2002	2002	
25	Benign	-0.005	0.005	-0.034	1996	1996	
26	Rheumatic	0.059	0.064	-0.176	1996	2001	
27	Hypertensive	0.033	0.015	-0.067	1982	1982	
28	Ishaemic	0.391	0.010	-0.036	No instability	No instability	
29	Pulmonary	0.331	0.043	-0.190	1984	1991	
30	Pericarditis	-0.004	0.041	-0.218	1981	1981	
31	Endocarditis	0.300	0.033	-0.051	1993	1993	
32	Arrhythmias	0.142	0.013	-0.136	No instability	No instability	
33	Cerebrovasc.	0.413	0.018	-0.353	2004	2004	
34	Arteries	0.113	0.033	-0.519	1995	1988	
35	Veins	-0.070	0.009	-0.165	1988	1988	
36	Organic	-0.291	0.066	-1.081	1981	1981	
37	Alcohol	0.008	0.019	-0.153	1998	No instability	
38	Schizophrenia	-0.007	0.029	-0.083	1981	1981	
39	Mood	0.016	0.020	-0.160	1982	1984	
40	Neurotic	-0.019	0.020	-0.182	1988	1988	
41	Personality	-0.038	0.107	-0.197	1987	1987	
42	Retardation	0.212	0.167	0.076	1982	1982	
44	Inflammatory	0.049	0.080	-0.376	1998	1998	
46	Demyelinating	0.097	0.037	0.026	1983	1983	
47	Epilepsy	0.110	0.040	-0.169	2005	2005	
48	Migraine	0.017	0.016	-0.048	1993	1990	
49	Sleep	0.141	0.038	0.079	1982	1982	
50	Nerve	-0.023	0.021	-0.135	2005	2005	
51	Oesophagus	-0.039	0.012	-0.170	2002	2003	
52	Appendix	0.008	0.010	-0.020	2002	1987	
53	Hernia	-0.008	0.008	-0.040	1992	2004	
54	Intestines	0.004	0.009	-0.089	No instability	1989	
56	Peritoneum	0.523	0.118	0.107	1983	1983	
57	Liver	-0.245	0.077	-1.693	1995	1988	
58	Gallbladder	0.011	0.005	-0.092	No instability	No instability	

59	Infectious arthr.	0.046	0.027	0.017	1986	1986
60	Rheumatoid	-0.015	0.010	-0.061	1987	1999
62	Arthrosis	0.002	0.008	-0.058	1992	1992
63	Deforming	-0.013	0.006	-0.061	1982	1982
65	Glomerular	-0.050	0.020	-0.231	1991	1991
67	Urolithiasis	-0.012	0.010	-0.047	2005	2005
68	Other	0.048	0.013	-0.023	1981	No instability
69	Male genital	-0.001	0.009	-0.048	No instability	No instability
70	Female genital	0.012	0.007	-0.005	1982	1982
71	Upper respirat.	-0.017	0.009	-0.061	1997	1997
72	Pneumonia	-0.025	0.016	-0.420	2005	1995
73	COPD	-0.117	0.034	-0.503	2000	2000
74	Asthma	0.066	0.024	-0.086	2005	2005
75	Diabetes	-0.016	0.016	-0.181	1988	1988
76	Thyroid gland	0.002	0.012	-0.041	2004	2004
77	Endocrine	0.087	0.041	-0.054	1991	No instability
78	Obesity	-0.004	0.027	-0.156	No instability	No instability
79	Nutr. anaemias	0.068	0.038	-0.129	2001	1982
80	Haem. anaemias	-0.069	0.088	-0.735	1981	1981
81	Coagulat. Defects	-0.104	0.082	-0.589	1983	1983
82	Eyelid	-0.013	0.011	-0.037	1983	1998
83	Cataract	0.011	0.028	-0.015	1990	1990
85	Glaucoma	-0.004	0.023	-0.055	1994	1994
86	Globe	-0.049	0.026	-0.113	1984	1984
87	External ear	-0.011	0.015	-0.059	No instability	No instability
88	Inner ear	-0.020	0.012	-0.047	1989	1989
89	Skin	-0.047	0.027	-0.129	1982	1982
90	Bullous	-0.002	0.020	-0.029	1982	1982
91	Intestinal inf.	0.023	0.016	-0.040	No instability	No instability
92	Tuberculosis	0.156	0.104	-0.133	2001	2001
93	Bacterial	-0.026	0.023	-0.267	2003	1998
94	Sexually transm.	0.047	0.038	-0.030	1994	1994
95	Viral inf.	0.060	0.034	-0.029	1984	1984
96	Viral hepatitis	0.008	0.074	-0.190	1999	2000
97	HIV	0.420	1.178	-2.192	2005	2005
98	Protozoal	0.404	0.170	0.325	2005	2004