

Appendix Table A1.

SPEC CPU Benchmark	Coef. CAGR	Robust Std. Err.	z	P> z	[95% Conf. Interval]		N	R2	# CPUs
1995m5–2000m3									
int95	.5826577	.0175146	33.27	0.000	.5483296	.6169857	152	.92	41
fp95	.6397016	.0231907	27.58	0.000	.5942486	.6851546	142	.90	41
int95_rate	.6241582	.0273672	22.81	0.000	.5705194	.677797	54	.87	20
fp95_rate	.7227752	.0331	21.84	0.000	.6579003	.7876501	47	.83	18
2000m11–2004m11									
int2000	.3304092	.0173773	19.01	0.000	.2963503	.3644681	215	.80	76
fp2000	.3429411	.023522	14.58	0.000	.2968389	.3890433	203	.81	73
int2000_rate	.4697731	.0512966	9.16	0.000	.3692337	.5703125	160	.77	59
fp2000_rate	.3989549	.0351676	11.34	0.000	.3300276	.4678822	162	.84	59
2005m2–2007m1									
int2000	.3222474	.016442	19.60	0.000	.2900217	.3544732			
fp2000	.3365855	.022279	15.11	0.000	.2929195	.3802515			
int2000_rate	.4650892	.0475414	9.78	0.000	.3719098	.5582686			
fp2000_rate	.3986346	.032545	12.25	0.000	.3348476	.4624217			
2005m6–2012m11									
int2006	.1709304	.0069587	24.56	0.000	.1572916	.1845691	689	.84	254
fp2006	.2467286	.0077563	31.81	0.000	.2315266	.2619306	690	.87	254
int2006_rate	.2472256	.013015	19.00	0.000	.2217167	.272734	728	.62	278
fp2006_rate	.2537211	.0101781	24.93	0.000	.2337725	.2736698	711	.76	261
2013m1–2016m5									
int2006	.1687175	.0064265	26.25	0.000	.1561218	.1813133			
fp2006	.2414989	.0070952	34.04	0.000	.2275926	.2554053			
int2006_rate	.2417978	.0119286	20.27	0.000	.2184181	.2651774			
fp2006_rate	.2480768	.0093352	26.57	0.000	.2297801	.2663735			

Notes:

intxx and fpxx are SPEC CPU integer and floating point base scores (no special compiler optimizations used) when single instance of benchmark run on CPU.

intxx_rate and fpxx_rate are SPEC CPU scores with multiple instances of benchmark programs run simultaneously; number of instances is entirely at discretion of entity running benchmark—may be as high as maximum number of threads, but may also be maximum number of cores, or any number less than that (on processors with symmetric multithreading capability—Intel version is branded as “hyperthreading”—additional program execution hardware in a CPU core allows as many as two threads to simultaneously share a single core’s remaining hardware).

Model estimated was

$\ln(\text{SPEC CPU benchmark}) = a + b * \text{monthly date of initial CPU availability in any manufacturer's computer hardware} + c * \text{autoparallelization indicator} + d * \text{time shift indicator} \times \text{monthly date of initial CPU availability in tested hardware}.$

where

autoparallelization = 1 if autoparallelization turned on at compile time for 2006 benchmark, 0 otherwise

time shift indicator = 1 if year > 2004 for SPEC 2000 benchmarks, 0 otherwise

= 1 if year > 2012 for SPEC 2006 benchmarks, 0 otherwise

Annualized growth rate estimated as $\exp(b + d * \text{timeshift indicator})^{12} - 1$

Time shift indicators were statistically significant, as were autoparallelization indicators.

Appendix Table A2

Stata Simulation Code for Simulated Hedonic Model With Perfect Collinearity

```
clear all
set obs 10000000
set seed 3492673
gen arch_dum = round(runiform())
gen time =round(runiform())
gen clock_rate = 1000+500*round(runiform()) +500*time
gen turbo = round(runiform())
tab arch_dum time
tab clock_rate time
tab turbo time

gen speed = clock_rate + 500*arch_dum + 200*turbo
gen mfg_cost = 50 + 2* clock_rate + 2000* turbo + 500*arch_dum -10 * time
gen p= 100 + 2 *speed + mfg_cost + 1000*runiform()
* = 600 + 2 *speed + mfg_cost + mean zero uniform disturbance
* = 650 + 4* clock_rate + 1500 archdum + 22* turbo -10 * time //drop speed

corr time turbo arch_dum clock_rate speed
regress p speed time clock_rate arch_dum
estimates store drop_turbo
regress p speed time arch_dum turbo
estimates store drop_clock
regress p speed time clock_rate turbo
estimates store drop_arch
regress p time clock_rate arch_dum turbo
estimates store drop_speed
* with misspecification
regress p speed time
estimates store speed_only
regress p speed time turbo
estimates store speed_turbo
regress p speed time arch_dum
estimates store speed_arch
regress p speed time clock_rate
estimates store speed_clock
esttab drop_speed drop_turbo drop_clock drop_arch speed_only , se r2 star
```

Appendix Table A.3

Chained Price Indexes (Jan 2005=100)

Date	Jevons Matched Model Intel List	Hedonic Intel List w/TDP	Hedonic Intel List w/o TDP	Composite Hedonic Intel List	Jevons Matched Model Retail	Hedonic Retail	Date	Jevons Matched Model Intel List	Hedonic Intel List w/TDP	Hedonic Intel List w/o TDP	Composite Hedonic Intel List	Jevons Matched Model Retail	Hedonic Retail
January-96	196383.56		232447.02	231447.62			November-05					89.20	91.89
February-96	159569.90		191462.78	190639.58			December-05	90.92	89.80	89.21	89.80	89.72	89.96
May-96	129798.20		150059.80	149414.61			January-06	90.92	89.52	88.78	89.52	89.98	90.81
June-96	132226.40		143241.33	142625.47			February-06					86.42	86.93
August-96	112359.33		131195.84	130631.77			March-06					83.70	84.67
November-96	112359.33		131486.64	130921.31			April-06	75.21	71.79	70.46	71.79	81.47	81.55
February-97	84382.60		99329.64	98902.57			May-06					72.00	72.80
May-97	64371.61		76736.96	76407.03			June-06	74.09	72.58	71.32	72.58	69.19	70.00
August-97	39060.86		46984.07	46782.06			July-06	62.14	60.99	59.36	60.99	66.88	68.78
November-97	32751.36		39463.75	39294.07			August-06					64.06	68.22
February-98	28491.35		34435.32	34287.27			September-06					63.26	68.48
May-98	23179.48		28976.31	28851.73			October-06	60.06	58.53	57.14	58.53	62.21	68.03
June-98	18954.30		23740.89	23638.82			November-06	59.74	57.36	56.22	57.36	62.36	66.54
July-98	15152.91		18823.58	18742.65			December-06	59.74	57.46	56.36	57.46	61.08	65.09
August-98	15152.91		18830.84	18749.88			January-07	45.37	42.79	39.79	42.79	60.04	64.27
September-98	13352.15	28349.97	16362.79	16292.44			February-07					59.27	65.26
October-98	11403.35	24872.67	13991.48	13931.32			March-07					57.38	63.25
November-98	11331.73	24872.67	13761.40	13702.23			April-07	42.07	39.24	36.59	39.24	54.96	61.28
December-98	10514.36	16480.79	12793.36	12738.35			May-07	39.31	36.72	34.25	36.72	52.40	58.14
January-99	9878.41	13411.71	11784.04	11733.37			June-07	39.13	36.12	33.70	36.12	51.30	55.86
February-99	8111.81	10616.32	9459.32	9418.65			July-07	37.57	34.29	31.81	34.29	50.52	55.51
March-99	8088.11	10555.94	9433.53	9392.97			August-07					49.20	55.51
April-99	6943.28	8955.80	8040.34	8005.77			September-07	37.09	33.60	31.17	33.60		
May-99	5964.09	8006.00	6988.77	6958.72			October-07	36.58	31.48	28.66	31.48	48.63	55.04
June-99	5694.12	7696.46	6682.05	6653.32			November-07	36.58	31.50	28.72	31.50	48.39	54.96
July-99	5411.72	7295.62	6361.84	6334.49			December-07					48.80	55.63
August-99	4582.74	5928.07	5268.22	5245.57			January-08	36.39	31.41	27.45	31.41	48.74	54.64
September-99	4076.54	4954.04	4694.43	4674.25			February-08					48.55	53.17
October-99	3749.09	4418.23	4322.18	4303.59			March-08	36.13	30.95	27.94	30.95	48.11	52.71
December-99	3693.52	4260.07	4219.85	4201.70			April-08	34.16	28.70	25.22	28.70	45.97	50.78
January-00	3552.64	3998.98	4016.25	3998.98			May-08					43.16	48.37
February-00	2518.33	2798.82	2840.01	2798.82			June-08					42.79	48.10
March-00	2518.33	2807.36	2849.88	2807.36			July-08	33.15	27.18	23.56	27.18	42.01	47.09
April-00	2120.15	2355.55	2400.74	2355.55			August-08	32.24	26.95	22.40	26.95	40.91	47.14
May-00	1775.42	1982.94	2031.68	1982.94			September-08	32.19	26.92	22.42	26.92	40.51	46.80
June-00	1759.27	1847.23	1882.56	1847.23			October-08	31.56	25.68	20.81	25.68	40.80	47.24
July-00	1627.95	1710.10	1742.91	1710.10			November-08	31.56	25.60	20.66	25.60	40.41	47.95
August-00	1382.75	1460.25	1486.94	1460.25			December-08	31.56	25.41	21.14	25.41	40.06	47.62
October-00	1235.76	1301.81	1327.46	1301.81			January-09	29.23	24.19	18.92	24.19	39.24	46.60
November-00	1079.50	1137.71	1160.14	1137.71			February-09	29.23	23.82	18.58	23.82	37.49	45.23
December-00	1051.38	1108.52	1130.41	1108.52			March-09	29.23	23.86	18.61	23.86	37.36	46.09
January-01	918.65	969.08	987.77	969.08			April-09	28.59	23.11	17.95	23.11	37.17	45.58
March-01	866.15	906.17	923.62	906.17			May-09	28.59	23.10	17.95	23.10	37.01	44.99
April-01	766.52	793.57	808.82	793.57			June-09	28.59	22.84	17.73	22.84	36.21	42.45
May-01	687.62	710.82	724.23	710.82			July-09	27.33	21.18	16.39	21.18	35.68	41.25
June-01	687.62	709.58	722.75	709.58			August-09	27.33	21.11	16.35	21.11	34.70	39.74
July-01	678.95	721.34	734.86	721.34			September-09	27.33	21.25	16.50	21.25	34.80	39.82
August-01	595.44	616.80	625.27	616.80			October-09	27.27	20.90	16.22	20.90	34.59	39.61
September-01	549.37	553.45	559.49	553.45			November-09	27.27	20.91	16.23	20.91	34.15	39.64
October-01	524.04	519.80	522.31	519.80	297.08		December-09					34.06	39.18
November-01					304.24	310.65	January-10	27.10	20.61	16.00	20.61	33.10	36.67
December-01	482.80	479.26	481.76	479.26	291.62	303.23	February-10	26.97	20.39	15.82	20.39	34.83	38.81
January-02	478.88	470.72	472.45	470.72	286.75	297.98	March-10	26.97	20.09	15.59	20.09	34.85	38.46
February-02	478.88	470.95	472.81	470.95	270.88	278.13	April-10	26.97	20.11	15.61	20.11	34.18	38.11
March-02	401.62	384.38	384.60	384.38	268.82	269.14	May-10	26.97	19.96	15.51	19.96	34.13	37.70
April-02	401.62	379.62	379.83	379.62	254.87	252.82	June-10	26.97	19.97	15.52	19.97	33.96	37.84
May-02	381.46	349.44	346.87	349.44	247.15	239.21	July-10	26.35	19.27	14.99	19.27	33.77	37.65
June-02	339.33	314.99	311.33	314.99	222.93	211.45	August-10	26.35	19.03	14.82	19.03	33.08	36.75
July-02					213.61	197.87	September-10	26.35	18.92	14.74	18.92	32.10	35.69
August-02					201.82	185.72	October-10	25.98	18.66	14.54	18.66	31.75	34.91
September-02	339.33	317.17	310.47	317.17	178.12	165.45	November-10	25.98	18.62	14.51	18.62	31.51	33.93
October-02					174.96	163.73	December-10					31.24	33.65
November-02	204.88	208.53	206.03	208.53	167.25	158.28	January-11	25.98	18.63	14.52	18.63		
December-02					161.35	154.59	February-11	25.51	18.43	14.37	18.43		
January-03	204.88	208.63	206.16	208.63	158.85	153.42	March-11	25.51	18.45	14.39	18.45		
February-03	182.28	185.78	183.61	185.78	156.96	150.71	April-11	25.51	18.46	14.39	18.46		
March-03					149.93	143.22	May-11	25.51	18.51	14.39	18.51		
April-03	172.62	167.50	164.64	167.50	145.13	138.08	June-11	25.51	18.19	14.19	18.19		
May-03					140.15	131.24	July-11	25.51	18.20	14.20	18.20		
June-03					136.78	123.30	September-11	25.37	17.99	14.07	17.99		
July-03	148.35	141.66	136.97	141.66	137.66	122.50	October-11	25.18	17.87	13.98	17.87		
August-03	144.53	138.15	133.61	138.15	137.03	123.68	November-11	25.18	17.70	13.87	17.70		
September-03					136.13	121.44	December-11	25.18	17.79	13.83	17.79		
October-03	133.83	126.95	123.19	126.95	128.82	113.45	January-12	25.18	17.83	13.83	17.83		
November-03					117.26	102.81	February-12	25.18	17.60	13.66	17.60		
December-03					117.41	104.27	March-12	24.98	17.47	13.55	17.47		
January-04					117.39	104.00	April-12	24.98	17.47	13.56	17.47		
February-04	112.91	108.68	108.94	108.68	112.79	99.37	May-12	24.98	17.48	13.56	17.48		
March-04					113.34	100.94	June-12	24.79	17.32	13.52	17.32		
April-04	112.91	108.89	110.06	108.89	113.26	100.56	July-12	24.79	17.32	13.52	17.32		
May-04	112.91	109.02	110.26	109.02	109.86	97.81	September-12	24.61	17.28	13.50	17.28		
June-04	112.91	112.39	113.36	112.39	108.52	99.62	October-12	24.56	17.06	13.37	17.06		
July-04					109.25	102.80	November-12	24.56	17.14	13.44	17.14		
August-04	100.00	100.44	99.93	100.44	107.86	102.06	December-12	24.56	17.15	13.44	17.15		
September-04					101.70	94.38	January-13	24.53	16.94	13.25	16.94		
October-04	100.00	100.37	100.52	100.37	99.24	93.23	April-13	24.48	16.92	13.24	16.92		
November-04					99.70	96.37	May-13	24.50	16.94	13.26	16.94		
December-04	100.00	99.95	99.94	99.95	99.59	97.14	June-13	24.26	16.73	13.19	16.73		
January-05	100.00	100.00	100.00	100.00	100.00	100.00	September-13	24.13	16.57	13.14	16.57		
February-05	96.84	98.27	98.42	98.27	100.40	103.38	November-13	24.13	16.53	13.12	16.53		
March-05	96.84	98.30	98.46	98.30	99.31	100.94	January-14	24.01	16.42	13.03	16.42		
April-05					99.15	100.96	February-14	24.01	16.42	13.03	16.42		
May-05	96.84	98.54	98.68	98.54	99.00	100.26	March-14	24.01	16.43	13.04	16.43		
June-05	96.84	95.26	95										

Appendix Table A.4 Regression Summary Statistics, Estimated Time Dummy Coefficients, and Price Relatives

Intel List Price Hedonic Model without TDP

month ending	time dummy	std error	degs of freedom	t-statistic	p value	num obs	number arch fixed effects	r2 total	r2 within	bias-corrected price relative	percent change from prev observation	month ending	time dummy	std error	degs of freedom	t-statistic	p value	num obs	number arch fixed effects	r2 total	r2 within	bias-corrected price relative	percent change from prev observation
1996m2	-0.195	0.04	2	-4.43	0.05	5	1	0.99	0.99	0.82	-17.63	2006m1	-0.006	0.04	78	-0.14	0.89	90	4	0.95	0.94	1.00	-0.48
1996m5	-0.249	0.09	4	-2.68	0.06	7	1	0.91	0.91	0.78	-21.62	2006m4	-0.232	0.04	77	-5.31	0.00	89	4	0.95	0.93	0.79	-20.64
1996m6	-0.061	0.17	2	-0.37	0.75	5	1	0.94	0.94	0.95	-4.54	2006m6	0.011	0.04	68	0.30	0.76	80	4	0.97	0.96	1.01	1.21
1996m8	-0.099	0.14	2	-0.70	0.56	5	1	0.97	0.97	0.92	-8.41	2006m7	-0.185	0.05	78	-3.39	0.00	91	5	0.93	0.91	0.83	-16.77
1996m11	0.000	0.07	5	0.00	1.00	8	1	0.95	0.95	1.00	0.22	2006m10	-0.040	0.06	88	-0.70	0.48	101	5	0.92	0.88	0.96	-3.73
1997m2	-0.286	0.09	6	-3.04	0.02	10	2	0.93	0.93	0.76	-24.46	2006m11	-0.019	0.07	69	-0.26	0.79	82	5	0.91	0.89	0.98	-1.62
1997m5	-0.271	0.14	8	-1.94	0.09	13	3	0.95	0.83	0.77	-22.75	2006m12	0.000	0.07	52	0.00	1.00	64	6	0.92	0.89	1.00	0.25
1997m8	-0.500	0.10	11	-4.78	0.00	16	3	0.96	0.78	0.61	-38.77	2007m1	-0.353	0.08	48	-4.19	0.00	61	6	0.91	0.83	0.71	-29.40
1997m11	-0.176	0.05	11	-3.25	0.01	16	3	0.99	0.75	0.84	-16.01	2007m4	-0.085	0.05	45	-1.76	0.09	57	6	0.97	0.87	0.92	-8.03
1998m2	-0.139	0.07	13	-1.91	0.08	20	4	0.98	0.57	0.87	-12.74	2007m5	-0.068	0.05	45	-1.28	0.21	56	6	0.97	0.83	0.94	-6.41
1998m5	-0.176	0.08	13	-2.21	0.05	20	4	0.98	0.64	0.84	-15.85	2007m6	-0.018	0.06	46	-0.30	0.76	57	5	0.96	0.88	0.98	-1.60
1998m6	-0.200	0.03	13	-7.48	0.00	19	3	0.99	0.96	0.82	-18.07	2007m7	-0.060	0.06	55	-0.96	0.34	67	5	0.95	0.86	0.94	-5.61
1998m7	-0.233	0.03	16	-6.79	0.00	22	3	0.99	0.92	0.79	-20.71	2007m9	-0.022	0.06	63	-0.36	0.72	75	5	0.93	0.84	0.98	-2.00
1998m8	0.000	0.03	19	0.00	1.00	26	4	0.99	0.92	1.00	0.04	2007m10	-0.087	0.07	50	-1.19	0.24	61	4	0.93	0.85	0.92	-8.05
1998m9	-0.141	0.04	20	-3.61	0.00	27	4	0.98	0.89	0.87	-13.11	2007m11	0.000	0.06	39	0.00	1.00	48	3	0.95	0.89	1.00	0.19
1998m10	-0.158	0.05	19	-3.47	0.00	26	4	0.97	0.91	0.86	-14.49	2008m1	-0.048	0.07	48	-0.69	0.50	59	5	0.93	0.84	0.96	-4.42
1998m11	-0.018	0.04	18	-0.40	0.69	25	4	0.98	0.92	0.98	-1.64	2008m3	0.016	0.07	61	0.23	0.82	72	5	0.92	0.78	1.02	1.81
1998m12	-0.075	0.06	16	-1.25	0.23	22	3	0.97	0.89	0.93	-7.03	2008m4	-0.105	0.07	61	-1.45	0.15	71	4	0.92	0.77	0.90	-9.74
1999m1	-0.084	0.05	17	-1.65	0.12	24	4	0.98	0.94	0.92	-7.89	2008m7	-0.071	0.07	56	-1.02	0.31	66	4	0.93	0.79	0.93	-6.59
1999m2	-0.221	0.04	18	-6.28	0.00	25	4	0.99	0.97	0.80	-19.73	2008m8	-0.053	0.07	61	-0.77	0.45	71	4	0.93	0.78	0.95	-4.92
1999m3	-0.003	0.02	19	-0.15	0.88	24	3	1.00	0.99	1.00	-0.27	2008m9	-0.001	0.07	68	-0.02	0.98	78	4	0.92	0.77	1.00	0.07
1999m4	-0.160	0.03	20	-5.70	0.00	25	3	0.99	0.97	0.85	-14.77	2008m10	-0.077	0.07	62	-1.10	0.28	72	4	0.92	0.77	0.93	-7.17
1999m5	-0.141	0.05	22	-3.03	0.01	27	3	0.97	0.90	0.87	-13.08	2008m11	-0.009	0.07	60	-0.14	0.89	72	5	0.93	0.79	0.99	-0.72
1999m6	-0.046	0.05	23	-0.88	0.39	28	3	0.96	0.84	0.96	-4.39	2008m12	0.021	0.07	58	0.32	0.75	70	5	0.94	0.79	1.02	2.35
1999m7	-0.051	0.06	23	-0.88	0.39	28	3	0.95	0.78	0.95	-4.79	2009m1	-0.114	0.07	53	-1.71	0.09	65	5	0.94	0.75	0.89	-10.53
1999m8	-0.191	0.07	21	-2.84	0.01	26	3	0.95	0.78	0.83	-17.19	2009m2	-0.020	0.06	53	-0.33	0.74	65	5	0.94	0.76	0.98	-1.80
1999m9	-0.117	0.06	19	-2.11	0.05	25	3	0.96	0.87	0.89	-10.89	2009m3	0.000	0.06	49	0.00	1.00	60	4	0.95	0.80	1.00	0.17
1999m10	-0.084	0.05	26	-1.85	0.08	33	4	0.98	0.89	0.92	-7.93	2009m4	-0.038	0.06	50	-0.66	0.51	61	4	0.95	0.81	0.96	-3.56
1999m12	-0.024	0.03	35	-0.82	0.42	42	4	0.99	0.92	0.98	-2.37	2009m5	-0.001	0.05	52	-0.02	0.98	63	4	0.95	0.82	1.00	0.02
2000m1	-0.050	0.03	38	-1.58	0.12	45	4	0.98	0.92	0.95	-4.82	2009m6	-0.014	0.05	57	-0.27	0.79	68	4	0.96	0.82	0.99	-1.24
2000m2	-0.348	0.04	31	-8.95	0.00	38	4	0.98	0.93	0.71	-29.29	2009m7	-0.079	0.04	58	-1.89	0.06	69	4	0.97	0.84	0.92	-7.51
2000m3	0.003	0.03	38	0.12	0.91	45	3	0.99	0.97	1.00	0.35	2009m8	-0.003	0.03	56	-0.12	0.90	67	4	0.99	0.92	1.00	-0.27
2000m4	-0.172	0.03	53	-5.39	0.00	60	3	0.97	0.95	0.84	-15.76	2009m9	0.009	0.03	60	0.32	0.75	73	5	0.98	0.92	1.01	0.90
2000m5	-0.168	0.05	55	-3.63	0.00	62	3	0.94	0.90	0.85	-15.37	2009m10	-0.017	0.03	64	-0.59	0.56	77	5	0.98	0.91	0.98	-1.68
2000m6	-0.078	0.05	54	-1.59	0.12	61	3	0.94	0.90	0.93	-7.34	2009m11	0.000	0.03	63	0.00	1.00	76	5	0.98	0.90	1.00	0.05
2000m7	-0.078	0.03	51	-2.57	0.01	58	3	0.97	0.96	0.93	-7.42	2010m1	-0.015	0.04	74	-0.40	0.69	88	6	0.96	0.84	0.99	-1.41
2000m8	-0.160	0.04	52	-4.31	0.00	59	3	0.96	0.94	0.85	-14.69	2010m2	-0.012	0.03	87	-0.35	0.73	101	6	0.96	0.83	0.99	-1.11
2000m10	-0.114	0.03	52	-3.76	0.00	59	3	0.97	0.96	0.89	-10.73	2010m3	-0.015	0.04	80	-0.42	0.68	94	6	0.96	0.84	0.99	-1.46
2000m11	-0.135	0.03	51	-4.76	0.00	58	3	0.97	0.95	0.87	-12.60	2010m4	0.001	0.04	73	0.02	0.98	87	7	0.96	0.86	1.00	0.15
2000m12	-0.026	0.03	53	-0.91	0.37	60	3	0.97	0.94	0.97	-2.56	2010m5	-0.007	0.04	78	-0.20	0.84	91	6	0.95	0.85	0.99	-0.67
2001m1	-0.135	0.03	56	-4.52	0.00	63	3	0.96	0.93	0.87	-12.62	2010m6	0.000	0.04	83	0.00	1.00	96	6	0.95	0.84	1.00	0.06
2001m3	-0.067	0.02	54	-2.99	0.01	60	2	0.97	0.95	0.94	-6.49	2010m7	-0.035	0.04	83	-0.97	0.34	96	6	0.95	0.83	0.97	-3.40
2001m4	-0.133	0.03	48	-4.34	0.00	54	2	0.95	0.92	0.88	-12.43	2010m8	-0.012	0.04	87	-0.34	0.74	100	6	0.95	0.82	0.99	-1.13
2001m5	-0.111	0.03	44	-3.88	0.00	50	2	0.96	0.93	0.90	-10.46	2010m9	-0.006	0.03	88	-0.18	0.86	101	6	0.95	0.82	0.99	-0.57
2001m6	-0.002	0.02	41	-0.10	0.92	47	2	0.97	0.96	1.00	-0.20	2010m10	-0.014	0.03	85	-0.41	0.68	98	6	0.95	0.83	0.99	-1.35
2001m7	0.016	0.03	44	0.49	0.63	50	2	0.95	0.92	1.02	1.68	2010m11	-0.002	0.03	86	-0.07	0.94	99	6	0.95	0.83	1.00	-0.19
2001m8	-0.162	0.04	53	-4.06	0.00	60	3	0.95	0.91	0.85	-14.91	2011m1	0.000	0.03	96	0.00	1.00	111	7	0.95	0.83	1.00	0.06
2001m9	-0.112	0.04	64	-2.85	0.01	71	3	0.93	0.88	0.89	-10.52	2011m2	-0.011	0.03	109	-0.34	0.73	125	7	0.94	0.81	0.99	-1.01
2001m10	-0.070	0.05	70	-1.50	0.14	77	3	0.88	0.82	0.93	-6.64	2011m3	0.000	0.03	111	0.01	0.99	127	7	0.94	0.81	1.00	0.09
2001m12	-0.082	0.05	71	-1.78	0.08	78	3	0.86	0.78	0.92	-7.76	2011m4	0.000	0.03	110	0.00	1.00	126	7	0.94	0.80	1.00	0.05
2002m1	-0.020	0.04	74	-0.49	0.63	82	4	0.89	0.77	0.98	-1.93	2011m5	-0.001	0.03	117	-0.02	0.98	133	7	0.94	0.83	1.00	-0.02
2002m2	0.000	0.04	78	0.00	1.00	86	4	0.90	0.76	1.00	0.08	2011m6	-0.015	0.03	105	-0.42	0.67	121	7	0.94	0.84	0.99	-1.39
2002m3	-0.208	0.05	59	-3.80	0.00	67	4	0.87	0.72	0.81	-18.66	2011m7	0.000	0.03	88	0.00	1.00	102	6	0.94	0.83	1.00	0.06
2002m4	-0.013	0.03	41	-0.39	0.70	48	4	0.95	0.83	0.99	-1.24	2011m9	-0.009	0.03	98	-0.28	0.78	113	6	0.95	0.87	0.99	-0.88
2002m5	-0.092	0.04	45	-2.28	0.03	53	4	0.95	0.85	0.91	-8.68	2011m10	-0.007	0.03	110	-0.23	0.82	125	6	0.95	0.89	0.99	-0.64
2002m6	-0.109	0.05	48	-2.37	0.02	56	4	0.92	0.83	0.90	-10.25	2011m11	-0.009	0.04	82	-0.23	0.82	98	7	0.96	0.92	0.99	-0.84
2002m9	-0.00																						

Appendix Table A.5 Other Estimated Regression Coefficients, Intel List Price Hedonic Model without TDP
Color-Coding for Entry and Exit of Characteristics/Microarchitectures from Sample

period ending	lproc	lmaxmhz	lbw	lcores	ht	lcache	int graph	em64t	eist	vt	period ending	lproc	lmaxmhz	lbw	lcores	ht	lcache	int graph	em64t	eist	vt
1996m2	3.06										2006m1	3.83	1.40	0.36	-0.19				0.04	0.03	0.17
1996m5	2.25										2006m4	3.58	1.49	0.47	-0.15				0.04	0.10	0.05
1996m6	2.03										2006m6	3.34	4.17	0.01	-0.42				0.01	0.30	-0.12
1996m8	2.28										2006m7	3.31	1.45	0.96	-0.36				-0.08	0.39	0.14
1996m11	2.28										2006m10	3.44	1.27	1.06	-0.39				-0.17	0.53	0.29
1997m2	2.84										2006m11	3.76	1.34	0.93	-0.35				-0.21	0.56	0.29
1997m5	2.83										2006m12	4.36	1.88	0.60	-0.37					0.53	
1997m8	1.72										2007m1	4.40	1.64	0.53	-0.38					0.34	-0.87
1997m11	1.04										2007m4	3.32	0.16	0.42	-0.01					-0.21	
1998m2	1.10	-0.33									2007m5	3.45	0.53	0.43	-0.09						
1998m5	1.60	0.03									2007m6	3.37	0.63	1.08	0.30	-0.03					
1998m6	2.45	0.24									2007m7	3.26	-2.34	1.06	1.60	-0.08					0.96
1998m7	1.97	0.45									2007m9	3.18	-2.22	0.92	1.53	-0.05					0.99
1998m8	1.63	0.64									2007m10	2.74	-1.71	0.84	1.30	-0.05					0.97
1998m9	2.15	0.55									2007m11	2.19	-1.00	0.87	-0.08						0.85
1998m10	3.03	0.32									2008m1	1.95	-0.61	0.53	0.18						0.49
1998m11	3.32	0.18									2008m3	1.79	0.14	0.40	0.24						0.23
1998m12	3.47	0.11									2008m4	1.86	0.44	0.32	0.27						0.05
1999m1	3.34	0.13									2008m7	2.09	1.13	0.33	0.21						-0.34
1999m2	3.54	0.06									2008m8	2.09	1.36	0.34	0.20						-0.41
1999m3	3.75										2008m9	2.13	1.17	0.32	0.22						-0.34
1999m4	3.46										2008m10	2.29	1.04	0.28	0.20						-0.26
1999m5	3.04										2008m11	45.56	-43.10	0.78	0.15	0.24					-0.19
1999m6	2.73										2008m12	45.42	-42.95	0.74	0.10	0.32					-0.23
1999m7	2.47										2009m1	47.44	-45.20	1.18	0.11	0.35					-0.26
1999m8	2.74										2009m2	46.86	-44.55	1.45	0.06	0.21					-0.22
1999m9	3.53	-0.02									2009m3	36.71	-33.26	1.42	-0.15	0.06					-0.29
1999m10	3.22	-0.07									2009m4	35.59	-32.01	1.37	-0.18	0.10					-0.33
1999m12	2.88	-0.22									2009m5	33.83	-30.06	1.32	-0.22	0.11					-0.35
2000m1	3.02	-0.21									2009m6	32.67	-29.19	1.30	-0.25	0.16					-0.34
2000m2	3.09	-0.03									2009m7	38.24	-35.59	1.23	-0.22	0.25					-0.27
2000m3	2.92	0.01			0.45						2009m8	46.47	-44.70	1.12	-0.13	0.33					-0.19
2000m4	2.91	0.00			0.62						2009m9	50.41	-48.76	1.00	-0.10	1.76	0.33				-0.15
2000m5	2.71	0.07			0.76						2009m10	43.63	-41.83	0.91	-0.15	1.58	0.30				-0.13
2000m6	2.97	0.01			0.56						2009m11	36.44	-34.38	0.91	-0.27	1.38	0.27				-0.15
2000m7	3.72	-0.31			0.48						2010m1	0.48	2.40	0.74	-0.44	0.21	0.20				-0.21
2000m8	3.21	-0.27			0.66						2010m2	0.38	2.51	0.72	-0.44	0.13	0.22				-0.22
2000m10	2.88	-0.26			0.79						2010m3	0.54	2.54	0.62	-0.49	0.12	0.23				-0.19
2000m11	2.49	-0.11			0.70						2010m4	0.77	2.72	0.26	0.10	0.28					-0.08
2000m12	2.26	0.02			0.65						2010m5	0.63	2.85	0.20	0.10	0.29					-0.09
2001m1	1.83	0.15			0.58						2010m6	0.44	2.93	0.16	0.12	0.32					-0.09
2001m3	1.47	0.20			0.56						2010m7	-0.10	3.43	0.21	0.10	0.32					-0.09
2001m4	1.35	0.22			0.61						2010m8	-0.81	3.91	0.31	0.08	0.35					-0.11
2001m5	1.17	0.18			0.82						2010m9	-1.23	3.90	0.36	0.12	0.38					-0.10
2001m6	1.09	0.05			1.04						2010m10	-1.58	3.94	0.48	0.13	0.40					-0.10
2001m7	1.39	-0.02			1.06						2010m11	-1.72	4.00	0.60	0.13	0.40					-0.13
2001m8	2.03	-0.29			1.19						2011m1	-0.94	3.16	0.66	0.14	0.39	-0.09				-0.14
2001m9	2.55	-0.54			1.32						2011m2	-0.76	2.56	0.74	-0.11	0.18	0.41	-0.08			-0.11
2001m10	2.35	-0.30			1.30						2011m3	-0.79	2.36	0.78	-0.05	0.20	0.42	-0.08			-0.10
2001m12	1.88	-0.10			1.15						2011m4	-0.79	2.36	0.77	-0.06	0.20	0.43	-0.08			-0.12
2002m1	1.58	0.03			1.00						2011m5	-0.84	2.28	0.73	0.00	0.23	0.44	-0.08			-0.11
2002m2	1.46	0.13			0.97						2011m6	-0.86	2.23	0.57	0.04	0.24	0.46	-0.06			-0.14
2002m3	1.68	0.57			0.84						2011m7	-0.75	2.48	0.07	0.34	0.26	0.15	0.06			
2002m4	2.68	1.95									2011m9	-0.72	2.21	0.20	0.30	0.29	0.27	0.01			-0.56
2002m5	2.02	1.75			0.60						2011m10	-0.69	1.96	0.29	0.31	0.32	0.35	-0.02			-0.57
2002m6	1.68	1.78			0.53						2011m11	-0.65	1.63	0.44	0.32	0.34	0.44	-0.05			-0.56
2002m9	1.52	1.87			0.45						2011m12	-0.51	1.06	0.91	0.23	0.33	0.63				-0.53
2002m11	2.01	1.07	0.39	0.37							2012m1	-0.48	1.11	0.97	0.25	0.32	0.60	-0.06			-0.56
2003m1	2.75	-0.01	0.38	0.35							2012m2	-0.52	1.06	1.10	0.46	0.36	0.46	-0.05			-0.56
2003m2	2.75	0.04	0.43	0.28							2012m3	-0.57	1.13	1.08	0.56	0.38	0.39	-0.06			-0.59
2003m4	2.97	0.06	0.24	0.22							2012m4	-0.47	1.17	1.11	0.56	0.35	0.36	-0.04			-0.62
2003m7	3.24	0.26	0.09	0.30							2012m5	-0.40	1.13	1.15	0.58	0.33	0.34	-0.03			-0.63
2003m8	3.19	0.10	0.17	0.40							2012m6	-0.47	1.24	1.12	0.51	0.34	0.37	-0.04			-0.64
2003m10	2.83	0.11	0.17	0.44							2012m7	-0.52	1.31	1.09	0.46	0.34	0.40	-0.06			-0.65
2004m2	2.54	-0.19	0.17	0.53							2012m9	-0.44	1.04	1.23	0.50	0.35	0.43	-0.05			-0.63
2004m4	2.64	-0.37	0.03	0.62							2012m10	-0.47	1.01	1.18	0.45	0.36	0.49	-0.04			-0.63
2004m5	2.65	-0.31	-0.07	0.65							2012m11	-0.56	1.15	1.06	0.37	0.36	0.53	-0.02			
2004m6	3.07	-0.31	-0.15	0.64							2012m12	-0.56	1.14	1.05	0.37	0.36	0.54	-0.02			
2004m8	2.83	-0.31	-0.31	0.73							2013m1	-0.60	1.27	0.81	0.36	0.38	0.57	-0.05			
2004m10	2.49	-0.30	-0.44	0.81							2013m4	-0.51	1.32	0.61	0.45	0.40	0.52	-0.05			
2004m12	2.89	-0.18	-0.52	0.79							2013m5	-0.28	1.35		0.74	0.42	0.29	-0.03			
2005m1	3.34	-0.07	-0.59	0.78							2013m6	-0.34	1.42	0.93	0.68	0.38	0.31	-0.03			
2005m2	3.25	-0.09	-0.65	0.84							2013m9	-0.39	1.47	0.88	0.55	0.35	0.40	-0.05			
2005m3	3.24	-0.13	-0.73	0.92							2013m11	-0.42	1.48	0.82	0.49	0.34	0.45	-0.05			
2005m5	3.40	-0.21	-0.70	0.91				0.32	-0.69		2014m1	-0.47	1.57	0.89	0.42	0.32	0.50				
2005m6	3.88	-0.63	-0.29	0.79				0.13	-0.46		2014m2	-0.52	1.65	0.92	0.37	0.31	0.52				
2005m7	3.93	-0.45	-0.06	0.60				0.04	-0.23		2014m3	-0.47	1.57	0.92	0.39	0.32	0.52				
2005m8	3.71	1.07	0.40	-0.14				0.06	0.11		2014m4	-0.43	1.40	0.93	0.43	0.33	0.53				
2005m9	3.64	1.80	0																		

Appendix Table A.6 Regression Summary Statistics, Estimated Time Dummy Coefficients, and Price Relatives
Intel List Price Hedonic Model including TDP

period ending	time dummy	std err	deg of freedom	t-statistic	p value	num obs	number arch fixed effects	r2 total	r2 within	bias-corrected price relative	pct change from prev observation	period ending	time dummy	std err	deg of freedom	t-statistic	p value	num obs	number arch fixed effects	r2 total	r2 within	bias-corrected price relative	pct change from prev observation
1998m10	-0.13	0.06	1	-2.37	0.25	4	1	0.95	0.95	0.88	-12.27	2007m4	-0.09	0.05	44	-1.85	0.07	57	6	0.98	0.88	0.92	-8.28
1998m11	0.00	0.00	1	0.02	0.99	4	1	1.00	1.00	1.00	0.00	2007m5	-0.07	0.06	44	-1.32	0.20	56	6	0.97	0.84	0.94	-6.42
1998m12	-0.41	0.02	1	-26.25	0.02	4	1	1.00	1.00	0.66	-33.74	2007m6	-0.02	0.06	45	-0.32	0.75	57	5	0.97	0.89	0.98	-1.64
1999m1	-0.21	0.02	2	-8.53	0.01	6	1	1.00	1.00	0.81	-18.62	2007m7	-0.05	0.06	54	-0.92	0.36	67	5	0.95	0.88	0.95	-5.06
1999m2	-0.23	0.03	5	-7.56	0.00	10	2	1.00	0.99	0.79	-20.84	2007m9	-0.02	0.06	62	-0.39	0.70	75	5	0.95	0.87	0.98	-2.01
1999m3	-0.01	0.02	7	-0.34	0.74	12	2	1.00	0.99	0.99	-0.57	2007m10	-0.07	0.06	49	-1.07	0.29	61	4	0.95	0.89	0.94	-6.33
1999m4	-0.17	0.04	7	-4.12	0.00	12	2	1.00	0.97	0.85	-15.16	2007m11	0.00	0.03	38	0.00	1.00	48	3	0.98	0.97	1.00	0.06
1999m5	-0.12	0.08	8	-1.41	0.20	13	2	0.98	0.88	0.89	-10.61	2008m1	0.00	0.04	47	-0.08	0.94	59	5	0.97	0.94	1.00	-0.26
1999m6	-0.04	0.08	9	-0.51	0.62	14	2	0.98	0.86	0.96	-3.87	2008m3	-0.02	0.04	60	-0.40	0.69	72	5	0.97	0.93	0.99	-1.49
1999m7	-0.06	0.09	9	-0.63	0.55	14	2	0.97	0.82	0.95	-5.21	2008m4	-0.08	0.04	60	-1.86	0.07	71	4	0.97	0.93	0.93	-7.24
1999m8	-0.21	0.09	9	-2.42	0.04	14	2	0.98	0.91	0.81	-18.74	2008m7	-0.06	0.04	55	-1.44	0.16	66	4	0.98	0.94	0.95	-5.32
1999m9	-0.18	0.04	9	-4.40	0.00	15	2	0.99	0.98	0.84	-16.43	2008m8	-0.01	0.03	60	-0.28	0.78	71	4	0.98	0.95	0.99	-0.84
1999m10	-0.12	0.04	16	-2.64	0.02	23	3	0.99	0.96	0.89	-10.82	2008m9	0.00	0.03	67	-0.05	0.96	78	4	0.98	0.95	1.00	-0.10
1999m12	-0.04	0.03	25	-1.37	0.18	32	3	0.99	0.96	0.96	-3.58	2008m10	-0.05	0.03	61	-1.55	0.13	72	4	0.98	0.96	0.95	-4.60
2000m1	-0.06	0.03	28	-2.14	0.04	35	3	0.99	0.96	0.94	-6.13	2008m11	0.00	0.03	59	-0.13	0.90	72	5	0.99	0.97	1.00	-0.30
2000m2	-0.36	0.04	25	-9.82	0.00	32	3	0.98	0.95	0.70	-30.01	2008m12	-0.01	0.03	57	-0.30	0.77	70	5	0.99	0.97	0.99	-0.75
2000m3	0.00	0.03	35	0.10	0.92	43	3	0.99	0.98	1.00	0.31	2009m1	-0.05	0.06	52	-0.92	0.36	65	5	0.96	0.84	0.95	-4.82
2000m4	-0.18	0.03	50	-5.44	0.00	58	3	0.97	0.95	0.84	-16.09	2009m2	-0.02	0.06	52	-0.30	0.77	65	5	0.95	0.79	0.98	-1.51
2000m5	-0.17	0.05	52	-3.66	0.00	60	3	0.94	0.90	0.84	-15.82	2009m3	0.00	0.06	48	0.00	1.00	60	4	0.95	0.81	1.00	0.16
2000m6	-0.07	0.05	52	-1.46	0.15	60	3	0.94	0.90	0.93	-6.84	2009m4	-0.03	0.05	49	-0.61	0.55	61	4	0.96	0.83	0.97	-3.14
2000m7	-0.08	0.03	50	-2.72	0.01	58	3	0.98	0.97	0.93	-7.42	2009m5	0.00	0.05	51	-0.04	0.97	63	4	0.96	0.84	1.00	-0.06
2000m8	-0.16	0.04	51	-4.37	0.00	59	3	0.96	0.94	0.85	-14.61	2009m6	-0.01	0.05	56	-0.26	0.80	68	4	0.96	0.84	0.99	-1.12
2000m10	-0.12	0.03	51	-3.81	0.00	59	3	0.97	0.96	0.89	-10.85	2009m7	-0.08	0.04	57	-1.82	0.07	69	4	0.97	0.85	0.93	-7.28
2000m11	-0.14	0.03	50	-4.80	0.00	58	3	0.97	0.96	0.87	-12.61	2009m8	0.00	0.02	55	-0.16	0.87	67	4	0.99	0.95	1.00	-0.30
2000m12	-0.03	0.03	52	-0.94	0.35	60	3	0.97	0.95	0.97	-2.57	2009m9	0.01	0.02	59	0.29	0.77	73	5	0.99	0.95	1.01	0.65
2001m1	-0.13	0.03	55	-4.50	0.00	63	3	0.96	0.93	0.87	-12.58	2009m10	-0.02	0.02	63	-0.69	0.49	77	5	0.99	0.94	0.98	-1.64
2001m3	-0.07	0.02	53	-2.87	0.01	60	2	0.97	0.95	0.94	-6.49	2009m11	0.00	0.03	62	0.00	1.00	76	5	0.98	0.93	1.00	0.03
2001m4	-0.13	0.03	47	-4.29	0.00	54	2	0.95	0.92	0.88	-12.43	2010m1	-0.01	0.03	73	-0.43	0.67	88	6	0.97	0.87	0.99	-1.39
2001m5	-0.11	0.03	43	-3.84	0.00	50	2	0.96	0.93	0.90	-10.43	2010m2	-0.01	0.03	86	-0.38	0.71	101	6	0.97	0.86	0.99	-1.10
2001m6	0.00	0.02	40	-0.09	0.93	47	2	0.97	0.96	1.00	-0.17	2010m3	-0.02	0.03	79	-0.45	0.66	94	6	0.96	0.86	0.99	-1.45
2001m7	0.02	0.03	43	0.48	0.63	50	2	0.95	0.92	1.02	1.66	2010m4	0.00	0.03	72	0.01	0.99	87	7	0.97	0.88	1.00	0.08
2001m8	-0.16	0.04	52	-4.05	0.00	60	3	0.96	0.92	0.86	-14.49	2010m5	-0.01	0.03	77	-0.24	0.81	91	6	0.96	0.87	0.99	-0.76
2001m9	-0.11	0.03	63	-3.15	0.00	71	3	0.95	0.91	0.90	-10.27	2010m6	0.00	0.03	82	0.00	1.00	96	6	0.96	0.86	1.00	0.06
2001m10	-0.06	0.04	69	-1.64	0.10	77	3	0.92	0.88	0.94	-6.08	2010m7	-0.04	0.03	82	-1.04	0.30	96	6	0.96	0.85	0.97	-3.48
2001m12	-0.08	0.04	70	-2.19	0.03	78	3	0.91	0.86	0.92	-7.80	2010m8	-0.01	0.03	86	-0.38	0.70	100	6	0.95	0.84	0.99	-1.24
2002m1	-0.02	0.03	73	-0.55	0.58	82	4	0.93	0.85	0.98	-1.78	2010m9	-0.01	0.03	87	-0.19	0.85	101	6	0.96	0.83	0.99	-0.59
2002m2	0.00	0.03	77	0.00	1.00	86	4	0.94	0.85	1.00	0.05	2010m10	-0.01	0.03	84	-0.43	0.67	98	6	0.96	0.84	0.99	-1.35
2002m3	-0.20	0.04	58	-4.66	0.00	67	4	0.92	0.83	0.82	-18.38	2010m11	0.00	0.03	85	-0.08	0.94	99	6	0.96	0.84	1.00	-0.22
2002m4	-0.01	0.03	40	-0.38	0.70	48	4	0.95	0.83	0.99	-1.24	2011m1	0.00	0.03	95	0.00	1.00	111	7	0.95	0.83	1.00	0.05
2002m5	-0.08	0.03	44	-2.40	0.02	53	4	0.96	0.89	0.92	-7.95	2011m2	-0.01	0.03	108	-0.37	0.71	125	7	0.95	0.82	0.99	-1.08
2002m6	-0.10	0.04	47	-2.77	0.01	56	4	0.95	0.89	0.90	-9.86	2011m3	0.00	0.03	110	0.01	0.99	127	7	0.94	0.82	1.00	0.08
2002m9	0.01	0.04	46	0.17	0.87	55	4	0.95	0.89	1.01	0.69	2011m4	0.00	0.03	109	0.00	1.00	126	7	0.94	0.82	1.00	0.05
2002m11	-0.43	0.09	33	-4.78	0.00	43	4	0.93	0.90	0.66	-34.25	2011m5	0.00	0.03	116	0.09	0.93	133	7	0.94	0.84	1.00	0.30
2003m1	0.00	0.03	23	0.00	1.00	30	1	0.99	0.99	1.00	0.05	2011m6	-0.02	0.03	104	-0.54	0.59	121	7	0.94	0.85	0.98	-1.73
2003m2	-0.12	0.04	23	-2.97	0.01	30	1	0.98	0.98	0.89	-10.95	2011m7	0.00	0.03	87	0.00	1.00	102	6	0.95	0.85	1.00	0.05
2003m4	-0.10	0.05	21	-2.24	0.04	28	1	0.97	0.97	0.90	-9.84	2011m9	-0.01	0.03	97	-0.40	0.69	113	6	0.96	0.89	0.99	-1.17
2003m7	-0.17	0.05	22	-3.12	0.01	29	1	0.97	0.97	0.85	-15.43	2011m10	-0.01	0.03	109	-0.26	0.80	125	6	0.96	0.91	0.99	-0.66
2003m8	-0.03	0.04	25	-0.58	0.56	32	1	0.97	0.97	0.98	-2.47	2011m11	-0.01	0.03	81	-0.29	0.78	98	7	0.97	0.94	0.99	-0.92
2003m10	-0.09	0.04	27	-1.98	0.06	34	1	0.97	0.97	0.92	-8.11	2011m12	0.00	0.03	59	0.18	0.85	71	3	0.99	0.97	1.00	0.49
2004m2	-0.16	0.05	33	-3.00	0.01	41	2	0.96	0.96	0.86	-14.39	2012m1	0.00	0.02	57	0.07	0.94	70	3	0.99	0.98	1.00	0.20
2004m4	0.00	0.05	36	0.02	0.99	44	2	0.97	0.96	1.00	0.19	2012m2	-0.01	0.03	57	-0.49	0.62	69	2	0.98	0.97	0.99	-1.27
2004m5	0.00	0.05	34	0.00	1.00	42	2	0.97	0.96	1.00	0.12	2012m3	-0.01	0.03	58	-0.27	0.79	70	2	0.98	0.97	0.99	-0.76
2004m6	0.03	0.05	44	0.60	0.55	52	2	0.96	0.96	1.03	3.09	2012m4	0.00	0.03	67	0.00	1.00	80	3	0.98	0.97	1.00	0.04
2004m8	-0.11	0.04	59	-2.73	0.01	67	2	0.96	0.96	0.89	-10.63	2012m5	0.00	0.02	77	0.00	1.00	90	3	0.98	0.96	1.00	0.03
2004m10	0.00	0.04	69	-0.04	0.97	77	2	0.96	0.96	1.00	-0.07	2012m6	-0.01	0.02	89	-0.42	0.67	102	3	0.98	0.97	0.99	-0.94
2004m12	0.00	0.03	75	-0.14	0.89	83	2	0.96	0.96	1.00	-0.42	2012m7	0.00	0.02	101	0.00	1.00	114	3	0.98	0.97	1.00	0.02
2005m1	0.00	0.03	76	0.00	1.00	84	2	0.97	0.97	1.00	0.05	2012m9	0.00	0.02	117	-0.13	0.90	130	3	0.9			

Appendix Table A.7 Other Estimated Regression Coefficients, Intel List Price Hedonic Model including TDP
Color-Coding for Entry and Exit of Characteristics/Microarchitectures from Sample

period ending	lproc	lmaxmhz	lbw	lcores	lht	lcache	lgraph	ltdp	em64t	eist	vt	period ending	lproc	lmaxmhz	lbw	lcores	lht	lcache	lgraph	ltdp	em64t	eist	vt
1998m10	1.89											2007m4	3.32	0.16	0.41	-0.03		0.54					-0.16
1998m11	1.36											2007m5	3.39	0.54	0.36	-0.11		0.71					
1998m12	1.51											2007m6	3.30	0.64	0.34	0.21	-0.04		0.85				
1999m1	-28.12							30.98				2007m7	3.17	-2.32	-0.07	1.45	-0.08		1.27				0.96
1999m2	3.83							-0.86				2007m9	3.06	-2.23	-0.54	1.33	-0.04		1.63				0.99
1999m3	3.38							-0.14				2007m10	2.57	-1.83	-1.07	1.05	-0.01		2.09				1.00
1999m4	4.12							-1.14				2007m11	1.79	-1.44	-2.86	0.07		3.99					0.94
1999m5	4.15							-0.91				2008m1	1.50	-0.78	-2.29	0.25		3.12					0.55
1999m6	2.06							1.60				2008m3	1.26	-0.51	-2.32	0.34		3.03					0.42
1999m7	0.71							2.85				2008m4	1.15	-0.55	-2.36	0.42		2.98					0.35
1999m8	1.62							2.21				2008m7	1.17	-0.11	-2.28	0.43		2.90					0.07
1999m9	2.96	0.10						1.25				2008m8	1.24	0.51	-2.21	0.35		2.90					-0.14
1999m10	3.80	-0.10						-0.25				2008m9	1.32	0.55	-2.25	0.33		2.94					-0.14
1999m12	3.14	-0.24						-0.06				2008m10	1.37	0.46	-2.23	0.32		2.86					-0.08
2000m1	3.09	-0.23						0.10				2008m11	55.10	-53.71	0.33	-2.20	0.34		2.73				-0.01
2000m2	3.30	-0.04						-0.15				2008m12	55.09	-53.70	0.36	-2.20	0.33		2.71				-0.01
2000m3	3.19	0.04			0.39			-0.28				2009m1	52.49	-50.81	1.01	-0.95	0.34		1.23				-0.19
2000m4	3.34	0.06			0.52			-0.40				2009m2	49.51	-47.50	1.38	-0.43	0.24		0.55				-0.22
2000m5	3.10	0.11			0.67			-0.34				2009m3	40.11	-37.05	1.37	-0.52	0.10		0.45				-0.28
2000m6	3.00	0.01			0.56			-0.02				2009m4	38.80	-35.58	1.33	-0.56	0.11		0.47				-0.30
2000m7	3.22	-0.45			0.58			0.54				2009m5	36.88	-33.46	1.29	-0.59	0.12		0.47				-0.33
2000m8	2.81	-0.38			0.74			0.45				2009m6	35.74	-32.58	1.27	-0.64	0.16		0.49				-0.31
2000m10	2.69	-0.31			0.83			0.21				2009m7	38.81	-36.21	1.22	-0.36	0.25		0.17				-0.26
2000m11	2.26	-0.17			0.75			0.25				2009m8	47.09	-45.37	1.07	0.39	0.34		-0.58				-0.17
2000m12	1.89	-0.07			0.73			0.39				2009m9	51.11	-49.53	0.96	0.44	1.78	0.34		-0.60			-0.13
2001m1	1.66	0.12			0.60			0.17				2009m10	44.47	-42.75	0.88	0.40	1.61	0.32		-0.60			-0.12
2001m3	1.48	0.20			0.56			0.00				2009m11	37.42	-35.46	0.87	0.28	1.42	0.29		-0.60			-0.13
2001m4	1.34	0.21			0.61			0.00				2010m1	0.92	1.99	0.70	0.11	0.23	0.21		-0.62			-0.20
2001m5	1.30	0.21			0.80			-0.14				2010m2	0.83	2.15	0.67	0.12	0.15	0.22		-0.65			-0.21
2001m6	1.31	0.10			1.02			-0.22				2010m3	1.00	2.18	0.59	0.07	0.14	0.22		-0.66			-0.19
2001m7	1.66	0.04			1.02			-0.27				2010m4	1.26	2.35	0.25	0.11	0.26	0.26		-0.66			-0.08
2001m8	2.68	-0.15			1.12			-0.70				2010m5	1.10	2.50	0.18	0.12	0.28	0.28		-0.65			-0.09
2001m9	4.60	-0.11			1.20			-2.22				2010m6	0.88	2.60	0.14	0.13	0.31	0.31		-0.63			-0.10
2001m10	5.33	0.24			1.15			-3.21				2010m7	0.41	3.05	0.20	0.11	0.32	0.32		-0.64			-0.10
2001m12	4.96	0.40			1.02			-3.29				2010m8	-0.31	3.54	0.29	0.09	0.34	0.34		-0.62			-0.12
2002m1	4.45	0.47			0.88			-3.06				2010m9	-0.78	3.57	0.35	0.12	0.37	0.37		-0.56			-0.10
2002m2	4.35	0.56			0.85			-3.07				2010m10	-1.16	3.64	0.46	0.13	0.39	0.39		-0.52			-0.10
2002m3	4.90	0.74			0.85			-3.52				2010m11	-1.31	3.71	0.59	0.13	0.39	0.39		-0.50			-0.14
2002m4	2.69	1.95						-0.01				2011m1	-0.35	2.70	0.65	0.15	0.38	-0.07	-0.34				-0.14
2002m5	7.06	0.93			-0.85			-7.24				2011m2	0.03	2.02	0.72	0.28	0.18	0.39	-0.06	-0.39			-0.13
2002m6	8.41	0.79			-1.41			-9.75				2011m3	0.11	1.82	0.76	0.37	0.19	0.40	-0.06	-0.44			-0.12
2002m9	8.46	0.94			-1.53			-9.89				2011m4	0.10	1.82	0.75	0.37	0.19	0.40	-0.06	-0.44			-0.13
2002m11	2.30	1.09	0.52	0.32	-0.66							2011m5	0.17	1.71	0.71	0.42	0.20	0.41	-0.05	-0.47			-0.13
2003m1	2.75	-0.11	0.20	0.34	0.68							2011m6	0.23	1.68	0.55	0.45	0.20	0.41	-0.03	-0.49			-0.17
2003m2	2.75	-0.06	0.24	0.27	0.70							2011m7	0.80	1.83	-0.05	0.99	0.20	-0.01	0.13	-0.67			
2003m4	2.84	-0.05	-0.01	0.21	1.09							2011m9	0.95	1.66	-0.02	1.01	0.20	0.05	0.12	-0.72			-1.05
2003m7	1.88	0.26	-0.09	0.31	1.70							2011m10	1.10	1.49	0.00	1.07	0.21	0.08	0.11	-0.76			-1.12
2003m8	1.22	0.34	-0.15	0.35	2.61							2011m11	1.20	1.21	0.06	1.06	0.22	0.17	0.10	-0.76			-1.13
2003m10	1.05	0.31	-0.11	0.40	2.32							2011m12	0.54	0.83	0.59	0.56	0.27	0.55		-0.48			-0.82
2004m2	0.32	0.26	-0.19	0.38	2.73							2012m1	0.36	0.84	0.70	0.48	0.28	0.59	-0.05	-0.41			-0.75
2004m4	-0.08	0.19	-0.32	0.37	3.32							2012m2	0.28	0.77	0.81	0.66	0.32	0.47	-0.05	-0.39			-0.73
2004m5	0.03	0.18	-0.36	0.39	3.24							2012m3	0.09	0.89	0.85	0.72	0.35	0.40	-0.05	-0.32			-0.73
2004m6	1.40	-0.03	-0.29	0.48	1.97							2012m4	0.06	0.98	0.92	0.70	0.32	0.37	-0.04	-0.27			-0.74
2004m8	1.65	-0.16	-0.36	0.62	1.35							2012m5	0.15	0.93	0.95	0.73	0.31	0.35	-0.03	-0.29			-0.78
2004m10	1.68	-0.25	-0.43	0.73	0.93							2012m6	0.04	1.09	0.92	0.69	0.32	0.35	-0.05	-0.27			-0.75
2004m12	2.22	-0.21	-0.49	0.73	0.80							2012m7	0.00	1.19	0.87	0.66	0.33	0.36	-0.06	-0.27			-0.80
2005m1	2.70	-0.12	-0.55	0.71	0.76							2012m9	-0.02	0.95	1.06	0.65	0.35	0.41	-0.05	-0.23			-0.76
2005m2	2.73	-0.13	-0.60	0.78	0.63							2012m10	-0.10	0.96	1.00	0.59	0.35	0.47	-0.05	-0.22			-0.76
2005m3	2.81	-0.16	-0.67	0.86	0.50	0.34	-0.63					2012m11	-0.16	1.14	0.82	0.51	0.35	0.51	-0.02	-0.25			
2005m5	2.87	-0.27	-0.62	0.85	0.60	0.35	-0.63					2012m12	-0.16	1.14	0.81	0.50	0.35	0.52	-0.02	-0.25			
2005m6	2.86	-0.96	-0.23	0.78	1.07	0.19	-0.46					2013m1	-0.14	1.26	0.57	0.51	0.36	0.54	-0.05	-0.28			
2005m7	2.97	-1.00	-0.04	0.70	1.07	0.06	-0.28					2013m4	0.09	1.27	0.34	0.65	0.37	0.47	-0.04	-0.36			
2005m8	2.97	0.03	0.24	0.24	0.95	0.05	-0.11					2013m5	1.16	1.08		1.24	0.32	0.20	0.04	-0.78			
2005m9	2.91	0.77	0.29	0.01	0.93	0.04	-0.10					2013m6	1.01	1.05	0.45	1.28	0.32	0.16	0.04	-0.72			
2005m12	2.96	0.68	0.27	0.04	0.99	0.03	-0.12	0.07				2013m9	0.66	1.27	0.74	1.08	0.30	0.24	0.02	-0.58			
2006m1	3.02	0.47	0.23	0.12	1.04	0.00	-0.16	0.05				2013m11	0.54	1.38	0.71	0.98	0.29	0.31	0.01	-0.55			
2006m4	2.88	0.86	0.41	0.02	0.86	0.02	-0.03	-0.02				2014m1	0.36	1.52	0.78	0.84	0.27	0.37		-0.49			
2006m6	2.66	1.81	0.44	-0.08	0.90	-0.05	0.09	-0.20				2014m2	0.20	1.62	0.83	0.73	0.26	0.41		-0.43			
2006m7	2.55	1.28	0.67	-0.12	1.32	-0.23	0.18	-0.05				2014m3	0.										

Key to variables in column headings, Appendix Tables 5 and 7

lproc: log base processor clock rate

lmaxmhz: log of maximum clock rate if turbo mode available

lbw: log of memory bandwidth

lcores: log of number of physical cores in processor

ht: binary dummy variable for hyperthreading

lcache: log of amount of last level cache memory on processor chip

int_graph: dummy variable for integrated on-chip graphics

ltdp: log of thermal design power

em64t: extended memory 64 technology, dummy variable

eist: enhanced Intel speedstep technology (dynamic frequency scaling), dummy variable

vt: virtualization technology (hardware virtualization capabilities), dummy variable