Appendix to "The Marginal Worker and the Aggregate Elasticity of Labor Supply".

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1 Calibration of the Model

To estimate $\rho_\theta, \sigma_\theta$ and $v(\overline{n})$ we solve the model for many parameter values. To simplify this procedure which is numerically heavy, we used the Bellman equation without aggregate shocks (i.e. we set $z = 1$):

$$\begin{aligned} v(a,\theta) &= \max_{c,a',n\in\{0,\overline{n}\}} \left\{\log c - \theta v(n) + \beta E_{\theta'/\theta} v(a',\theta')\right\}, \\ a' &= Ra + 1_{n=\overline{n}} + 1_{n=0} h - c. \end{aligned}$$

We use an equally spaced grid for assets between 0 and 12, with 40 points. (The bound 12 is not binding.) The shock $\log\theta$ an AR(1) was approximated by a 60-state Markov chain with equally spaced points between $\frac{-4\sigma_\theta^2}{1-\rho_\theta^2}$ and $\frac{4\sigma_\theta^2}{1-\rho_\theta^2}$. (Recall we have $\log\theta_{i,t+1} = \rho_\theta \log\theta_{i,t} + \sigma_\theta \varepsilon_{i,t+1}$ with $\varepsilon_{i,t+1}$ iid across i and t.) The following table gives our parameter chosen a priori for β and R.

symbol	annual	monthly	name
β	0.95	0.9957	discount factor
R	1.03	1.0025	gross interest rate

The following table gives our best-fitting parameters for $h = 0.5$. We searched over a grid with $\rho \in \{0.9, 0.91, 0.92, ..., 0.99\}$ [10 values], $\sigma \in \{0.15, 0.19, 0.23, ..., 0.50\}$ [10 values], and $v(\overline{n}) \in \{0.08, 0.087, ..., 0.25\}$ [25 values]; it may be interesting to make this search even more extensive or to use a continuous search.

symbol	monthly	name
σ_θ	.31	std dev of innovation to $\log\theta$
ρ_θ	.98	autocorrelation of $\log\theta$
$v(\overline{n})$	.20	disutility of working

The next table gives the match achieved. This match is nearly perfect, so we think that a continuous

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search would be able to match exactly the three moments.

Moment	Data	Model
Average hours worked per year: $\mathbb{E}[n_{i,t}]$	1628	1639
Standard deviation of hours worked per year: $\sigma[n_{i,t}]$	710	730
Correlation coefficient of hours worked: $Corr(n_{i,t}, n_{i,t+1})$	0.70	0.72

(It is interesting to note that there are some parameters which fit nearly equally well, e.g. $\sigma_\theta = .34, \rho_\theta = .98$ and $v(\overline{n}) = .165$, or $\sigma_\theta = .267, \rho_\theta = .98$ and $v(\overline{n}) = .229$.)

The following table gives our best-fitting parameters for $h = 0.2$. (In this case, the search for $v(\overline{n})$ was performed over $[0.05, 0.25]$ and the search for σ over $[0.1, 0.5]$.)

symbol	monthly	name
σ_θ	.41	std dev of innovation to $\log\theta$
ρ_θ	.98	autocorrelation of $\log\theta$
$v(\overline{n})$	.24	disutility of working

The next table gives the match achieved. Again the match is very close.

Moment	Data	Model
Average hours worked per year: $\mathbb{E}[n_{i,t}]$	1628	1652
Standard deviation of hours worked per year: $\sigma[n_{i,t}]$	710	723
Correlation coefficient of hours worked: $Corr(n_{i,t}, n_{i,t+1})$	0.70	0.71

2 Numerical Simulations with Aggregate Shocks

We solve the Bellman equation with an aggregate shock by a simple value function iteration:

$$\begin{aligned} V(a,\theta,z) &= \max_{c,a'\in A, n\in\{0,\overline{n}\}} \left\{\log c - \theta v(n) + \beta E_{\theta'/\theta, z'/z} V(a',\theta',z')\right\}, \\ a' &= Ra + z1_{n=\overline{n}} + h1_{n=0}. - c. \end{aligned}$$

The grid has 21 values for z, 200 values for θ, and 40 values for a. The asset values are equally spaced between 0 and 20. The values for $\log\theta$ are equally spaced between $\frac{-3\sigma_\theta^2}{1-\rho_\theta^2}$ and $\frac{+3\sigma_\theta^2}{1-\rho_\theta^2}$. The values for $\log z$ are equally spaced between $\frac{-4\sigma_z^2}{1-\rho_z^2}$ and $\frac{+4\sigma_z^2}{1-\rho_z^2}$.

We simulate a panel of 1000 individuals over a 40 year period. We start the simulation from the distribution over (a,θ) to which the system converges when the wage remains forever at its median value. We discard the first 200 periods, so we need to simulate $40 \times 12 + 200 = 680$ periods. We repeat this panel construction 100 times and report the mean result across simulations.

The programs show that the moments to which we calibrated the model are still very well matched in the model with aggregate shock. Given that individual data is driven by idiosyncratic (not aggregate) shocks, this not surprising. We do not (yet) impose the law of large numbers in these simulations, which explains the relatively low R^2 in the regressions on simulated data.

3 PSID measure of average hours, regression in first differences

A. Sorting on hours worked

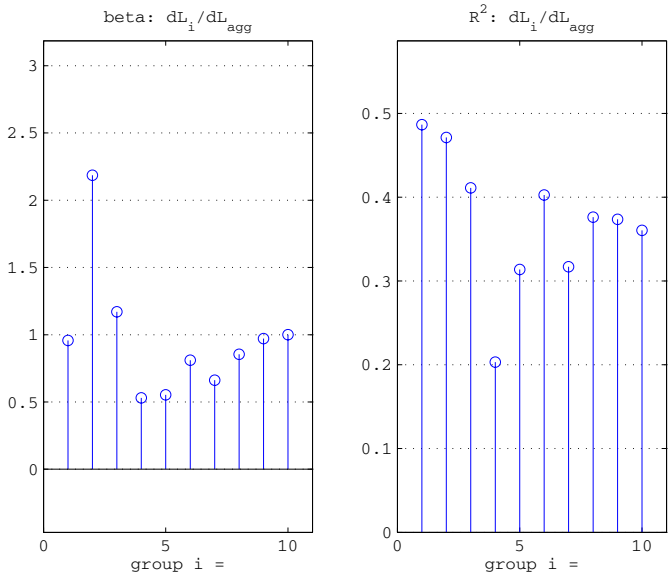

Figure 1: Sorting on current hours worked, Macro=PSID, First Differences

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	0.96	2.19	1.17	0.53	0.55	0.81	0.66	0.85	0.97	1.00
$\widehat{\sigma}$	0.19	0.44	0.26	0.20	0.15	0.19	0.18	0.21	0.24	0.25
$\widehat{\sigma}_{Newey-West}$	0.18	0.26	0.26	0.16	0.14	0.17	0.19	0.14	0.27	0.29
R^2	0.49	0.47	0.41	0.20	0.31	0.40	0.32	0.38	0.37	0.36
Durbin-Watson	1.84	1.24	2.00	1.97	1.93	1.53	1.73	1.13	1.92	2.77
$\mathbb{E}[h_i/H]$	0.00	0.39	0.84	0.99	1.05	1.09	1.16	1.27	1.41	1.79
$\mathbb{E}h_i$ $(,000)$	0.00	0.75	1.59	1.87	1.98	2.06	2.20	2.40	2.67	3.39
$\sigma(h_i)$ $(,000)$	0.00	0.08	0.08	0.04	0.02	0.03	0.04	0.05	0.07	0.09
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	0.49	0.05	-0.00	-0.01	-0.01	-0.02	-0.03	-0.06	-0.14
$\sigma(d\log h_i)$ $(,000)$	NaN	0.19	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

B. Sorting on family income

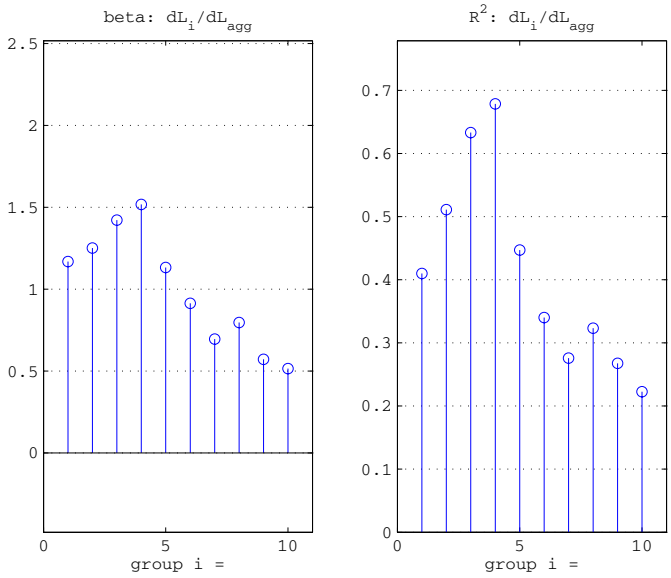

Figure 2: Sorting on family income. Macro=PSID, First Differences

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	1.17	1.25	1.42	1.52	1.13	0.91	0.70	0.80	0.57	0.52
$\widehat{\sigma}$	0.26	0.23	0.20	0.20	0.24	0.24	0.21	0.22	0.18	0.18
$\widehat{\sigma}_{Newey-West}$	0.21	0.26	0.26	0.12	0.22	0.20	0.20	0.17	0.13	0.17
R^2	0.41	0.51	0.63	0.68	0.45	0.34	0.28	0.32	0.27	0.22
Durbin-Watson	1.55	1.93	2.33	1.50	2.12	1.54	2.36	2.21	2.82	2.23
$\mathbb{E}[h_i/H]$	0.39	0.78	0.93	1.00	1.05	1.10	1.14	1.16	1.19	1.27
$\mathbb{E}h_i$ $(,000)$	0.73	1.47	1.76	1.89	1.99	2.08	2.16	2.20	2.26	2.40
$\sigma(h_i)$ $(,000)$	0.10	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.06	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	0.16	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03
$\sigma(d\log h_i)$ $(,000)$	0.09	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

C. Sorting on wages (average hourly earning)

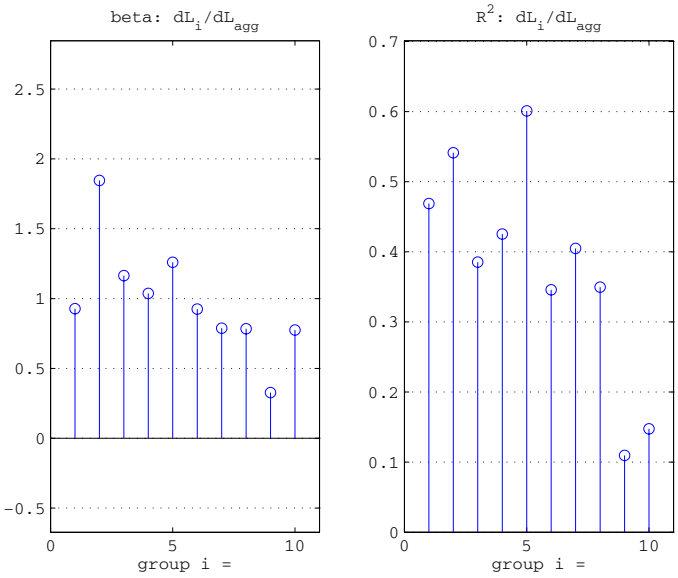

Figure 3: Sorting on current wage. Macro=PSID. First Differences.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	0.93	1.85	1.16	1.04	1.26	0.93	0.79	0.78	0.33	0.77
$\widehat{\sigma}$	0.19	0.32	0.28	0.23	0.19	0.24	0.18	0.20	0.18	0.35
$\widehat{\sigma}_{Newey-West}$	0.19	0.23	0.32	0.16	0.15	0.17	0.20	0.16	0.15	0.28
R^2	0.47	0.54	0.39	0.43	0.60	0.35	0.40	0.35	0.11	0.15
Durbin-Watson	1.85	2.31	1.55	1.82	2.13	1.37	1.85	1.98	1.21	1.36
$\mathbb{E}[h_i/H]$	0.00	1.03	1.10	1.13	1.14	1.14	1.13	1.12	1.11	1.07
$\mathbb{E}h_i$ $(,000)$	0.00	1.95	2.08	2.14	2.16	2.15	2.15	2.12	2.09	2.03
$\sigma(h_i)$ $(,000)$	0.00	0.09	0.09	0.09	0.06	0.05	0.04	0.04	0.05	0.07
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	-0.08	-0.05	-0.03	-0.02	-0.02	-0.01	-0.01	0.01	0.03
$\sigma(d\log h_i)$ $(,000)$	NaN	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.03
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

D. Sorting on education

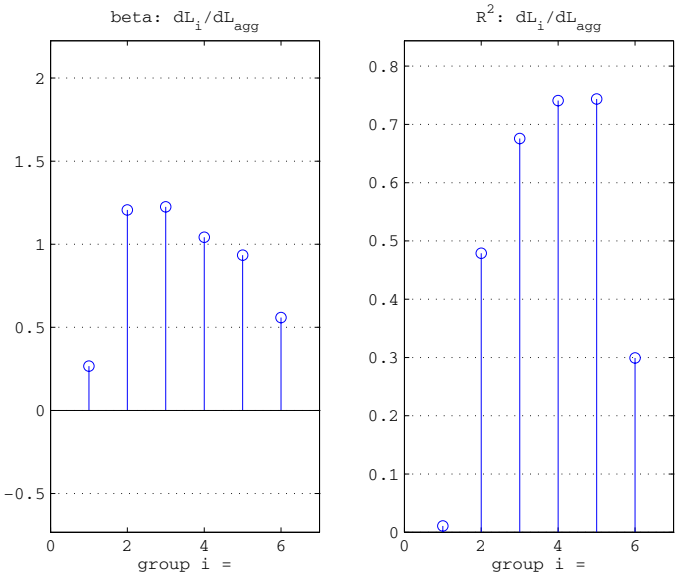

Figure 4: Sorting on Education. Macro=PSID, First Differences

	1	2	3	4	5	6
$\widehat{\beta}$	0.27	1.21	1.22	1.04	0.93	0.56
$\widehat{\sigma}$	0.48	0.24	0.16	0.12	0.10	0.16
$\widehat{\sigma}_{Newey-West}$	0.34	0.24	0.11	0.12	0.11	0.14
R^2	0.01	0.48	0.68	0.74	0.74	0.30
Durbin-Watson	2.06	2.03	2.70	2.40	2.49	1.60
$\mathbb{E}[h_i/H]$	0.58	0.75	0.86	1.01	1.06	1.14
$\mathbb{E}h_i$ $(,000)$	1.11	1.43	1.63	1.91	2.01	2.15
$\sigma(h_i)$ $(,000)$	0.34	0.24	0.14	0.12	0.08	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	-0.08	-0.04	-0.02	-0.01	-0.01	-0.00
$\sigma(d\log h_i)$ $(,000)$	0.11	0.04	0.03	0.02	0.02	0.01
mean weight	0.03	0.09	0.16	0.22	0.29	0.22

E. Sorting on age

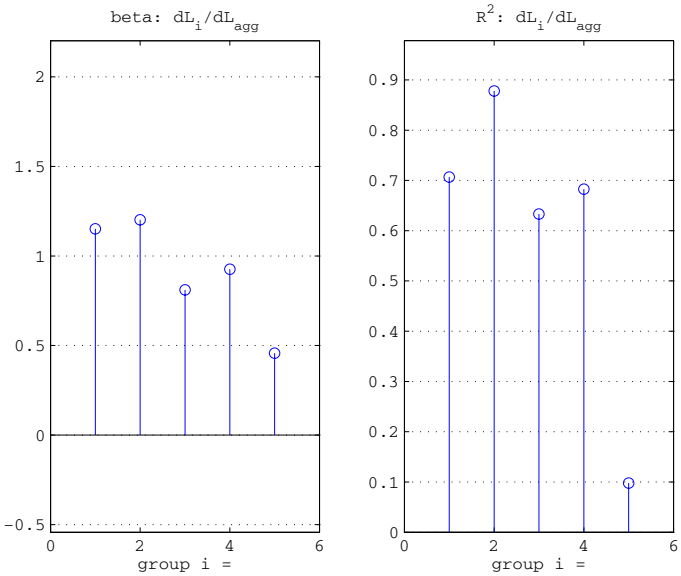

Figure 5: Sorting on age. Macro=PSID, First Differences

	1	2	3	4	5
$\widehat{\beta}$	1.15	1.20	0.81	0.93	0.46
$\widehat{\sigma}$	0.14	0.08	0.12	0.12	0.26
$\widehat{\sigma}_{Newey-West}$	0.10	0.06	0.11	0.11	0.17
R^2	0.71	0.88	0.63	0.68	0.10
Durbin-Watson	2.30	2.22	2.39	2.32	2.28
$\mathbb{E}[h_i/H]$	1.04	1.09	1.09	0.95	0.62
$\mathbb{E}h_i$ $(,000)$	1.97	2.06	2.06	1.79	1.17
$\sigma(h_i)$ $(,000)$	0.09	0.10	0.06	0.06	0.16
$\mathbb{E}[d\log h_i]$ $(,000)$	0.01	0.00	-0.01	-0.03	-0.14
$\sigma(d\log h_i)$ $(,000)$	0.02	0.02	0.02	0.02	0.04
mean weight	0.16	0.29	0.24	0.20	0.11

4 BLS measure of average hours, regression in first differences

A. Sorting on hours worked

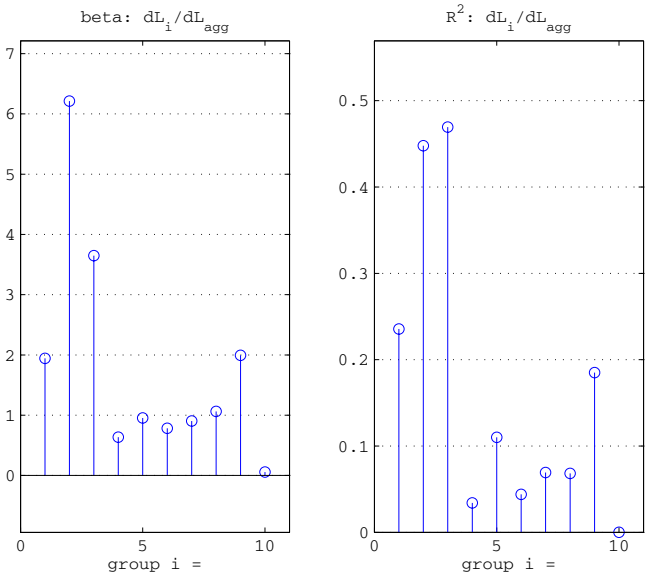

Figure 6: Sorting on current hours worked. Macro=BLS, First Differences

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	1.94	6.21	3.65	0.63	0.95	0.78	0.90	1.06	1.99	0.06
$\widehat{\sigma}$	0.66	1.30	0.73	0.64	0.51	0.69	0.63	0.74	0.79	0.92
$\widehat{\sigma}_{Newey-West}$	0.75	1.32	0.73	0.60	0.50	0.55	0.54	0.76	1.00	0.87
R^2	0.24	0.45	0.47	0.03	0.11	0.04	0.07	0.07	0.19	0.00
Durbin-Watson	2.19	1.87	1.51	1.99	1.78	1.49	1.26	1.08	1.66	2.36
$\mathbb{E}[h_i/H]$	0.00	0.39	0.84	0.99	1.05	1.09	1.16	1.27	1.41	1.79
$\mathbb{E}h_i$ $(,000)$	0.00	0.75	1.59	1.87	1.98	2.06	2.20	2.40	2.67	3.39
$\sigma(h_i)$ $(,000)$	0.00	0.08	0.08	0.04	0.02	0.03	0.04	0.05	0.07	0.09
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	0.49	0.05	-0.00	-0.01	-0.01	-0.02	-0.03	-0.06	-0.14
$\sigma(d\log h_i)$ $(,000)$	NaN	0.19	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

B. Sorting on family income

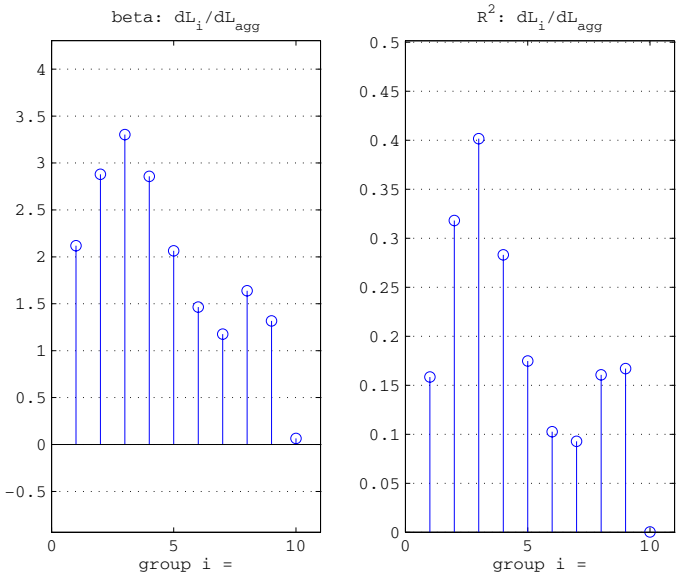

Figure 7: Sorting on family income. Macro=BLS, First Differences

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	2.12	2.88	3.30	2.86	2.06	1.46	1.18	1.64	1.32	0.06
$\widehat{\sigma}$	0.92	0.80	0.76	0.86	0.85	0.82	0.69	0.71	0.56	0.60
$\widehat{\sigma}_{Newey-West}$	1.01	0.48	0.98	0.86	0.69	0.45	0.83	0.66	0.43	0.59
R^2	0.16	0.32	0.40	0.28	0.17	0.10	0.09	0.16	0.17	0.00
Durbin-Watson	1.75	1.80	2.23	1.59	1.60	1.57	2.39	1.79	2.63	2.06
$\mathbb{E}[h_i/H]$	0.39	0.78	0.93	1.00	1.05	1.10	1.14	1.16	1.19	1.27
$\mathbb{E}h_i$ $(,000)$	0.73	1.47	1.76	1.89	1.99	2.08	2.16	2.20	2.26	2.40
$\sigma(h_i)$ $(,000)$	0.10	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.06	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	0.16	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03
$\sigma(d\log h_i)$ $(,000)$	0.09	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

C. Sorting on wages (average hourly earning)

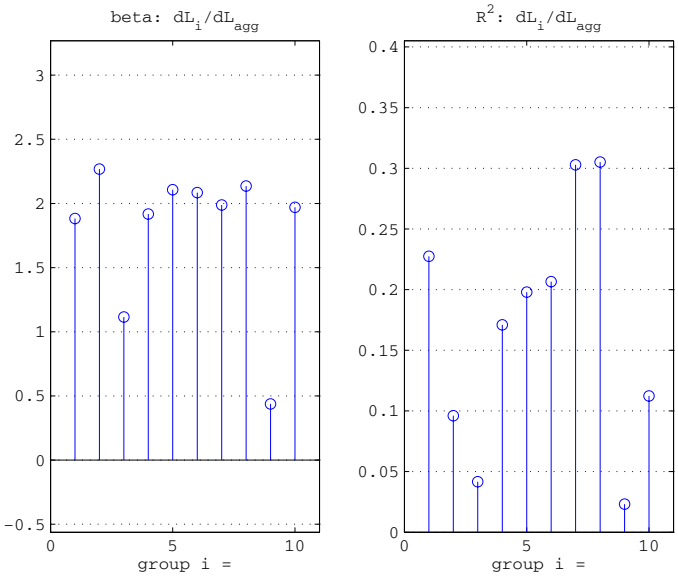

Figure 8: Sorting on current wage. Macro=BLS. First differences.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	1.88	2.27	1.12	1.92	2.11	2.08	1.99	2.14	0.44	1.97
$\widehat{\sigma}$	0.66	1.31	1.01	0.80	0.80	0.77	0.57	0.61	0.54	1.05
$\widehat{\sigma}_{Newey-West}$	0.75	1.57	1.29	0.61	0.89	0.60	0.66	0.43	0.44	1.11
R^2	0.23	0.10	0.04	0.17	0.20	0.21	0.30	0.31	0.02	0.11
Durbin-Watson	2.20	2.13	1.56	1.34	2.08	1.14	1.44	1.68	1.12	1.49
$\mathbb{E}[h_i/H]$	0.00	1.03	1.10	1.13	1.14	1.14	1.13	1.12	1.11	1.07
$\mathbb{E}h_i$ $(,000)$	0.00	1.95	2.08	2.14	2.16	2.15	2.15	2.12	2.09	2.03
$\sigma(h_i)$ $(,000)$	0.00	0.09	0.09	0.09	0.06	0.05	0.04	0.04	0.05	0.07
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	-0.08	-0.05	-0.03	-0.02	-0.02	-0.01	-0.01	0.01	0.03
$\sigma(d\log h_i)$ $(,000)$	NaN	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.03
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

D. Sorting on education

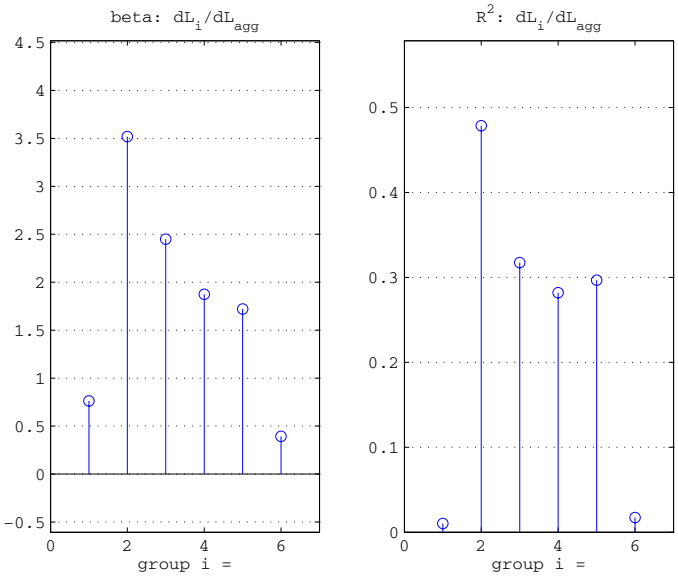

Figure 9: Sorting on education. Macro=BLS, First Differences

	1	2	3	4	5	6
$\widehat{\beta}$	0.76	3.52	2.45	1.87	1.72	0.39
$\widehat{\sigma}$	1.41	0.69	0.68	0.57	0.50	0.56
$\widehat{\sigma}_{Newey-West}$	1.58	0.47	0.56	0.56	0.52	0.41
R^2	0.01	0.48	0.32	0.28	0.30	0.02
Durbin-Watson	1.96	2.39	1.78	1.53	2.21	1.68
$\mathbb{E}[h_i/H]$	0.58	0.75	0.86	1.01	1.06	1.14
$\mathbb{E}h_i$ $(,000)$	1.11	1.43	1.63	1.91	2.01	2.15
$\sigma(h_i)$ $(,000)$	0.34	0.24	0.14	0.12	0.08	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	-0.08	-0.04	-0.02	-0.01	-0.01	-0.00
$\sigma(d\log h_i)$ $(,000)$	0.11	0.04	0.03	0.02	0.02	0.01
mean weight	0.03	0.09	0.16	0.22	0.29	0.22

E. Sorting on age

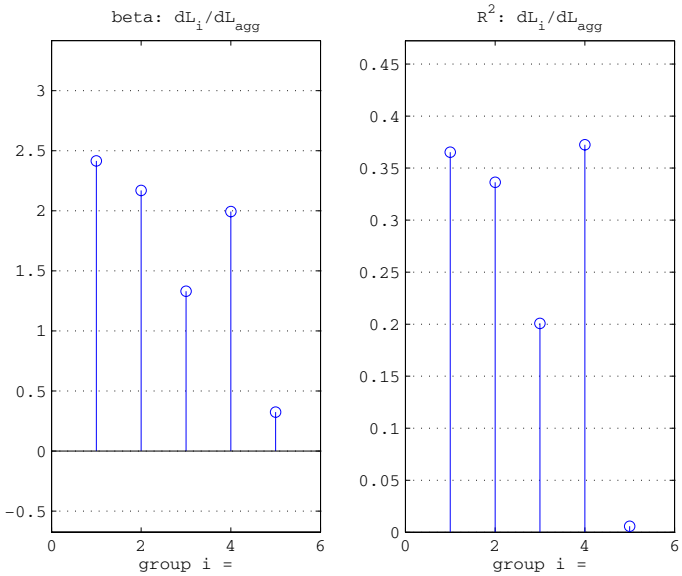

Figure 10: Sorting on age. Macro=BLS, First Differences

	1	2	3	4	5
$\widehat{\beta}$	2.42	2.17	1.33	1.99	0.32
$\widehat{\sigma}$	0.60	0.58	0.50	0.49	0.80
$\widehat{\sigma}_{Newey-West}$	0.54	0.44	0.39	0.61	0.64
R^2	0.37	0.34	0.20	0.37	0.01
Durbin-Watson	1.99	1.80	1.61	1.77	2.27
$\mathbb{E}[h_i/H]$	1.04	1.09	1.09	0.95	0.62
$\mathbb{E}h_i$ $(,000)$	1.97	2.06	2.06	1.79	1.17
$\sigma(h_i)$ $(,000)$	0.09	0.10	0.06	0.06	0.16
$\mathbb{E}[d\log h_i]$ $(,000)$	0.01	0.00	-0.01	-0.03	-0.14
$\sigma(d\log h_i)$ $(,000)$	0.02	0.02	0.02	0.02	0.04
mean weight	0.16	0.29	0.24	0.20	0.11

5 PSID measure of average hours, regression in growth rates

A. Sorting on hours worked

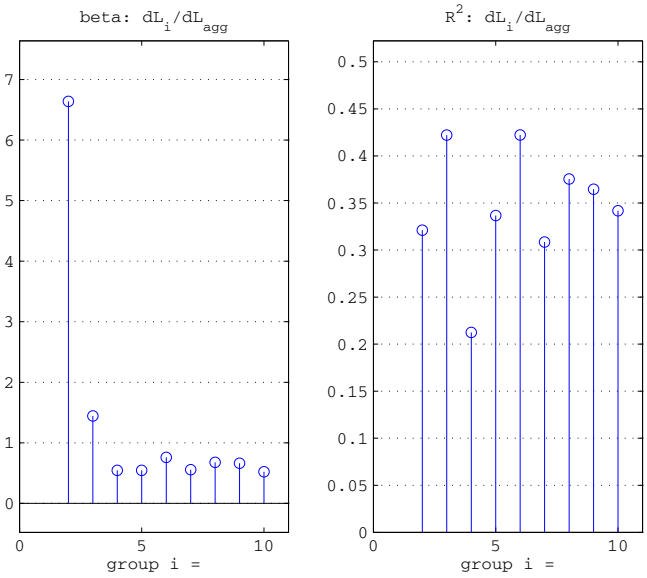

Figure 11: Sorting on current hours worked. Macro=PSID. Growth rates.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	NaN	6.64	1.45	0.55	0.55	0.76	0.56	0.68	0.66	0.52
$\widehat{\sigma}$	NaN	1.82	0.32	0.20	0.15	0.17	0.16	0.17	0.17	0.14
$\widehat{\sigma}_{Newey-West}$	NaN	0.71	0.33	0.16	0.13	0.15	0.17	0.11	0.18	0.16
R^2	NaN	0.32	0.42	0.21	0.34	0.42	0.31	0.38	0.36	0.34
Durbin-Watson	NaN	1.32	2.08	1.98	1.94	1.55	1.75	1.12	1.95	2.63
$\mathbb{E}[h_i/H]$	0.00	0.39	0.84	0.99	1.05	1.09	1.16	1.27	1.41	1.79
$\mathbb{E}h_i$ $(,000)$	0.00	0.75	1.59	1.87	1.98	2.06	2.20	2.40	2.67	3.39
$\sigma(h_i)$ $(,000)$	0.00	0.08	0.08	0.04	0.02	0.03	0.04	0.05	0.07	0.09
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	0.49	0.05	-0.00	-0.01	-0.01	-0.02	-0.03	-0.06	-0.14
$\sigma(d\log h_i)$ $(,000)$	NaN	0.19	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

B. Sorting on family income

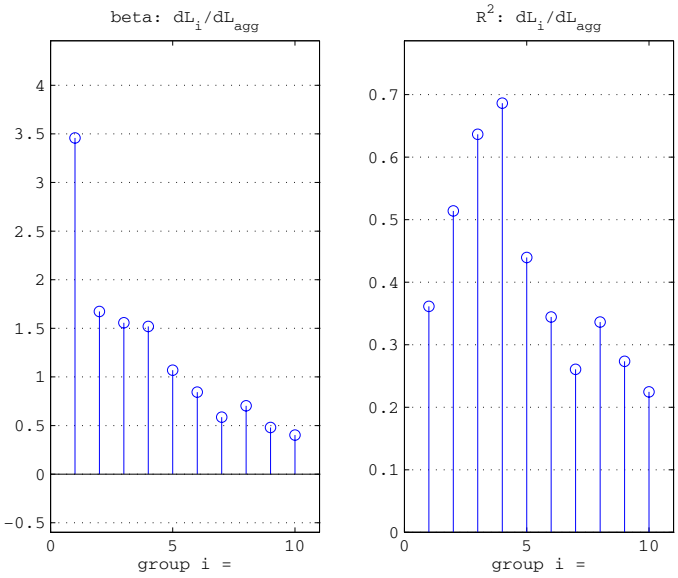

Figure 12: Sorting on family income. Macro=PSID. Growth rates.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	3.46	1.67	1.56	1.52	1.07	0.84	0.59	0.70	0.48	0.40
$\widehat{\sigma}$	0.87	0.31	0.22	0.19	0.23	0.22	0.19	0.19	0.15	0.14
$\widehat{\sigma}_{Newey-West}$	0.80	0.40	0.30	0.11	0.21	0.19	0.18	0.15	0.11	0.14
R^2	0.36	0.51	0.64	0.69	0.44	0.34	0.26	0.34	0.27	0.22
Durbin-Watson	1.32	1.85	2.30	1.52	2.13	1.54	2.36	2.22	2.81	2.19
$\mathbb{E}[h_i/H]$	0.39	0.78	0.93	1.00	1.05	1.10	1.14	1.16	1.19	1.27
$\mathbb{E}h_i$ $(,000)$	0.73	1.47	1.76	1.89	1.99	2.08	2.16	2.20	2.26	2.40
$\sigma(h_i)$ $(,000)$	0.10	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.06	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	0.16	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03
$\sigma(d\log h_i)$ $(,000)$	0.09	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

C. Sorting on wages (average hourly earning)

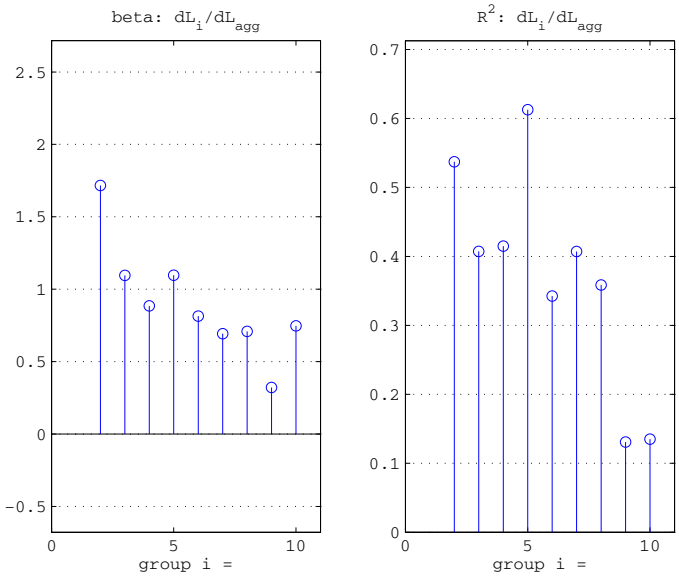

Figure 13: Sorting on current wage. Macro=PSID. Growth rates.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	NaN	1.72	1.10	0.89	1.10	0.81	0.69	0.71	0.32	0.75
$\widehat{\sigma}$	NaN	0.30	0.25	0.20	0.16	0.21	0.16	0.18	0.16	0.36
$\widehat{\sigma}_{Newey-West}$	NaN	0.19	0.30	0.14	0.13	0.15	0.18	0.14	0.13	0.27
R^2	NaN	0.54	0.41	0.41	0.61	0.34	0.41	0.36	0.13	0.14
Durbin-Watson	NaN	2.45	1.49	1.89	2.10	1.36	1.88	2.00	1.24	1.40
$\mathbb{E}[h_i/H]$	0.00	1.03	1.10	1.13	1.14	1.14	1.13	1.12	1.11	1.07
$\mathbb{E}h_i$ $(,000)$	0.00	1.95	2.08	2.14	2.16	2.15	2.15	2.12	2.09	2.03
$\sigma(h_i)$ $(,000)$	0.00	0.09	0.09	0.09	0.06	0.05	0.04	0.04	0.05	0.07
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	-0.08	-0.05	-0.03	-0.02	-0.02	-0.01	-0.01	0.01	0.03
$\sigma(d\log h_i)$ $(,000)$	NaN	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.03
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

D. Sorting on education

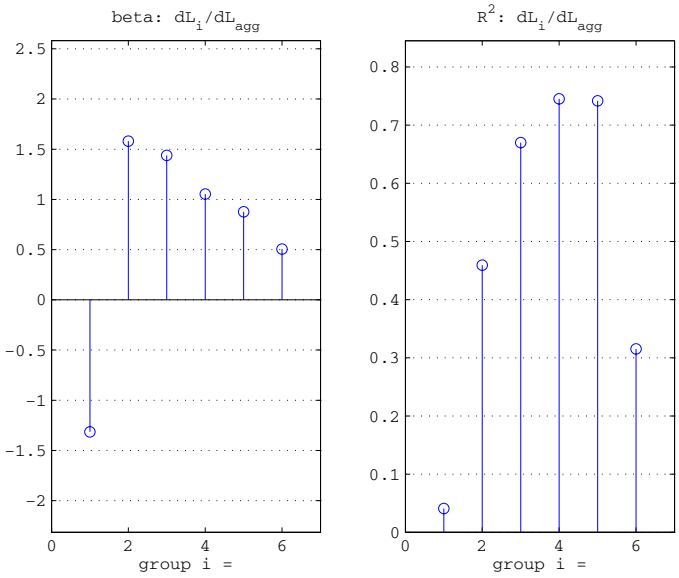

Figure 14: Sorting on education. Macro=PSID. Growth rates.

	1	2	3	4	5	6
$\widehat{\beta}$	-1.32	1.58	1.44	1.05	0.88	0.51
$\widehat{\sigma}$	1.20	0.32	0.19	0.12	0.10	0.14
$\widehat{\sigma}_{Newey-West}$	1.52	0.31	0.15	0.13	0.10	0.12
R^2	0.04	0.46	0.67	0.75	0.74	0.32
Durbin-Watson	1.36	1.89	2.73	2.35	2.50	1.61
$\mathbb{E}[h_i/H]$	0.58	0.75	0.86	1.01	1.06	1.14
$\mathbb{E}h_i$ $(,000)$	1.11	1.43	1.63	1.91	2.01	2.15
$\sigma(h_i)$ $(,000)$	0.34	0.24	0.14	0.12	0.08	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	-0.08	-0.04	-0.02	-0.01	-0.01	-0.00
$\sigma(d\log h_i)$ $(,000)$	0.11	0.04	0.03	0.02	0.02	0.01
mean weight	0.03	0.09	0.16	0.22	0.29	0.22

E. Sorting on age

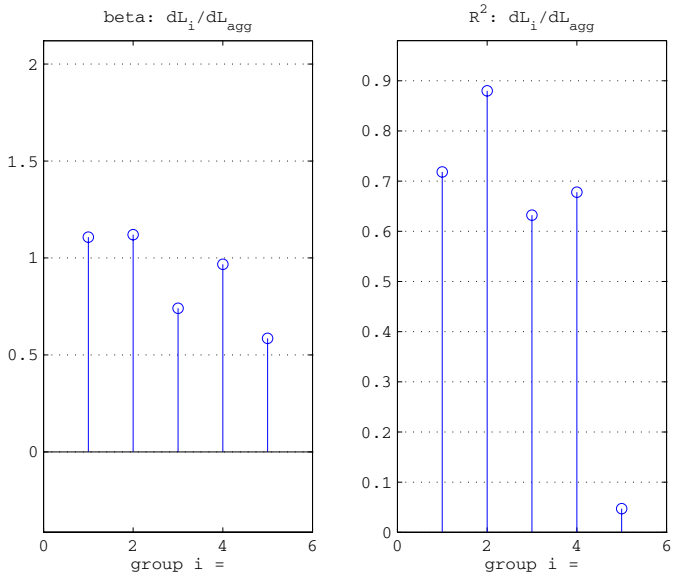

Figure 15: Sorting on age. Macro=PSID. Growth rates.

	1	2	3	4	5
$\widehat{\beta}$	1.11	1.12	0.74	0.97	0.59
$\widehat{\sigma}$	0.13	0.08	0.11	0.13	0.50
$\widehat{\sigma}_{Newey-West}$	0.09	0.06	0.11	0.12	0.29
R^2	0.72	0.88	0.63	0.68	0.05
Durbin-Watson	2.30	2.22	2.36	2.27	1.68
$\mathbb{E}[h_i/H]$	1.04	1.09	1.09	0.95	0.62
$\mathbb{E}h_i$ $(,000)$	1.97	2.06	2.06	1.79	1.17
$\sigma(h_i)$ $(,000)$	0.09	0.10	0.06	0.06	0.16
$\mathbb{E}[d\log h_i]$ $(,000)$	0.01	0.00	-0.01	-0.03	-0.14
$\sigma(d\log h_i)$ $(,000)$	0.02	0.02	0.02	0.02	0.04
mean weight	0.16	0.29	0.24	0.20	0.11

6 BLS measure of average hours, regression in growth rates

A. Sorting on hours worked

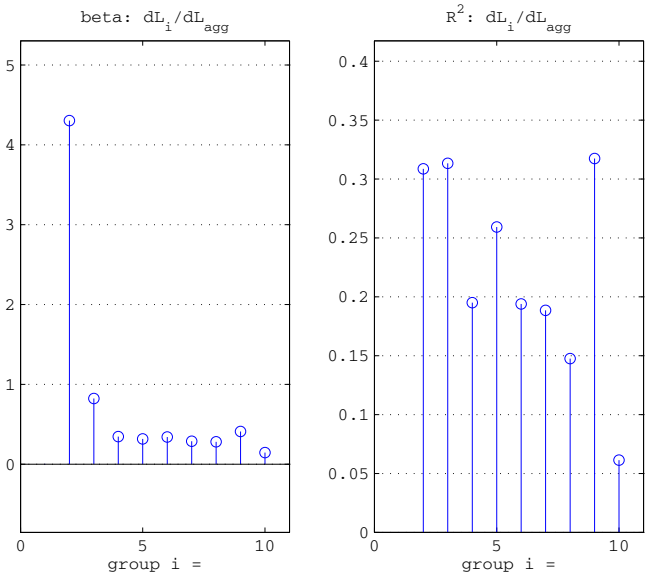

Figure 16: Sorting on current hours worked. Macro=BLS. Growth rates.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	NaN	4.30	0.82	0.35	0.32	0.34	0.29	0.28	0.41	0.15
$\widehat{\sigma}$	NaN	1.22	0.23	0.13	0.10	0.13	0.11	0.13	0.11	0.11
$\widehat{\sigma}_{Newey-West}$	NaN	1.13	0.20	0.10	0.08	0.09	0.08	0.11	0.11	0.10
R^2	NaN	0.31	0.31	0.19	0.26	0.19	0.19	0.15	0.32	0.06
Durbin-Watson	NaN	1.45	1.85	2.04	2.05	1.61	1.59	1.10	1.75	2.57
$\mathbb{E}[h_i/H]$	0.00	0.39	0.84	0.99	1.05	1.09	1.16	1.27	1.41	1.79
$\mathbb{E}h_i$ $(,000)$	0.00	0.75	1.59	1.87	1.98	2.06	2.20	2.40	2.67	3.39
$\sigma(h_i)$ $(,000)$	0.00	0.08	0.08	0.04	0.02	0.03	0.04	0.05	0.07	0.09
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	0.49	0.05	-0.00	-0.01	-0.01	-0.02	-0.03	-0.06	-0.14
$\sigma(d\log h_i)$ $(,000)$	NaN	0.19	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

B. Sorting on family income

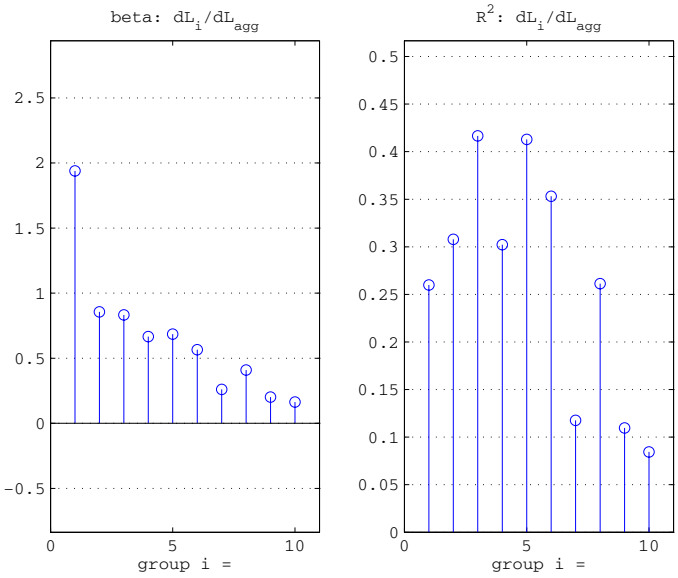

Figure 17: Sorting on family income. Macro=BLS. Growth rates.

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	1.94	0.86	0.83	0.67	0.69	0.57	0.26	0.41	0.20	0.16
$\widehat{\sigma}$	0.62	0.24	0.19	0.19	0.15	0.14	0.13	0.13	0.11	0.10
$\widehat{\sigma}_{Newey-West}$	0.47	0.28	0.19	0.12	0.11	0.12	0.15	0.14	0.11	0.09
R^2	0.26	0.31	0.42	0.30	0.41	0.35	0.12	0.26	0.11	0.08
Durbin-Watson	1.52	1.90	2.25	1.59	1.90	1.49	2.47	2.38	2.55	2.16
$\mathbb{E}[h_i/H]$	0.39	0.78	0.93	1.00	1.05	1.10	1.14	1.16	1.19	1.27
$\mathbb{E}h_i$ $(,000)$	0.73	1.47	1.76	1.89	1.99	2.08	2.16	2.20	2.26	2.40
$\sigma(h_i)$ $(,000)$	0.10	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.06	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	0.16	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03
$\sigma(d\log h_i)$ $(,000)$	0.09	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

C. Sorting on wages (average hourly earning)

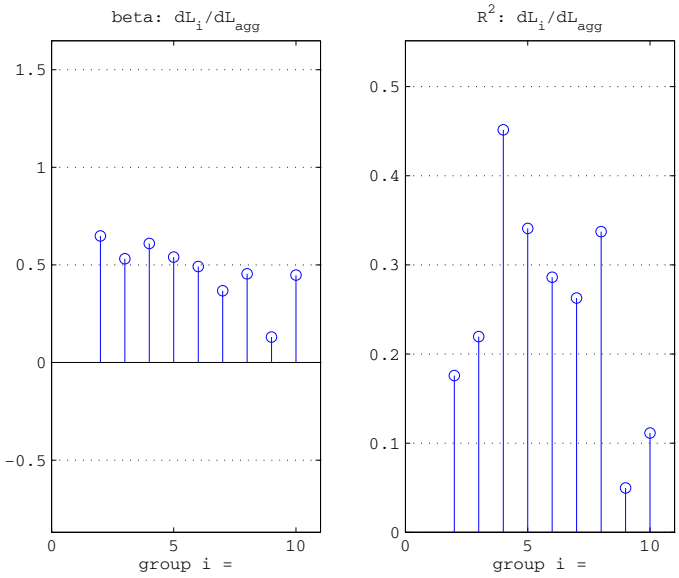

Figure 18: Sorting on current wage. Macro=BLS. Growth rates

	1	2	3	4	5	6	7	8	9	10
$\widehat{\beta}$	NaN	0.65	0.53	0.61	0.54	0.49	0.37	0.45	0.13	0.45
$\widehat{\sigma}$	NaN	0.27	0.19	0.13	0.14	0.15	0.12	0.12	0.11	0.24
$\widehat{\sigma}_{Newey-West}$	NaN	0.17	0.22	0.10	0.09	0.12	0.10	0.08	0.11	0.28
R^2	NaN	0.18	0.22	0.45	0.34	0.29	0.26	0.34	0.05	0.11
Durbin-Watson	NaN	2.35	1.64	1.76	2.32	1.20	1.66	1.78	1.20	1.49
$\mathbb{E}[h_i/H]$	0.00	1.03	1.10	1.13	1.14	1.14	1.13	1.12	1.11	1.07
$\mathbb{E}h_i$ $(,000)$	0.00	1.95	2.08	2.14	2.16	2.15	2.15	2.12	2.09	2.03
$\sigma(h_i)$ $(,000)$	0.00	0.09	0.09	0.09	0.06	0.05	0.04	0.04	0.05	0.07
$\mathbb{E}[d\log h_i]$ $(,000)$	Inf	-0.08	-0.05	-0.03	-0.02	-0.02	-0.01	-0.01	0.01	0.03
$\sigma(d\log h_i)$ $(,000)$	NaN	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.03
mean weight	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

D. Sorting on education

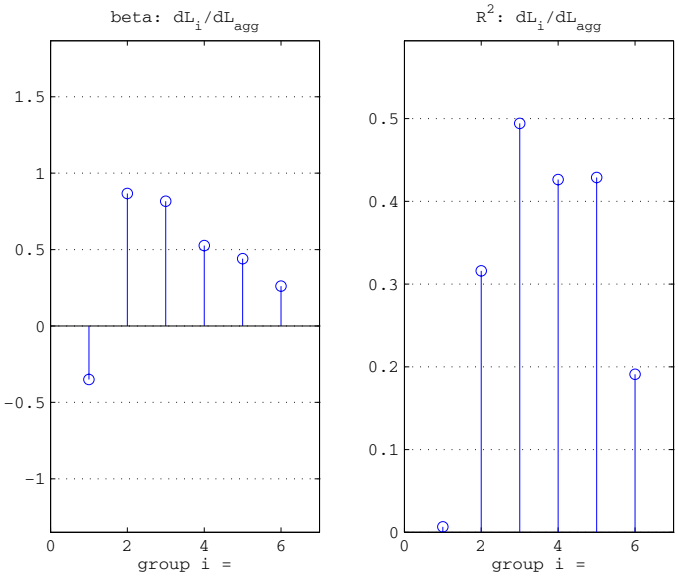

Figure 19: Sorting on education. Macro=BLS. Growth rates.

	1	2	3	4	5	6
$\widehat{\beta}$	-0.35	0.87	0.82	0.53	0.44	0.26
$\widehat{\sigma}$	0.81	0.24	0.16	0.12	0.10	0.10
$\widehat{\sigma}_{Newey-West}$	0.74	0.29	0.12	0.14	0.06	0.07
R^2	0.01	0.32	0.49	0.43	0.43	0.19
Durbin-Watson	1.41	1.78	2.45	1.89	2.39	1.74
$\mathbb{E}[h_i/H]$	0.58	0.75	0.86	1.01	1.06	1.14
$\mathbb{E}h_i$ $(,000)$	1.11	1.43	1.63	1.91	2.01	2.15
$\sigma(h_i)$ $(,000)$	0.34	0.24	0.14	0.12	0.08	0.05
$\mathbb{E}[d\log h_i]$ $(,000)$	-0.08	-0.04	-0.02	-0.01	-0.01	-0.00
$\sigma(d\log h_i)$ $(,000)$	0.11	0.04	0.03	0.02	0.02	0.01
mean weight	0.03	0.09	0.16	0.22	0.29	0.22

E. Sorting on age

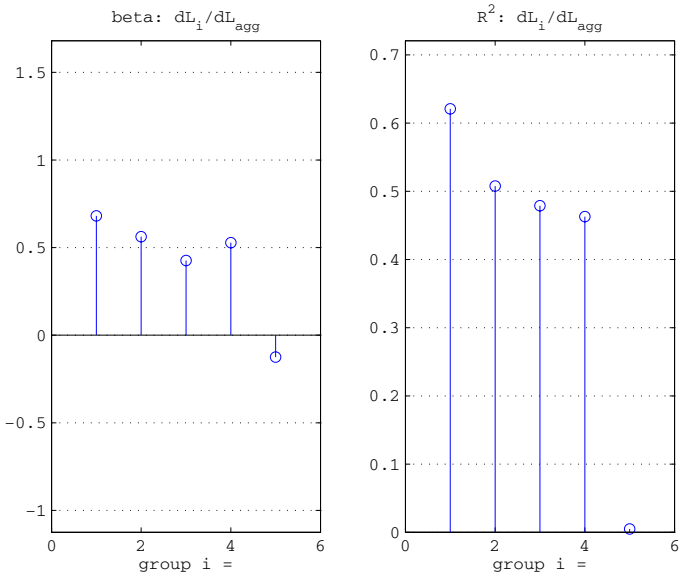

Figure 20: Sorting on age. Macro=BLS. Growth rates.

	1	2	3	4	5
$\widehat{\beta}$	0.68	0.56	0.43	0.53	-0.12
$\widehat{\sigma}$	0.10	0.10	0.08	0.11	0.34
$\widehat{\sigma}_{Newey-West}$	0.09	0.10	0.06	0.09	0.21
R^2	0.62	0.51	0.48	0.46	0.00
Durbin-Watson	2.15	2.20	2.03	2.15	1.75
$\mathbb{E}[h_i/H]$	1.04	1.09	1.09	0.95	0.62
$\mathbb{E}h_i$ $(,000)$	1.97	2.06	2.06	1.79	1.17
$\sigma(h_i)$ $(,000)$	0.09	0.10	0.06	0.06	0.16
$\mathbb{E}[d\log h_i]$ $(,000)$	0.01	0.00	-0.01	-0.03	-0.14
$\sigma(d\log h_i)$ $(,000)$	0.02	0.02	0.02	0.02	0.04
mean weight	0.16	0.29	0.24	0.20	0.11