SUPPLEMENTAL MATERIAL TO "STRUCTURE IDENTIFICATION IN PANEL DATA ANALYSIS"

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APPENDIX A: ADDITIONAL NUMERICAL RESULTS

In this supplemental material, we provide additional numerical results for the PSID example.

First, we plotted the histograms of the estimated random effects $\hat{\lambda}_i$ and the estimated components of $\hat{\Gamma}_i$ in Figure 1. The empirical distributions of all estimated random effects are fairly close to the normal distribution with zero mean. These estimated random effects may be used to make an effective subject-specific prediction in practice.

Next, we considered modifying the dimension of the latent factors $\mathbf{f}_t$ in the model and fitting models with different q values. The estimated regression coefficients are reported in Table 1. We notice that they are all quite similar to the results when $q = 1$.

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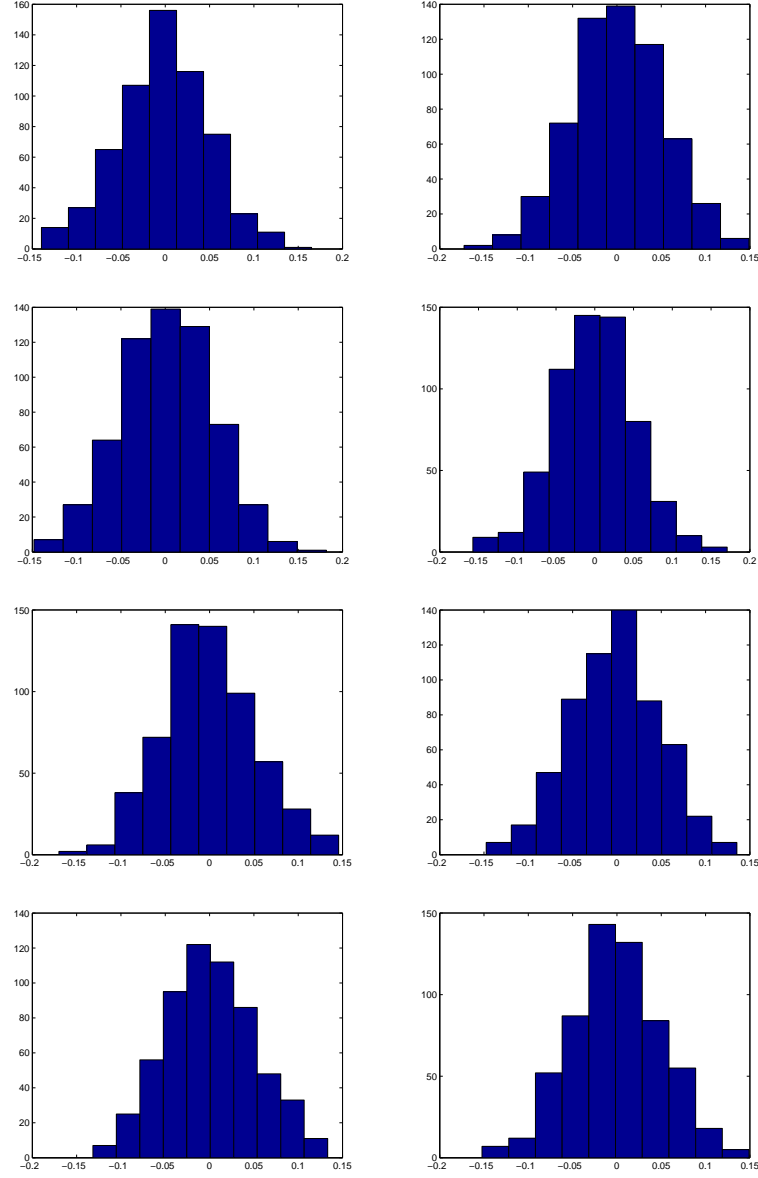*Correspondent author. Email:stalj@nus.edu.sg

FIG 1. *Histograms of the estimated random effects in PSID data. The left panel in the first row is the histogram for $\hat{\lambda}_i$. The other seven panels from top to the bottom and from left to the right are the histograms for the components of $\hat{\Gamma}_i$ corresponding to $t = 1976, 1977, \cdots, 1982$, respectively.*

TABLE 1
Additional estimation results using our proposed change point detection method for PSID analysis.

	q = 1		q = 2		q = 3	
	Coef.	SE	Coef.	SE	Coef.	SE
EXP	.1124	.0006	.1089	.0004	.1205	.0003
	.1388	.0027	.1534	.0021	.1476	.0017
	.1740	.0115	.1748	.0089	.1783	.0088
EXP2	-.0005	.00001	-.0004	.00001	-.0006	.00001
WKS	.0005	.0001	.0001	.0001	.0010	.0001
OCC	-.0108	.0034	-.0038	.0021	-.0109	.0023
IND	.0173	.0039	.0100	.0030	.0372	.0014
SOUTH	.0003	.0172	.0560	.0141	.0314	.0129
SMSA	-.0363	.0080	-.0080	.0067	-.0228	.0050
MS	-.0243	.0050	-.0449	.0044	.0245	.0030
UNION	.0182	.0041	.0087	.0024	.0180	.0016