Online Appendix for *The Transitional Impact of State Pension Reform*

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A Appendix

A.1 Welfare Analysis

We utilize consumption-equivalent welfare as our metric for normative analysis. Suppose a worker's optimal consumption policy function $\{c_t^*, \ell_t^*\}_{t=1}^{80}$ yields ex-ante expected welfare V^* via

$$V^* = E\Big[\sum_{t=1}^{80} \beta^t \big(\prod_{j=1}^{t} p_j\big) \frac{(c_t^{*\nu} \ell_t^{*(1-\nu)})^{1-\gamma}}{1-\gamma}\Big] \tag{A3.1}$$

We define the consumption-equivalent (CE) welfare as a scalar $\bar{c}^*$ such that

$$\bar{c}^* = \big[\frac{V^*(1-\gamma)}{\sum_{t=1}^{80} \beta^t \big(\prod_{j=1}^{t} p_j\big) \ell_t^{*(1-\nu)(1-\gamma)}}\big]^{\frac{1}{\nu(1-\gamma)}} \tag{A3.2}$$

where we make a simplifying assumption that $\ell_t^* = \ell^w$ for ages $t < 45$ and $\ell_t^* = \ell^r$ for ages $t \geq 45$. In our main analysis, we report cohort-specific measures of welfare at model time $T = 0$ and thus compute an average, given the cross-section of workers. Specifically, for a given age cohort and job sector, workers vary by their wealth x and persistent wage shock η. Given a joint distribution of these state variables $F(x, \eta | t, j)$, age-sector consumption-equivalent welfare is

$$\bar{c}(t, j) = \int \int \bar{c}^*(x, \eta | t, j) dF(x, \eta | t, j) \tag{A3.3}$$

Since we do not directly observe the current distribution of workers, we construct F through simulating the baseline model and then collecting the observed cross-sections of (x, η) for each job sector, age cohort and state. Given baseline consumption-equivalent welfare $\bar{c}^{base}(t, j)$, welfare gains from reform are reported as percentage deviations

$$100^* \frac{\bar{c}^{ref}(t, j) - \bar{c}^{base}(t, j)}{\bar{c}^{base}(t, j)} \quad \forall t, j \tag{A3.4}$$

and for each state s where $\bar{c}^{ref}$ is consumption-equivalent welfare under the policy reform.

A.2 Computing Age Cohort Distributions

We assume age cohort distributions are invariant to job sector such that $\tilde{\mathbf{\Phi}}(s,j,t,T) = prob(s,j)\hat{\tilde{\mathbf{\Phi}}}(s,t,T)$ for each state where $prob(s,j)$ is the share of sector j employees in state s. Define data cohort distributions as $G(s,t,T)$ for age group t and time T, as well as labor force participation rates $\gamma(t)$, the ratio of annuitants to workers ϕ_s and cohort growth rates $\phi(s,t,T)$.[1] To construct $\hat{\tilde{\mathbf{\Phi}}}$ as the model analogue to G, we apply the following procedure: for model time $T = 1$, apply labor force participation rates $\gamma(t)$ to working age cohorts such that $\hat{\tilde{\mathbf{\Phi}}}(s,t,1) = \gamma(t)G(s,t,1)$ for $t = 1, ..., 45$ where we assume the retirement age is 45. To get the proper share of former workers (i.e. current retirees) use the equation $\hat{\tilde{\mathbf{\Phi}}}(s,t,1) = \bar{\kappa}_s G(s,t,1)$ for retired cohorts $t = 46, ..., 80$ where $\bar{\kappa}_s$ is recovered from the model-implied ratio of annuitants to workers ϕ_s, given by

$$\phi_s = \frac{\bar{\kappa}_s \sum_{t=46}^{80} G(s,t,1)}{\sum_{t=1}^{45} \hat{\tilde{\mathbf{\Phi}}}(s,t,1)} \tag{A4.1}$$

For time periods $T = 2, ...,$ apply cohort growth rates $\hat{\tilde{\mathbf{\Phi}}}(s,t,T+1) = \phi(s,t,T)\hat{\tilde{\mathbf{\Phi}}}(s,t,T)$ for $t = 1, ..., 80$. For each time period T, the cross-section of workers is also normalized to 1.

A.3 Model Solution

To keep the model tractable, we do not condition upon the joint distribution $\mathbf{\Phi}$ and instead assume that the state fiscal authority follows a simpler tax and funding rule which assumes that agents retire at age $t = 45$. The joint distribution $\mathbf{\Phi}$ thus reduces to $\tilde{\mathbf{\Phi}} : s \times j \times t \times T \rightarrow [0,1]$ which is deterministic and no longer an endogenous object. This greatly simplifies the analysis and reduces to an aggregate state space of $\tilde{\mathbf{z}} = (s, T, \chi)$. Under this policy, the

[1] The Weldon Cooper data is organized in 5-year age bins, while our model accounts for individual ages. To account for this, we take the proportions within each age bucket and evenly apply it to individual age buckets.

balanced budget equation (7) becomes

$$\text{(A1)}\quad \tilde{\tau}\sum_{j=\{pub,priv\}}\sum_{t=1}^{45}\tilde{\mathbf{\Phi}}(s,j,t,T)\int\int w(s,j,t,z_1,z_2)dF(z_1,z_2) = C(s,\chi,T)+ \sum_{t=1}^{45}\tilde{\mathbf{\Phi}}(s,pub,t,T)\int\int w(s,pub,t,z_1,z_2)dF(z_1,z_2)$$

where the left-hand side represents tax revenues which fund pension contributions $C(s,\chi,T)$ and public wages on the right-hand side.[2] Aggregate pension contributions $C(s,\chi,T) = \theta_s C^*(s,\chi,T)$ are a function of the state, funded ratio and model time, and can be summarized as

$$\text{(A2)}\quad \begin{aligned} C(s,\chi,T) =& \theta_s C^*(s,\chi,T) \\ =& \theta_s\big[NC(s,T) + AUFL(s,\chi,T)\big] \end{aligned}$$

where θ_s is their commitment to meeting the ARC, $NC(s,T)$ represents normal cost expenditures and $AUFL(s,\chi,T)$ represents the cost of repaying the amortized unfunded liability of the pension. The normal cost for the pension fund is computed as

$$\text{(A3)}\quad \begin{aligned} NC(s,T) =& \sum_{k=1}^{45}\tilde{\mathbf{\Phi}}(s,pub,k,T)\sum_{m=1}^{35}\frac{p(45+m|k)}{(1+r_s)^{45-k+m}}\frac{w_{sk}}{\sum_{l=1}^{45}w_{sl}}pen_{s,j=pub,\bar{t}=45} \\ =& \underbrace{\sum_{k=1}^{45}\tilde{\mathbf{\Phi}}(s,pub,k,T)}_{\text{aggregation}}\quad \underbrace{\tilde{\beta}(k)}_{\text{discount factor}}\quad \underbrace{\tilde{pen}_s(k)}_{\text{accrued benefit}} \end{aligned}$$

where $\{\omega_{sk}\}_{k=1}^{45}$ are average wages for each public sector age cohort in state s. For a given age cohort, the inner summation computes the present value of newly accrued pension benefits where the benefit is discounted by mortality risk and the rate r_s. The ratio $\frac{w_{sk}}{\sum_{l=1}^{45}w_{sl}}$ is an accrual factor that represents the agent being vested in the pension benefit over the working

[2]Given that workers are subject to idiosyncratic wage risk via (ϵ,η), the cross-section of worker wages are integrated over with the joint distribution $F(z_1,z_2)$. These are assumed to be independent shocks; thus, $F(z_1,z_2) = F_1(z_1)F_2(z_2)$.

period of their lifecycle. The amortized unfunded liability $AUFL(s,\chi,T)$ is computed as

$$AUFL(s,\chi,T) = (1-\chi)PVL(s,T)\frac{r_s}{1-(1+r_s)^{-\bar{T}_s}} \tag{A3}$$

where $PVL(s,T)$ is the present value of pension liabilities

$$PVL(s,T) = \sum_{j=0}^{\infty} \frac{1}{(1+r_s)^j} \sum_{k=45}^{80} \tilde{\mathbf{\Phi}}(s,pub,k,T+j)\alpha(s,k,T+j)pen_{s,j=pub,\bar{t}=45} \tag{A4}$$

where $\alpha(s,k,T+j)$ is the EAN accrual factor for a worker of age k at time $T+j$ in state s, written

$$\alpha(s,k,T+j) = \begin{cases} 1, & \text{if} \quad k-j \geq 45 \\ \frac{\sum_{k=1}^{k-j} w_{sk}}{\sum_{k=1}^{45} w_{sk}}, & \text{if} \quad k-j < 45 \end{cases} \tag{A5}$$

For ease of notation, we define the post-contribution funded ratio as $\tilde{\chi} = \tilde{\chi}(s,\chi,T)$ which is a function of the state, pre-contribution funded ratio χ and model time T. Then, the law of motion for the next period pre-contribution funded ratio is defined as

$$\begin{aligned} \chi' =& \frac{\text{Gross Assets} - \text{Distributions}}{PVL(s,T+1)} \\ =& \frac{[\alpha_s R' + (1-\alpha_s)R^f]\tilde{\chi}PVL(s,T) - pen_{s,j=pub,\bar{t}=45}\sum_{k=45}^{80}\tilde{\mathbf{\Phi}}(s,pub,k,T+1)}{PVL(s,T+1)} \\ =& \Gamma(s,\chi,R',T) \end{aligned} \tag{A6}$$

In practice, when we simulate the model, the state will set taxes according to $\tilde{\tau}$ of equation (A1) and not balance the budget according to the stated equation (7) in the baseline model. Instead, we solve for the budget equation

$$\tilde{\tau} \times \text{Tax Base}(\mathbf{z}) = C(\mathbf{z}) + \text{Public Wages}(\mathbf{z}) + \tilde{e} \tag{12}$$

where $\tilde{e}$ measures any shortfall/surpluses which arise from taxing with $\tilde{\tau}$. Deviations occur when agents retire at ages other than the assumed age of retirement at $t = 45$. When a state experiences a non-zero $\tilde{e}$, we assume that it is financed through the issuance of a long term bond which does not affect tax policy during the horizon of our analysis. Using model simulations, we compute the government tax policy and the endogenous changes in retirement ages to compute the net level of bond financing $\tilde{e}$ when we look between the baseline model and two reforms. Average retirement age does not vary much across states or reforms, so there is relatively little bond financing. For both reforms, there is actually a slight surplus: measured relative to the initial pension liabilities of the state, the average surplus is 10 basis points for the COLA Reform and 1 basis point for the Hybrid Reform. We interpret these as small enough in magnitude to not meaningfully affect the quantitative or qualitative results in our reform analysis such that using $\tilde{\mathbf{\Phi}}$ is a reasonable approximation to solving a model with the more complex object $\mathbf{\Phi}$. We expect that allowing endogenous labor supply on the intensive margin (and not just binary between working and retirement) would generate more variation and difference between the two solutions but this analysis is outside the scope of our paper.

A.4 State-Level Tables

Table 1: State-level Calibration Parameters

State	θ_s	r_s	PVL_s^0	χ_s^0	$\bar{b}_s$	Sector	α_s	ϕ_s
	ARC Cont	Discount	Liabilities	Funded Ratio	Pension	Public Size	Portfolio	SS Coverage
	Frac	%	$ billion	FR	$ Thousand	Prop	%	%
AK	1.09	7.36	22	0.67	27	0.13	85	47
AL	0.97	7.69	57	0.69	25	0.12	66	91
AR	0.96	7.37	32	0.79	22	0.11	82	90
AZ	1.00	7.42	81	0.64	30	0.09	84	94
CA	0.90	7.17	1178	0.71	36	0.09	76	44
CO	0.84	7.26	81	0.61	36	0.10	77	28
CT	0.99	7.35	75	0.47	41	0.09	73	71
DC	1.00	6.50	8	1.05	25	0.04	67	83
DE	1.00	7.00	11	0.84	22	0.10	65	94
FL	0.93	7.19	200	0.81	24	0.08	77	87
GA	1.00	7.25	124	0.76	39	0.09	69	70
HI	0.96	7.00	31	0.55	23	0.10	81	72
IA	0.99	7.03	43	0.83	21	0.11	71	90
ID	0.99	7.00	18	0.91	20	0.11	72	94
IL	0.76	6.96	352	0.46	44	0.09	70	56
IN	1.01	6.75	36	0.62	17	0.09	70	88
KS	0.82	7.73	30	0.69	18	0.12	77	91
KY	0.88	6.43	72	0.45	30	0.10	66	74
LA	1.00	7.42	65	0.68	27	0.10	77	26
MA	0.93	7.22	108	0.57	38	0.08	77	2
MD	0.89	7.38	80	0.74	23	0.09	79	90
ME	1.00	6.87	17	0.83	22	0.10	83	53
MI	0.94	6.89	126	0.62	24	0.09	78	81
MN	0.81	7.50	83	0.80	25	0.10	76	92
MO	1.13	7.38	84	0.80	33	0.10	74	74
MS	1.04	7.75	46	0.60	27	0.13	70	92
MT	0.89	7.58	14	0.71	21	0.11	69	91
NC	1.00	7.00	112	0.87	22	0.11	61	91
ND	0.76	7.74	8	0.69	22	0.11	75	89
NE	1.03	7.51	17	0.82	29	0.11	70	95
NH	1.00	7.24	15	0.60	19	0.09	75	88
NJ	0.53	7.37	169	0.51	33	0.09	73	91
NM	0.89	7.25	43	0.66	28	0.14	68	90
NV	0.96	7.50	57	0.75	41	0.07	74	14
NY	1.00	6.94	578	0.86	25	0.10	70	94
OH	0.98	7.39	253	0.76	37	0.09	72	2
OK	1.08	7.37	40	0.81	23	0.12	66	94
OR	0.96	7.20	86	0.74	31	0.09	79	96
PA	0.76	7.23	169	0.56	25	0.08	71	91
RI	1.00	7.00	15	0.54	33	0.08	71	83
SC	1.00	7.24	58	0.55	22	0.11	78	92
SD	1.06	6.53	12	1.00	23	0.10	60	92
TN	1.00	7.24	55	0.97	16	0.09	70	90
TX	0.89	7.28	354	0.77	25	0.09	81	46
UT	1.00	6.95	34	0.87	26	0.10	77	90
VA	0.83	6.79	110	0.76	23	0.10	80	92
VT	1.10	7.49	7	0.64	18	0.10	65	97
WA	0.95	7.48	82	0.95	23	0.11	78	90
WI	1.01	7.03	115	0.98	26	0.10	64	86
WV	1.08	7.46	18	0.79	22	0.13	86	92
WY	0.82	7.00	10	0.73	21	0.15	79	95

Table 2: Baseline Forecast for Fiscal Aggregates

	PVL			FR			Tax			Tax Vol		
State	10y	20y	40y	10y	20y	40y	10y	20y	40y	150y	20y	40y
AK	30	40	60	93	90	80	15.7	16.4	21.6	0.8	1.1	5.0
AL	65	72	89	91	91	85	12.7	13.0	13.8	0.4	0.5	0.8
AR	36	40	47	93	92	89	11.8	12.1	12.6	0.4	0.4	0.6
AZ	98	115	154	84	83	76	10.9	11.4	13.6	0.8	1.0	2.3
CA	1368	1538	1902	93	94	88	11.1	11.3	12.1	0.4	0.4	0.8
CO	96	114	160	87	88	82	11.8	12.0	13.1	0.5	0.6	1.3
CT	86	96	115	84	90	87	11.6	12.0	12.9	0.7	0.7	1.1
DC	7	6	4	110	112	116	4.9	4.9	5.0	0.0	0.0	0.0
DE	13	14	18	93	91	85	10.4	10.9	11.8	0.3	0.4	0.8
FL	227	248	289	87	85	81	8.1	8.5	9.3	0.3	0.4	0.6
GA	147	172	228	96	94	88	11.2	11.6	12.5	0.4	0.5	1.1
HI	37	42	55	80	84	79	10.8	11.0	12.2	0.5	0.6	1.2
IA	47	52	62	95	92	90	11.8	12.2	12.7	0.3	0.4	0.5
ID	21	24	32	95	93	86	11.3	11.6	12.3	0.3	0.4	0.8
IL	407	458	571	72	80	78	11.3	11.4	12.2	0.5	0.7	1.0
IN	42	46	57	93	95	91	9.8	10.0	10.4	0.2	0.2	0.4
KS	34	38	49	85	86	79	11.9	12.2	12.9	0.3	0.4	0.6
KY	83	94	116	76	86	84	11.9	12.0	12.6	0.5	0.6	0.9
LA	73	81	97	95	97	92	11.6	11.9	12.4	0.3	0.3	0.6
MA	124	136	162	88	92	89	9.5	9.8	10.5	0.4	0.5	0.7
MD	92	101	123	93	92	88	9.4	9.8	10.3	0.2	0.3	0.4
ME	21	24	29	88	84	78	10.4	11.1	12.6	0.6	0.8	1.5
MI	145	162	197	87	89	86	10.1	10.4	11.1	0.4	0.5	0.7
MN	99	114	147	88	85	74	10.3	10.8	11.9	0.4	0.5	0.9
MO	96	106	130	97	97	92	11.6	12.0	12.8	0.4	0.5	0.9
MS	53	60	76	91	92	86	15.1	15.3	16.4	0.6	0.6	1.2
MT	15	16	20	86	87	84	11.4	11.7	12.3	0.4	0.4	0.6
NC	129	146	182	97	94	88	11.3	11.7	12.4	0.3	0.4	0.6
ND	9	9	11	87	89	88	11.7	11.9	12.4	0.3	0.3	0.3
NE	19	21	26	97	97	93	12.2	12.5	13.1	0.3	0.4	0.6
NH	18	22	27	82	82	75	9.4	10.0	11.5	0.5	0.6	1.3
NJ	193	213	256	53	51	39	10.2	10.6	11.6	0.3	0.4	0.7
NM	52	62	84	78	77	68	16.2	17.0	20.8	1.0	1.3	3.1
NV	72	90	128	86	84	71	9.5	10.1	14.1	0.7	1.0	3.3
NY	636	676	761	100	98	97	10.8	11.2	11.6	0.2	0.2	0.3
OH	289	320	393	94	92	88	11.4	11.7	12.6	0.5	0.6	0.9
OK	44	47	55	101	100	97	13.1	13.4	13.8	0.2	0.3	0.4
OR	97	110	145	91	91	87	11.2	11.3	12.0	0.5	0.5	1.0
PA	191	208	245	72	76	75	8.6	8.8	9.4	0.3	0.4	0.5
RI	17	19	23	86	91	87	9.8	10.1	10.8	0.5	0.5	0.8
SC	66	74	91	88	91	88	12.1	12.4	13.1	0.4	0.5	0.7
SD	14	16	19	98	97	92	11.4	11.8	12.4	0.3	0.3	0.6
TN	62	68	83	97	95	90	9.1	9.3	9.7	0.2	0.2	0.3
TX	413	473	610	96	94	88	10.3	10.5	11.0	0.2	0.3	0.5
UT	41	48	63	100	97	91	11.0	11.0	11.1	0.2	0.3	0.6
VA	128	145	184	89	89	82	10.5	10.9	11.6	0.3	0.4	0.7
VT	8	10	13	85	86	77	11.0	11.6	13.4	0.5	0.7	1.4
WA	94	106	138	97	93	88	11.7	12.1	12.7	0.3	0.4	0.7
WI	136	157	201	95	91	83	11.1	11.7	12.9	0.4	0.5	1.1
WV	20	22	27	92	91	86	14.5	14.7	15.4	0.6	0.7	1.0
WY	11	13	17	85	84	79	15.9	16.3	17.4	0.6	0.7	1.2

Note: This table provides baseline forecasts for each state at horizons of 10, 20 and 40 years. The Present Value of Liabilities (PVL) is stated in Billions of Dollars. The Funded Ratio (FR), Tax and Tax Volatility are presented in % units.

Table 3: % Change in Fiscal Aggregates Under COLA Pension Reform

	PVL			FR			Tax			Tax Vol		
State	10y	20y	40y	10y	20y	40y	10y	20y	40y	10y	20y	40y
AK	-4.6	-5.8	-6.7	0.3	0.4	-2.5	-0.8	-1.1	-0.2	-10.0	-5.8	-6.6
AL	-2.8	-3.5	-4.1	-0.2	0.9	0.4	-0.5	-0.7	-0.8	-0.7	-5.7	-4.9
AR	-3.9	-4.9	-5.7	0.7	-0.5	-2.2	-0.6	-0.5	-0.3	-3.8	1.1	-2.3
AZ	-10.3	-12.9	-15.4	-0.6	0.3	0.1	-2.1	-2.7	-4.4	-7.9	-11.8	-15.6
CA	-2.3	-2.9	-3.4	0.4	-1.2	0.0	-0.5	-0.2	-0.5	-3.9	2.5	-1.7
CO	-5.7	-7.2	-8.5	-0.9	1.8	-1.1	-0.8	-1.4	-1.2	-4.6	-5.1	-11.6
CT	-4.1	-5.1	-5.9	-0.7	1.0	2.2	-0.8	-1.2	-1.9	-2.6	-5.7	-9.8
DC	0.0	0.0	0.0	0.5	1.1	-0.7	0.0	-0.0	0.0	6.8	-6.2	13.9
DE	-4.3	-5.4	-6.2	0.5	0.0	0.9	-0.8	-0.7	-1.1	-5.3	-5.7	-9.7
FL	-8.5	-10.4	-11.8	0.2	0.5	1.5	-1.4	-1.8	-2.4	-7.9	-14.3	-15.5
GA	-1.0	-1.2	-1.4	1.3	2.4	-0.3	-0.5	-0.7	-0.1	-4.9	-7.9	-0.2
HI	-9.1	-11.3	-13.3	-0.0	-0.5	2.5	-1.5	-1.5	-3.3	-5.5	-9.2	-15.9
IA	-1.4	-1.7	-2.0	-0.2	0.9	1.7	-0.2	-0.3	-0.6	-1.8	-2.8	-6.9
ID	-2.7	-3.4	-4.1	-0.2	-0.8	0.9	-0.4	-0.2	-0.7	-4.2	-5.5	-3.9
IL	-12.9	-15.8	-18.2	-2.7	1.1	2.1	-2.6	-3.4	-4.4	-10.4	-16.5	-18.4
IN	-0.6	-0.8	-0.9	0.3	0.4	0.6	-0.1	-0.2	-0.2	1.7	-3.7	-0.9
KS	-8.2	-10.3	-12.1	0.8	0.1	2.7	-1.0	-1.0	-1.7	-8.0	-11.8	-15.8
KY	-7.9	-9.6	-11.2	-0.5	1.0	2.2	-1.5	-1.7	-2.5	-10.0	-9.8	-16.6
LA	0.0	0.0	0.0	0.4	-0.3	0.1	0.0	0.1	-0.0	1.9	2.4	-3.0
MA	-3.8	-4.7	-5.4	0.2	0.1	-1.4	-0.8	-0.9	-0.8	-4.2	-4.5	-3.4
MD	-2.5	-3.1	-3.6	0.3	0.4	1.4	-0.4	-0.5	-0.8	-4.5	-7.6	-5.9
ME	-10.2	-12.6	-14.6	-0.2	0.3	-0.5	-1.7	-2.0	-2.9	-12.9	-12.1	-11.2
MI	-5.5	-6.9	-8.0	-0.2	0.7	-0.7	-0.8	-1.0	-0.9	-3.6	-7.2	-5.3
MN	-9.4	-11.7	-13.4	-1.8	-1.3	3.2	-1.1	-1.3	-3.0	-6.4	-7.3	-13.4
MO	0.0	0.0	0.0	0.4	-0.4	-1.1	-0.0	0.1	0.4	2.8	2.4	2.0
MS	-2.2	-2.8	-3.3	0.5	-0.4	1.6	-0.5	-0.3	-1.2	-3.0	4.6	-8.2
MT	-6.3	-8.1	-9.6	-0.4	1.7	2.4	-0.8	-1.3	-1.6	-3.5	-14.0	-12.5
NC	-1.1	-1.4	-1.6	-0.9	-0.6	2.1	-0.1	-0.1	-0.6	-3.9	-0.2	-1.7
ND	-4.3	-5.3	-6.0	0.1	0.5	1.3	-0.5	-0.6	-0.7	-0.4	-4.5	-7.7
NE	0.0	0.0	0.0	-0.4	-0.5	0.9	0.1	0.1	-0.2	3.1	-0.1	0.6
NH	-11.2	-13.9	-16.0	-0.6	1.0	0.1	-1.7	-2.3	-3.4	-7.7	-12.3	-16.0
NJ	-35.1	-41.6	-46.3	-6.5	-8.2	10.6	-5.7	-6.5	-9.7	-30.0	-38.6	-44.9
NM	-14.4	-18.0	-21.2	-0.3	1.3	3.3	-2.7	-3.8	-7.6	-14.4	-17.2	-19.5
NV	-9.5	-12.1	-14.3	0.6	1.7	-0.0	-2.4	-3.4	-6.1	-11.4	-14.2	-15.3
NY	0.0	0.0	0.0	-1.3	0.8	-1.1	0.2	-0.1	0.1	6.6	0.5	0.1
OH	-2.3	-2.8	-3.3	-0.6	-0.5	-0.9	-0.4	-0.3	-0.4	-1.6	0.4	-1.0
OK	0.0	0.0	0.0	-1.4	0.4	0.5	0.2	-0.0	-0.1	13.6	-2.0	0.2
OR	-3.3	-4.2	-5.1	-0.0	1.4	0.4	-0.6	-0.8	-0.8	-5.6	-8.6	-4.0
PA	-14.7	-18.1	-20.7	-1.9	0.5	2.9	-2.2	-2.6	-3.5	-11.7	-14.5	-25.7
RI	-4.1	-5.1	-5.8	-0.8	0.1	0.2	-0.8	-0.9	-1.2	-4.7	-4.8	-2.5
SC	-3.6	-4.5	-5.4	0.3	0.0	-1.3	-0.6	-0.6	-0.3	-2.0	-5.9	-2.5
SD	0.0	0.0	0.0	0.3	-1.0	1.0	-0.0	0.2	-0.2	0.5	3.0	-1.7
TN	-0.5	-0.6	-0.7	-0.2	0.3	0.9	-0.0	-0.0	-0.3	-1.1	4.6	-4.4
TX	-1.5	-1.9	-2.2	0.4	-0.5	0.4	-0.3	-0.2	-0.4	-7.9	-5.2	-0.1
UT	0.0	0.0	0.0	-0.1	-0.5	0.6	0.1	0.0	-0.1	8.5	-0.9	-1.6
VA	-6.9	-8.6	-10.0	-0.2	0.2	4.1	-0.9	-1.0	-2.2	-4.8	-6.8	-14.4
VT	-7.8	-9.8	-11.6	-1.7	-0.1	2.1	-0.8	-1.4	-3.2	-2.9	-11.2	-11.5
WA	-1.8	-2.3	-2.7	-0.5	0.5	-0.8	-0.2	-0.4	-0.1	-0.7	-2.2	0.5
WI	-4.3	-5.3	-6.1	0.7	0.4	1.3	-0.8	-0.8	-1.5	-6.9	-3.7	-7.4
WV	-3.8	-4.7	-5.6	0.6	-0.3	-0.2	-0.9	-0.6	-0.7	-9.1	-7.3	0.4
WY	-9.5	-12.1	-14.2	1.9	1.6	1.3	-1.4	-1.6	-2.1	-13.2	-15.3	-12.8

Note: All numbers correspond to % deviations from the baseline forecast numbers, presented in Table 2.

Table 4: COLA Reform Welfare Effects by State, Sector, Age Cohort

	Public					Private					Averages		
State	20 Yr	30 Yr	40 Yr	50 Yr	60 Yr	20 Yr	30 Yr	40 Yr	50 Yr	60 Yr	Pub	Priv	State
AK	0.15	0.02	-0.15	-0.39	-0.79	0.35	0.29	0.22	0.15	0.06	-0.28	0.21	0.14
AL	0.03	-0.03	-0.12	-0.26	-0.53	0.13	0.12	0.10	0.07	0.03	-0.21	0.08	0.05
AR	0.00	-0.07	-0.19	-0.38	-0.73	0.14	0.13	0.11	0.08	0.03	-0.31	0.09	0.04
AZ	0.22	-0.00	-0.37	-0.90	-1.88	0.59	0.54	0.43	0.29	0.11	-0.64	0.35	0.25
CA	-0.01	-0.08	-0.17	-0.30	-0.57	0.10	0.09	0.08	0.05	0.02	-0.24	0.07	0.04
CO	-0.01	-0.16	-0.37	-0.70	-1.33	0.27	0.25	0.21	0.14	0.05	-0.57	0.18	0.10
CT	0.06	-0.03	-0.20	-0.47	-0.99	0.24	0.23	0.20	0.13	0.05	-0.39	0.15	0.10
DC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DE	0.01	-0.07	-0.19	-0.37	-0.73	0.15	0.14	0.12	0.08	0.03	-0.31	0.09	0.05
FL	-0.07	-0.24	-0.50	-0.89	-1.63	0.24	0.23	0.20	0.13	0.05	-0.74	0.15	0.08
GA	0.01	-0.02	-0.05	-0.11	-0.22	0.05	0.04	0.04	0.03	0.01	-0.09	0.03	0.02
HI	-0.03	-0.25	-0.59	-1.06	-1.90	0.36	0.33	0.27	0.18	0.07	-0.84	0.22	0.11
IA	0.00	-0.02	-0.06	-0.12	-0.23	0.04	0.04	0.04	0.03	0.01	-0.10	0.03	0.01
ID	-0.00	-0.03	-0.11	-0.21	-0.40	0.08	0.08	0.07	0.05	0.02	-0.16	0.05	0.03
IL	0.02	-0.31	-0.88	-1.76	-3.49	0.67	0.63	0.52	0.35	0.13	-1.43	0.44	0.26
IN	-0.03	-0.03	-0.07	-0.10	-0.16	0.01	0.01	0.01	0.01	0.00	-0.09	0.01	-0.00
KS	-0.10	-0.28	-0.55	-0.93	-1.64	0.24	0.22	0.19	0.13	0.05	-0.76	0.15	0.04
KY	0.05	-0.13	-0.41	-0.84	-1.68	0.37	0.35	0.29	0.20	0.07	-0.71	0.23	0.13
LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MA	-0.15	-0.30	-0.51	-0.87	-1.41	0.15	0.15	0.13	0.09	0.03	-0.72	0.10	0.03
MD	-0.02	-0.06	-0.13	-0.23	-0.44	0.06	0.06	0.05	0.03	0.01	-0.20	0.04	0.02
ME	-0.04	-0.27	-0.64	-1.07	-1.90	0.43	0.40	0.32	0.22	0.09	-0.93	0.23	0.11
MI	-0.01	-0.12	-0.29	-0.54	-1.03	0.19	0.18	0.15	0.10	0.04	-0.46	0.12	0.06
MN	-0.01	-0.19	-0.46	-0.89	-1.69	0.32	0.30	0.24	0.16	0.07	-0.74	0.20	0.11
MO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MS	0.05	0.00	-0.07	-0.19	-0.43	0.14	0.13	0.11	0.08	0.03	-0.15	0.09	0.05
MT	0.02	-0.08	-0.25	-0.52	-1.01	0.22	0.21	0.17	0.12	0.04	-0.43	0.13	0.07
NC	-0.00	-0.02	-0.05	-0.10	-0.18	0.04	0.04	0.03	0.02	0.01	-0.08	0.02	0.01
ND	-0.03	-0.11	-0.23	-0.41	-0.77	0.11	0.11	0.09	0.07	0.02	-0.36	0.08	0.03
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NH	-0.06	-0.29	-0.64	-1.11	-1.96	0.40	0.37	0.30	0.19	0.07	-0.96	0.22	0.11
NJ	-0.37	-1.21	-2.53	-4.55	-8.38	1.20	1.11	0.88	0.56	0.19	-3.93	0.72	0.26
NM	0.76	0.37	-0.23	-1.05	-2.49	1.31	1.16	0.91	0.59	0.21	-0.68	0.71	0.51
NV	0.07	-0.24	-0.67	-1.26	-2.37	0.61	0.52	0.40	0.26	0.10	-0.95	0.34	0.24
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH	-0.04	-0.09	-0.22	-0.39	-0.71	0.12	0.11	0.09	0.07	0.03	-0.34	0.07	0.03
OK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OR	0.04	-0.05	-0.15	-0.31	-0.62	0.14	0.13	0.11	0.08	0.03	-0.25	0.09	0.06
PA	-0.14	-0.41	-0.85	-1.52	-2.79	0.40	0.38	0.31	0.21	0.07	-1.31	0.24	0.11
RI	0.00	-0.07	-0.22	-0.40	-0.99	0.18	0.17	0.14	0.10	0.04	-0.22	0.11	0.08
SC	0.02	-0.04	-0.15	-0.31	-0.63	0.14	0.14	0.12	0.08	0.03	-0.26	0.09	0.05
SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TN	0.00	-0.02	-0.02	-0.04	-0.07	0.01	0.01	0.01	0.00	0.00	-0.03	0.01	0.00
TX	-0.06	-0.13	-0.17	-0.27	-0.45	0.04	0.04	0.03	0.02	0.01	-0.24	0.03	0.00
UT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VA	-0.03	-0.15	-0.34	-0.62	-1.18	0.20	0.19	0.16	0.11	0.04	-0.53	0.13	0.06
VT	0.11	-0.03	-0.25	-0.58	-1.13	0.34	0.31	0.25	0.17	0.06	-0.46	0.18	0.11
WA	0.00	-0.03	-0.08	-0.15	-0.29	0.06	0.05	0.05	0.03	0.01	-0.13	0.04	0.02
WI	0.03	-0.05	-0.19	-0.38	-0.76	0.18	0.17	0.14	0.09	0.04	-0.32	0.11	0.06
WV	0.07	-0.01	-0.12	-0.30	-0.65	0.19	0.18	0.15	0.11	0.05	-0.25	0.11	0.06
WY	0.19	0.02	-0.25	-0.65	-1.40	0.47	0.44	0.37	0.25	0.09	-0.50	0.29	0.16

Note: All numbers correspond to % deviations in consumption-equivalent welfare (as defined in the Appendix), relative to the Baseline scenario. Sector-level and State-level averages are weighted by the relative size of age cohorts and job sectors. State-level averages are used in the COLA Reform heat map of Figure ??.

Table 5: % Change in Fiscal Aggregates Under Hybrid Pension Reform

	PVL			FR			Tax			Tax Vol		
State	10y	20y	40y	10y	20y	40y	10y	20y	40y	10y	20y	40y
AK	-3.6	-5.9	-12.1	-1.8	-0.6	-5.5	-2.6	-3.6	-2.7	-2.5	-2.9	-11.0
AL	-2.1	-3.7	-7.0	-2.1	-0.5	-1.0	-1.0	-1.5	-1.9	3.2	-1.9	-3.6
AR	-2.7	-4.8	-9.3	-1.7	-3.5	-4.8	-1.2	-1.3	-1.5	1.2	2.7	2.5
AZ	-7.5	-13.1	-25.6	-5.6	-6.3	-9.3	-4.7	-6.0	-8.4	-1.9	-0.5	-20.0
CA	-1.6	-2.9	-5.6	-0.1	-2.8	-0.9	-1.2	-1.0	-1.7	0.5	7.3	-2.1
CO	-4.3	-7.5	-14.4	-4.6	-3.5	-5.3	-2.6	-3.6	-4.2	-0.5	1.3	-10.5
CT	-3.0	-5.3	-10.6	-3.6	-1.8	-0.6	-1.7	-3.0	-4.2	3.1	0.1	-5.8
DC	-0.0	-0.0	-0.0	0.5	-0.8	0.1	-0.0	0.0	0.0	-3.7	11.4	12.9
DE	-3.0	-5.2	-10.1	-2.3	-2.6	-2.5	-1.4	-1.7	-2.2	0.9	2.9	-8.4
FL	-5.9	-10.4	-20.3	-1.5	-3.6	-6.7	-3.0	-3.5	-4.5	-0.2	0.2	-11.6
GA	-0.7	-1.2	-2.3	1.1	0.6	0.2	-0.8	-0.9	-0.9	-3.1	-1.7	-3.8
HI	-6.7	-11.6	-22.8	-4.4	-6.0	-6.1	-3.3	-4.1	-6.0	2.9	-1.9	-14.2
IA	-1.1	-2.0	-3.8	-1.0	1.6	-0.4	-0.5	-1.0	-0.9	2.9	-9.4	0.2
ID	-1.9	-3.3	-6.5	-0.9	-1.9	1.1	-1.0	-1.0	-2.3	4.9	0.5	-9.8
IL	-8.9	-15.6	-29.9	-13.8	-17.8	-19.9	-4.6	-5.4	-7.6	-1.7	-0.3	-15.1
IN	-0.6	-1.0	-1.9	-0.1	-0.8	-0.7	-0.2	-0.3	-0.3	2.0	-1.8	1.8
KS	-5.8	-10.5	-20.8	-5.8	-7.6	-9.3	-2.0	-2.4	-3.3	3.3	0.8	-10.7
KY	-5.8	-9.9	-18.5	-6.4	-5.9	-5.2	-2.5	-3.4	-4.8	-5.1	-0.5	-11.1
LA	0.0	0.0	0.0	-0.0	-1.0	-0.2	0.1	0.3	-0.0	-0.9	9.0	-5.0
MA	-2.6	-4.6	-9.0	-4.4	-3.4	-2.4	-1.1	-1.9	-2.7	3.0	3.0	-2.2
MD	-1.9	-3.3	-6.5	-0.5	-0.9	0.3	-0.9	-1.2	-1.7	2.4	0.7	-4.8
ME	-7.1	-12.4	-24.3	-2.8	-4.8	-7.3	-3.6	-4.3	-6.1	-2.2	-7.0	-16.2
MI	-4.0	-7.0	-13.6	-3.1	-3.4	-4.5	-1.8	-2.3	-2.8	2.5	2.7	-1.2
MN	-6.6	-11.7	-23.0	-4.9	-7.8	-8.4	-3.0	-3.5	-5.4	3.8	-0.6	-13.9
MO	-0.0	-0.0	-0.0	0.1	-0.5	-0.9	-0.0	0.0	0.3	1.4	1.6	2.1
MS	-1.7	-2.9	-5.6	-1.2	-0.9	-1.5	-0.9	-1.1	-1.5	1.3	12.3	-4.0
MT	-4.4	-8.0	-16.4	-5.5	-4.0	-4.1	-1.8	-2.8	-3.7	2.7	-4.8	-10.1
NC	-0.8	-1.3	-2.5	-0.8	-1.3	1.9	-0.4	-0.4	-1.0	-3.8	-0.4	-1.7
ND	-3.0	-5.5	-11.0	-1.3	-2.4	-2.6	-1.2	-1.5	-1.9	1.5	5.1	-2.3
NE	-0.0	-0.0	-0.0	0.6	-0.6	-1.1	0.0	0.2	0.3	0.6	7.8	4.3
NH	-7.8	-13.6	-27.3	-7.6	-8.3	-10.7	-2.8	-3.8	-6.1	3.0	-1.6	-17.7
NJ	-20.9	-37.1	-72.6	-37.0	-107.2	-576.4	-7.9	-8.1	-7.8	-22.6	-35.3	-23.0
NM	-10.4	-17.9	-35.7	-8.8	-15.6	-23.2	-5.4	-5.9	-9.1	-4.5	-7.8	-26.0
NV	-7.1	-12.0	-24.0	-5.1	-7.6	-8.5	-5.7	-6.5	-10.0	-0.3	3.2	-19.9
NY	0.0	0.0	0.0	-0.4	0.8	-0.1	0.0	-0.1	0.0	1.3	-4.1	-0.4
OH	-1.7	-3.0	-5.9	-2.8	-1.2	0.0	-0.9	-1.5	-2.5	4.0	0.3	-1.3
OK	-0.0	-0.0	-0.0	-1.8	0.1	0.3	0.3	-0.0	-0.1	15.1	-2.1	0.3
OR	-2.4	-4.2	-8.2	0.4	-2.2	-2.9	-2.0	-1.8	-2.2	-6.9	6.2	-1.3
PA	-10.2	-18.2	-35.9	-10.7	-19.9	-27.6	-4.0	-4.4	-6.0	-4.3	-6.1	-20.3
RI	-3.0	-5.2	-10.3	-1.3	-2.5	-2.9	-2.0	-2.3	-2.9	-1.1	0.9	2.2
SC	-2.7	-4.7	-9.1	-1.5	-3.4	-2.7	-1.2	-1.4	-2.0	3.1	1.1	-2.7
SD	0.0	0.0	0.0	0.2	-1.5	1.1	-0.1	0.3	-0.3	0.0	4.5	-5.4
TN	-0.4	-0.7	-1.4	-0.7	-1.3	-0.0	-0.1	-0.1	-0.4	4.2	5.5	-3.9
TX	-1.2	-2.0	-3.8	-0.7	-1.0	-2.1	-0.6	-0.7	-0.6	-0.1	-0.6	2.5
UT	-0.0	-0.0	-0.0	-0.2	-0.6	-0.4	0.2	0.1	0.0	10.1	1.7	2.2
VA	-4.7	-8.2	-15.5	-5.2	-3.4	-3.3	-1.7	-2.5	-3.5	8.3	2.4	-9.3
VT	-5.7	-10.0	-20.3	-5.2	-6.3	-6.4	-2.1	-2.9	-4.9	5.2	0.2	-12.8
WA	-1.4	-2.5	-4.8	-2.1	-0.6	-0.0	-0.6	-1.0	-1.4	1.4	2.1	-1.7
WI	-3.1	-5.4	-10.4	-0.3	-2.7	-3.6	-1.8	-2.0	-2.4	1.1	0.1	-5.7
WV	-2.9	-5.2	-9.9	-0.1	-1.0	-2.3	-1.6	-2.1	-2.2	-0.3	-3.4	3.3
WY	-6.9	-12.0	-24.0	-5.5	-7.4	-9.3	-2.8	-3.4	-5.0	2.2	-0.3	-11.9

Note: All numbers correspond to % deviations from the baseline forecast numbers, presented in Table 2.

Table 6: Hybrid Reform Welfare Effects by State, Sector, Age Cohort

	Public					Private					Averages		
State	20 Yr	30 Yr	40 Yr	50 Yr	60 Yr	20 Yr	30 Yr	40 Yr	50 Yr	60 Yr	Pub Avg	Priv Avg	State Avg
AK	-0.81	-1.15	-1.38	-1.27	-0.76	0.64	0.54	0.42	0.27	0.11	-1.85	0.39	0.08
AL	-0.31	-0.42	-0.50	-0.50	-0.32	0.20	0.18	0.15	0.10	0.04	-2.71	0.12	-0.22
AR	-0.43	-0.56	-0.64	-0.65	-0.41	0.21	0.20	0.16	0.10	0.04	-2.81	0.13	-0.22
AZ	-1.59	-2.02	-2.30	-2.25	-1.41	0.86	0.77	0.61	0.40	0.15	-4.08	0.49	0.05
CA	-0.41	-0.52	-0.60	-0.57	-0.35	0.16	0.15	0.12	0.08	0.03	-2.41	0.11	-0.14
CO	-1.46	-1.76	-1.84	-1.72	-1.02	0.47	0.43	0.35	0.23	0.09	-2.52	0.31	0.01
CT	-0.62	-0.84	-0.98	-0.99	-0.65	0.37	0.34	0.28	0.19	0.07	-3.12	0.22	-0.10
DC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DE	-0.48	-0.63	-0.72	-0.70	-0.43	0.23	0.21	0.17	0.11	0.04	-2.99	0.13	-0.19
FL	-1.35	-1.65	-1.75	-1.52	-0.88	0.34	0.31	0.25	0.16	0.06	-3.86	0.19	-0.14
GA	-0.13	-0.18	-0.21	-0.22	-0.14	0.08	0.08	0.06	0.04	0.02	-1.01	0.05	-0.05
HI	-1.68	-2.08	-2.34	-2.23	-1.25	0.54	0.49	0.40	0.26	0.10	-4.22	0.32	-0.14
IA	-0.17	-0.23	-0.26	-0.25	-0.15	0.09	0.08	0.06	0.04	0.02	-2.57	0.05	-0.25
ID	-0.32	-0.41	-0.47	-0.46	-0.28	0.15	0.13	0.11	0.07	0.03	-2.52	0.09	-0.20
IL	-2.59	-3.04	-3.28	-3.14	-1.99	0.91	0.86	0.71	0.48	0.17	-4.85	0.59	0.08
IN	-0.11	-0.13	-0.16	-0.17	-0.14	0.03	0.03	0.02	0.01	0.01	-0.75	0.02	-0.06
KS	-1.09	-1.46	-1.68	-1.64	-1.07	0.36	0.34	0.27	0.18	0.07	-3.58	0.23	-0.24
KY	-1.10	-1.39	-1.57	-1.53	-0.97	0.52	0.49	0.40	0.27	0.10	-3.58	0.32	-0.10
LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MA	-1.02	-1.26	-1.35	-1.35	-0.69	0.23	0.21	0.17	0.11	0.04	-3.34	0.14	-0.15
MD	-0.36	-0.46	-0.50	-0.48	-0.29	0.11	0.10	0.08	0.05	0.02	-1.12	0.07	-0.04
ME	-4.40	-3.33	-2.62	-2.06	-1.20	0.62	0.55	0.43	0.28	0.10	-5.13	0.31	-0.25
MI	-0.87	-1.04	-1.12	-1.03	-0.64	0.29	0.27	0.21	0.14	0.05	-3.34	0.17	-0.17
MN	-1.50	-1.75	-1.89	-1.78	-1.07	0.48	0.44	0.35	0.23	0.08	-3.82	0.29	-0.12
MO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MS	-0.19	-0.30	-0.38	-0.40	-0.26	0.22	0.20	0.16	0.11	0.04	-1.11	0.13	-0.04
MT	-1.03	-1.29	-1.31	-1.22	-0.73	0.34	0.32	0.26	0.17	0.07	-3.75	0.19	-0.24
NC	-0.12	-0.16	-0.18	-0.18	-0.11	0.06	0.06	0.04	0.03	0.01	-2.27	0.04	-0.22
ND	-0.58	-0.70	-0.77	-0.73	-0.44	0.18	0.17	0.14	0.09	0.04	-3.07	0.11	-0.26
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NH	-1.67	-1.99	-2.34	-2.18	-1.31	0.53	0.47	0.37	0.24	0.09	-2.64	0.28	0.01
NJ	-4.46	-10.06	-7.68	-6.47	-3.71	1.31	1.23	1.00	0.64	0.21	-8.84	0.81	-0.14
NM	-1.88	-2.52	-2.93	-2.94	-1.94	1.73	1.55	1.24	0.82	0.30	-4.80	0.96	0.13
NV	-3.37	-4.01	-4.06	-3.48	-2.03	0.90	0.79	0.63	0.41	0.16	-5.31	0.53	0.07
NY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH	-0.64	-0.76	-0.87	-0.80	-0.42	0.20	0.18	0.15	0.10	0.04	-1.96	0.12	-0.09
OK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OR	-0.44	-0.62	-0.73	-0.71	-0.46	0.24	0.22	0.18	0.12	0.05	-2.81	0.14	-0.15
PA	-2.58	-3.13	-3.25	-2.81	-1.62	0.53	0.50	0.41	0.27	0.10	-5.04	0.32	-0.13
RI	-0.61	-0.78	-0.89	-0.84	-0.65	0.27	0.25	0.20	0.14	0.05	-2.92	0.16	-0.10
SC	-0.41	-0.54	-0.63	-0.63	-0.39	0.23	0.21	0.17	0.11	0.04	-1.26	0.13	-0.03
SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TN	-0.07	-0.08	-0.11	-0.09	-0.05	0.02	0.02	0.01	0.01	0.00	-2.30	0.01	-0.21
TX	-0.34	-0.40	-0.41	-0.44	-0.25	0.08	0.07	0.06	0.04	0.01	-2.26	0.05	-0.18
UT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VA	-0.89	-1.07	-1.17	-1.13	-0.68	0.31	0.28	0.23	0.15	0.06	-1.66	0.19	-0.00
VT	-1.11	-1.49	-1.68	-1.59	-0.84	0.48	0.43	0.34	0.23	0.09	-4.04	0.25	-0.21
WA	-0.25	-0.33	-0.38	-0.27	-0.22	0.11	0.10	0.08	0.05	0.02	-2.43	0.07	-0.21
WI	-0.53	-0.70	-0.82	-0.80	-0.49	0.29	0.26	0.21	0.13	0.05	-3.03	0.16	-0.17
WV	-0.37	-0.53	-0.63	-0.65	-0.42	0.33	0.30	0.24	0.16	0.06	-3.14	0.18	-0.28
WY	-1.14	-1.48	-1.65	-1.65	-1.05	0.75	0.69	0.57	0.38	0.14	-3.83	0.45	-0.22

Note: All numbers correspond to % deviations in consumption-equivalent welfare (as defined in the Appendix), relative to the Baseline scenario. Sector-level and State-level averages are weighted by the relative size of age cohorts and job sectors. State-level averages are used in the Hybrid Reform heat map of Figure **??**.