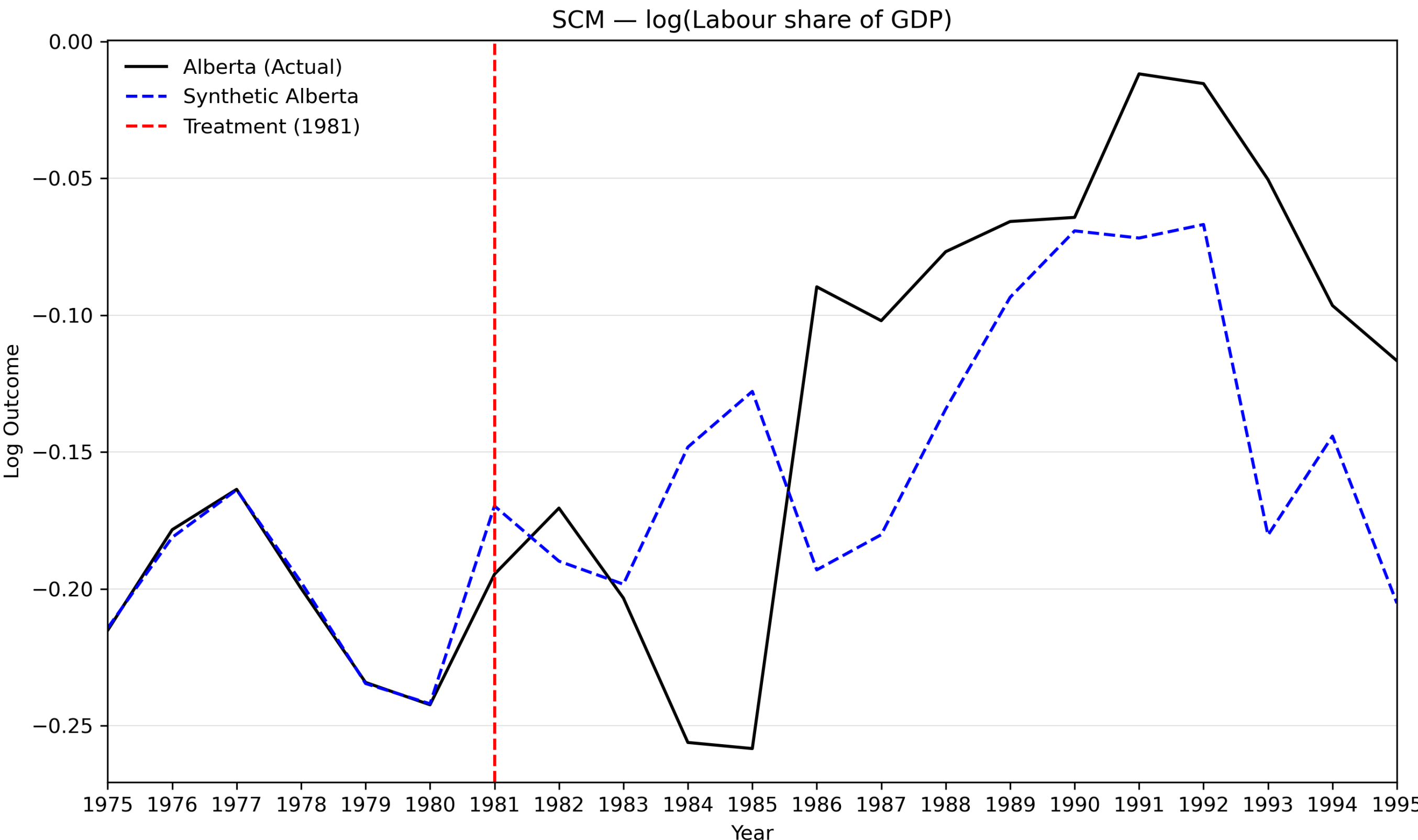
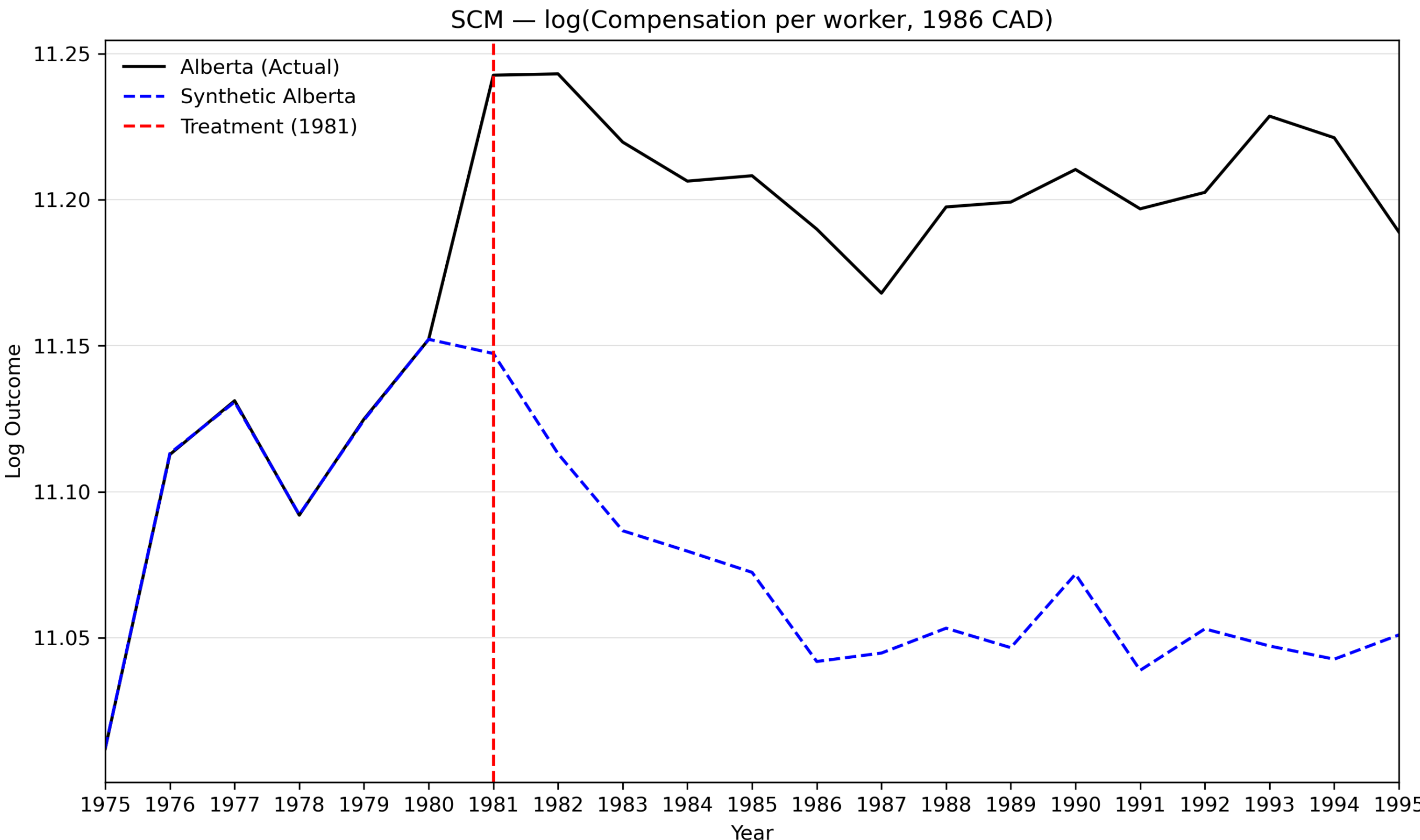
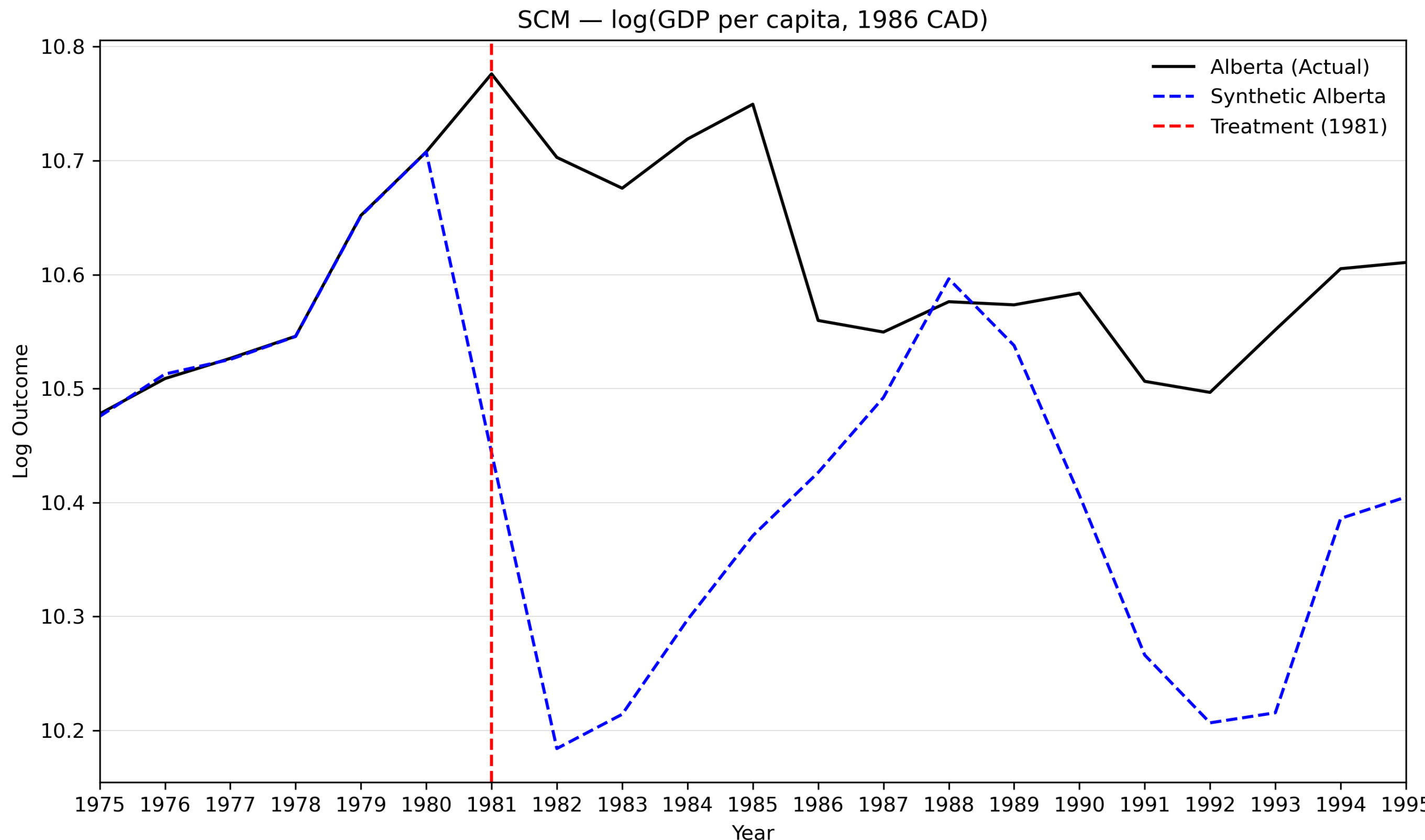
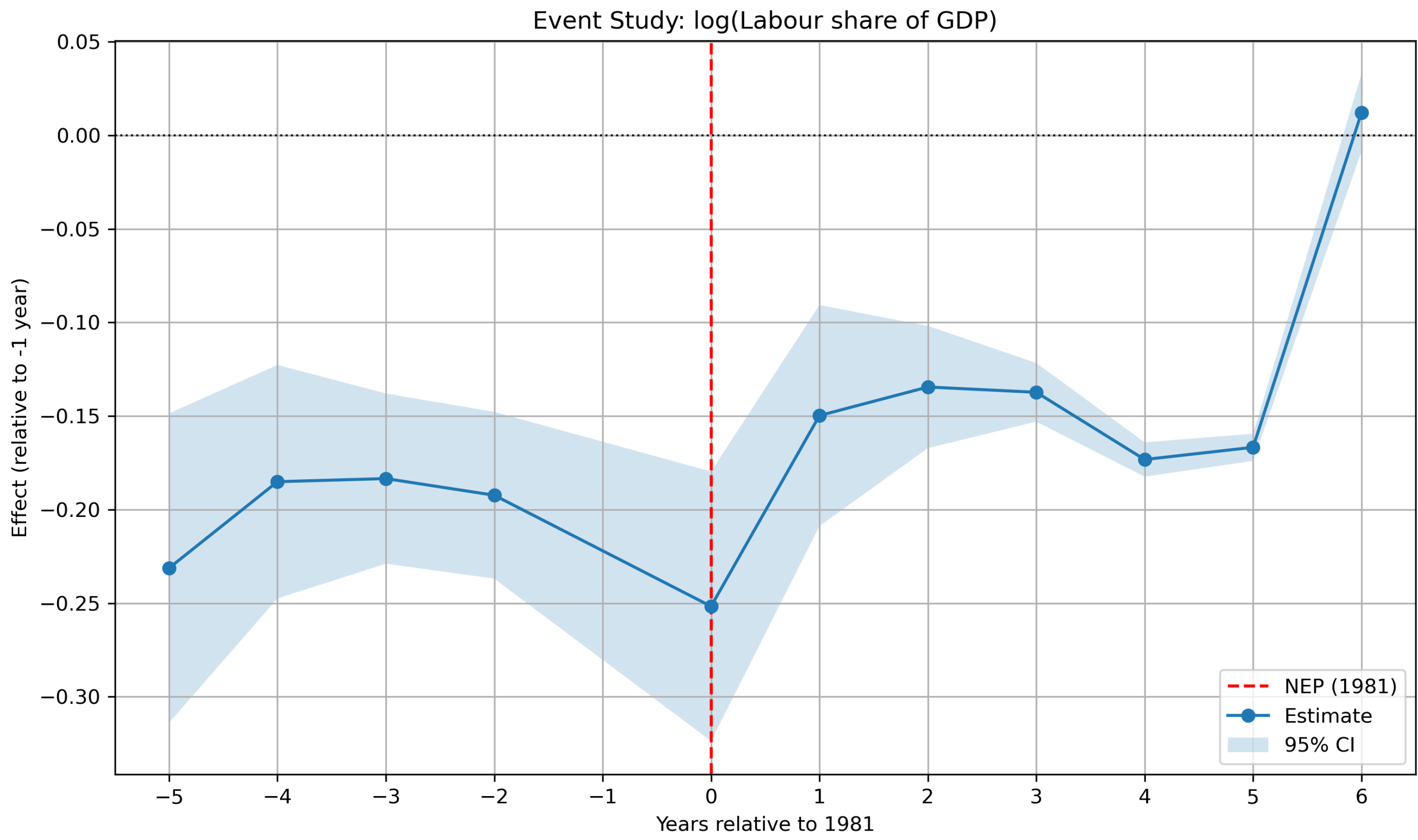
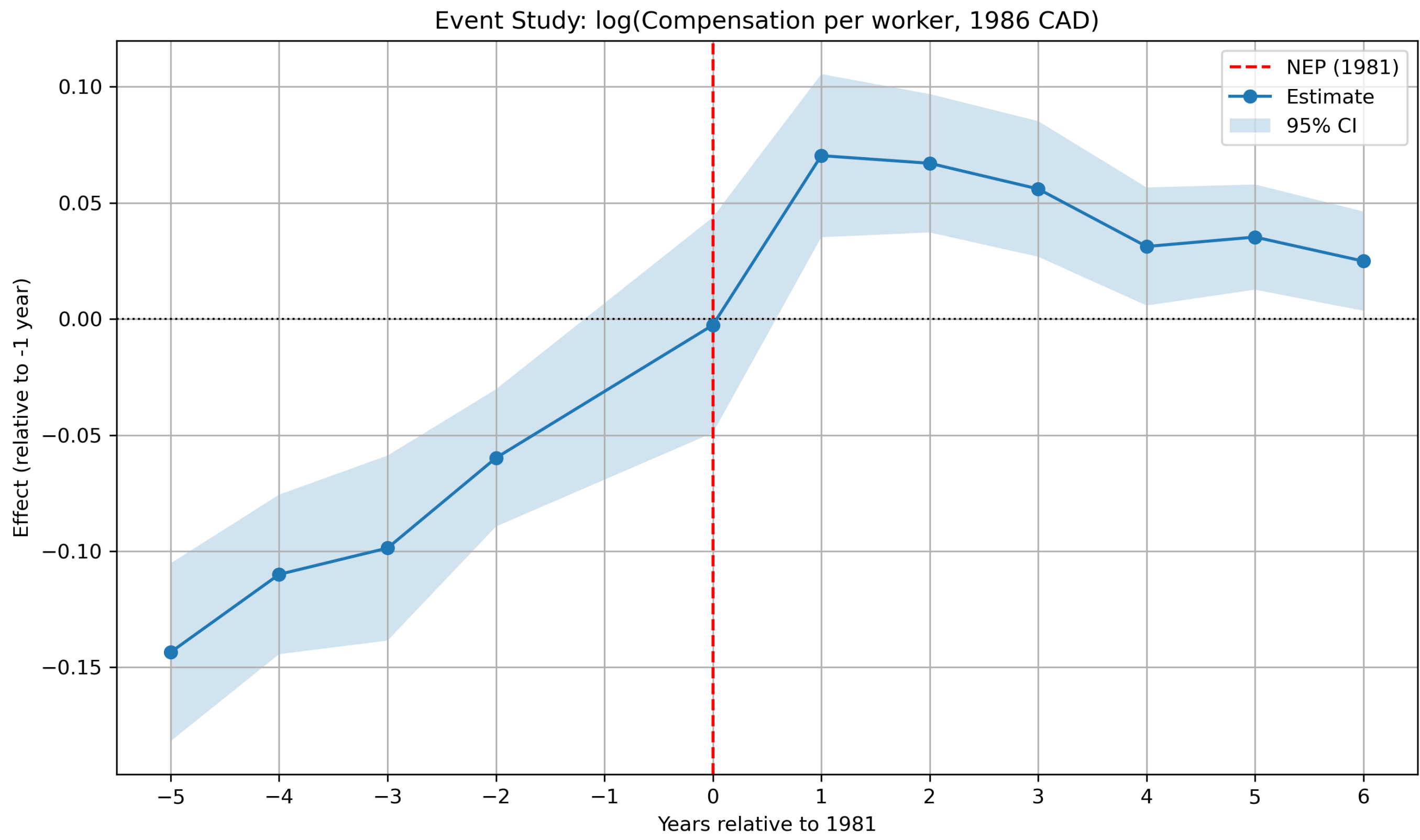
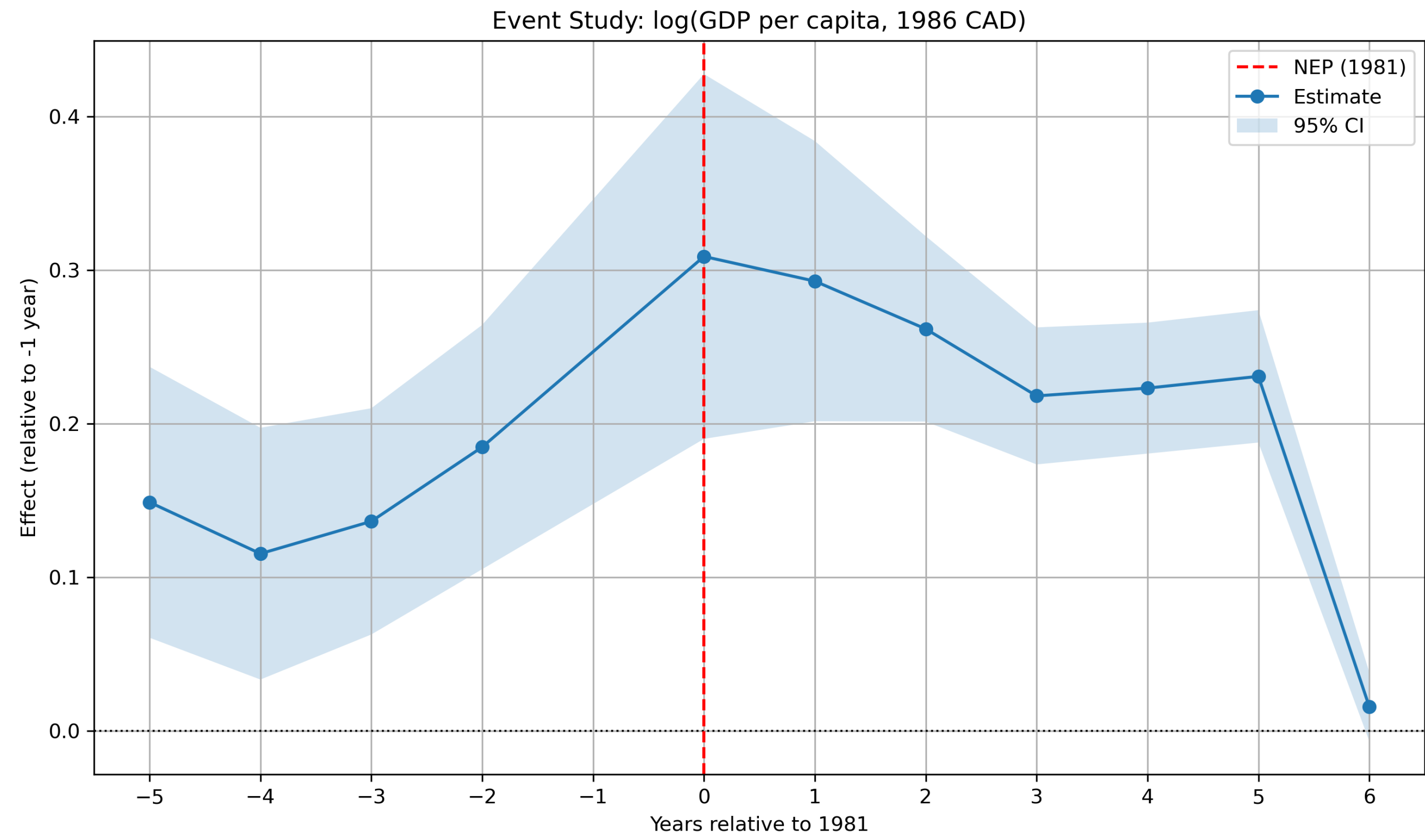


Dominion & Divergence: Creighton, Econometrics and the National Energy Program

Greg Williams | gwilly84@duck.com | CESG 2025

Takeaway: Under the Constrained + Bias Corrected SCM, Alberta's 1981–1995 path versus its synthetic shows **GDP per capita** -5.9% , **compensation per worker** 9.7% , and a **compensation-to-GDP (real) ratio** 12.3% —indicating a **modest output shortfall** alongside **stronger labour remuneration relative to output**.

Visual Summary



Notes: Vertical line marks 1981 (policy onset). Event-study baseline $k = -1$ (1980). Percent effects $\approx 100 \times (\exp(\text{ATT}) - 1)$.

Design at a glance

Units & span 9 provinces; balanced 1975–1995.

Treatment Alberta; policy window 1981–1985; post = 1981–1995.

Outcomes $\ln(\text{GDPpc})$; $\ln(\text{comp/worker})$ (all industries); $\ln(\text{comp/GDP})$ (real).

Deflators CPI to 1986 CAD.

Estimators TWFE DiD; Event study (leads/lags $k \in [-5, 9]$, $k = -1$ ref.); **SCM main** = constrained ridge ($w \geq 0$, $\sum w = 1$) + bias correction (Constrained + Bias Corrected).

Tuning λ via pre-1981 RMSE grid search.

Inference Province-clustered SEs (DiD/ES); SCM permutation p -values with RMSPE filter $\leq 10\times$.

Controls Macro covariates used only in sensitivity.

Identification & diagnostics

- **Pre-trends:** joint test on leads non-significant; no economically meaningful visual leads.
- **Design:** TWFE DiD + ES + ridge-SCM; province/year FE.
- **Ridge/Placebos:** λ via pre-1981 RMSE grid search; placebo p -values use donors with pre-RMSPE $\leq 10\times$ Alberta.
- **Inference:** clustered; SCM permutation; macro controls in sensitivity.

Neo-Laurentian: Narrative → Econometrics → Alienation

Creighton updated: the centre centralizes resource rents; national aggregates can diverge from *distributional* outcomes in resource regions.

- **Narrative (mechanism):** ON–QC core buffers shocks by pooling/redirecting resource rents.
- **Identification:** Treat = Alberta (1981–1985); 1975–1995 DiD + Synthetic Control; outcomes: $\ln(\text{GDPpc})$, $\ln(\text{comp/worker})$, $\ln(\text{comp/GDP})$ (real); pre-trends/placebos OK.
- **Results (1981–95, Constrained + Bias Corrected):** **GDP per capita** -5.9% ; **compensation per worker** 9.7% ; **compensation-to-GDP (real)** 12.3% .
- **Interpretation:** modest output shortfall + stronger labour metrics \Rightarrow perceived rent centralization and fairness/representation grievance (Western alienation).

Robustness (at a glance)

- Leave-one-out donors: stable ✓
- Alt. timing (1980/82/83): unchanged ✓
- Early-years drop (omit 1975–1977): unchanged ✓
- Placebo in space: Alberta extreme ✓
- Placebo in time: null ✓

Compensation-to-GDP (real ratio)

- Deflate compensation and GDP to 1986 CAD; take the ratio (constructed “real” ratio; not the nominal NA labour share).
- Estimate $\ln(\text{comp/GDP})$; algebraically, $\ln \text{ ratio} = \ln \text{ comp} - \ln \text{ GDP}$.
- Interprets worker returns relative to output; robust to nominal levels.

Data & Replication

- Balanced panel: 9 provinces, 1975–1995
- Core outcomes: $\ln(\text{GDPpc})$, $\ln(\text{comp/worker})$, $\ln(\text{comp/GDP})$ (real)
- Sources: Statistics Canada, Bank of Canada, FRED
- Code & materials: github.com/gwilly84/cesg2025-nep-analysis

