Appendix:
Are Things Really Getting Better?: How To Validate Latent Variable Models of Human Rights

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Contents

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Introduction to the Appendix

The supplementary material presented in this document provides additional details about the latent variable model developed in the article "Are Things Really Getting Better?: How To Validate Latent Variable Models of Human Rights". The main article makes reference to the materials contained here. The code and data files necessary to implement the models in JAGS and R are publicly available at the Harvard Dataverse Network https://dataverse.harvard.edu/dataverse/CJFariss, which can be linked to through http://cfariss.com/.

A Graphs from the Manuscript

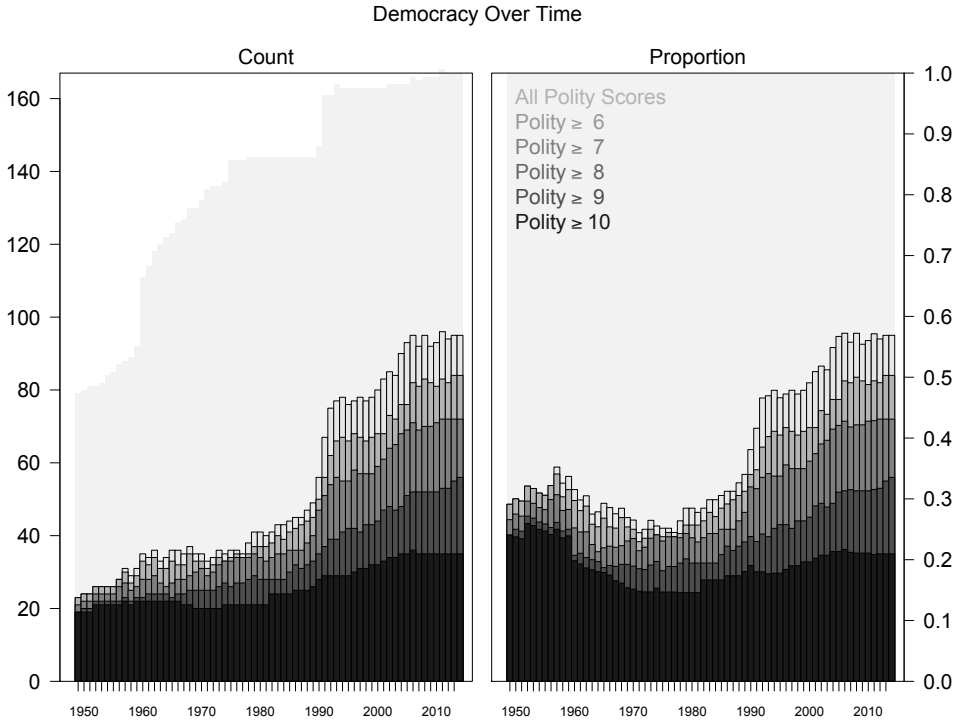

Figure 1: The absolute number of democracies in the international system increases over time though the proportion of democracies in the system has not increased for the highest category on the polity IV scale. The polity IV dataset currently only covers 167 states.

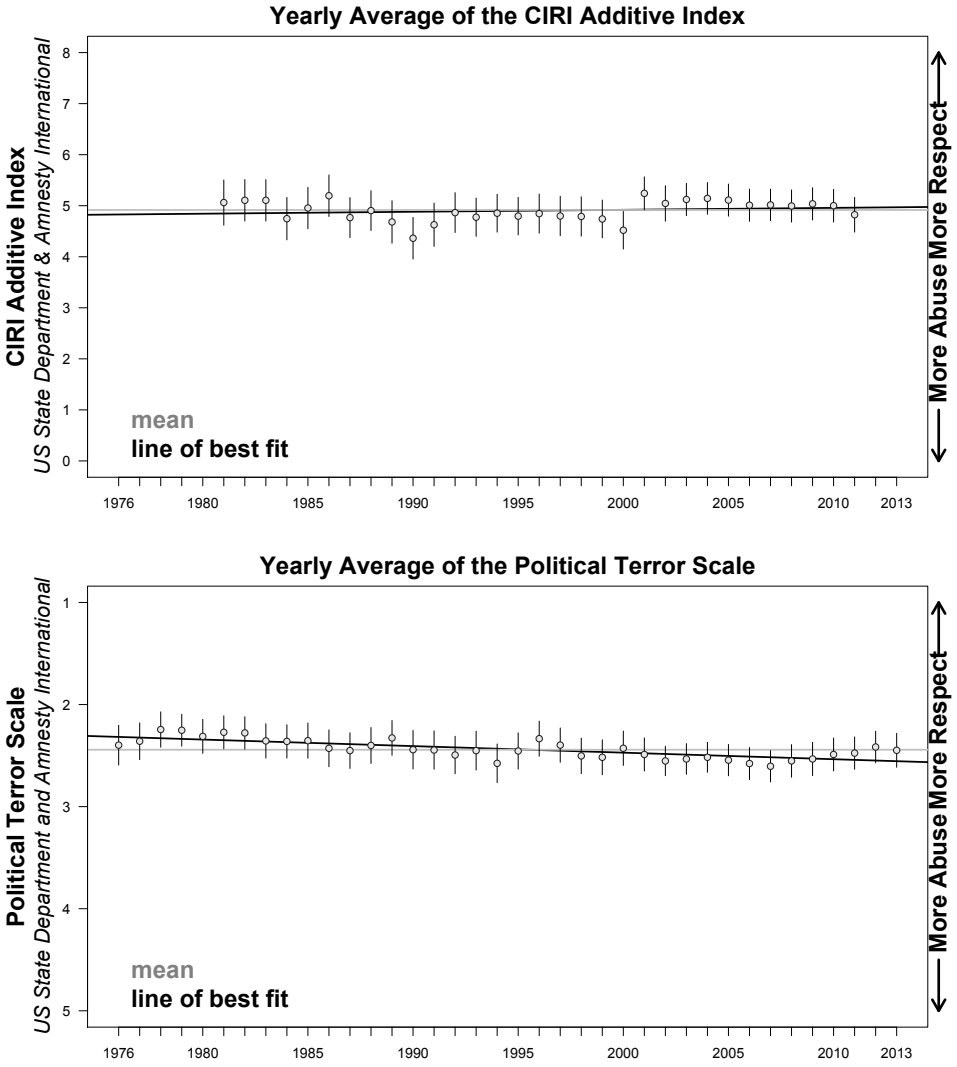

Figure 2: Yearly mean and 95% confidence intervals for the estimated level of repression using the CIRI Additive index (upper panel), and the Political Terror Scale index (lower panel). Each series is based on the human rights reports from the US State Department and Amnesty International. Note that the averages for the Political Terror Scale estimates are based on two scales coded independently, one from the US State Department reports and one from the Amnesty International reports. See Fariss (2014) for additional details.

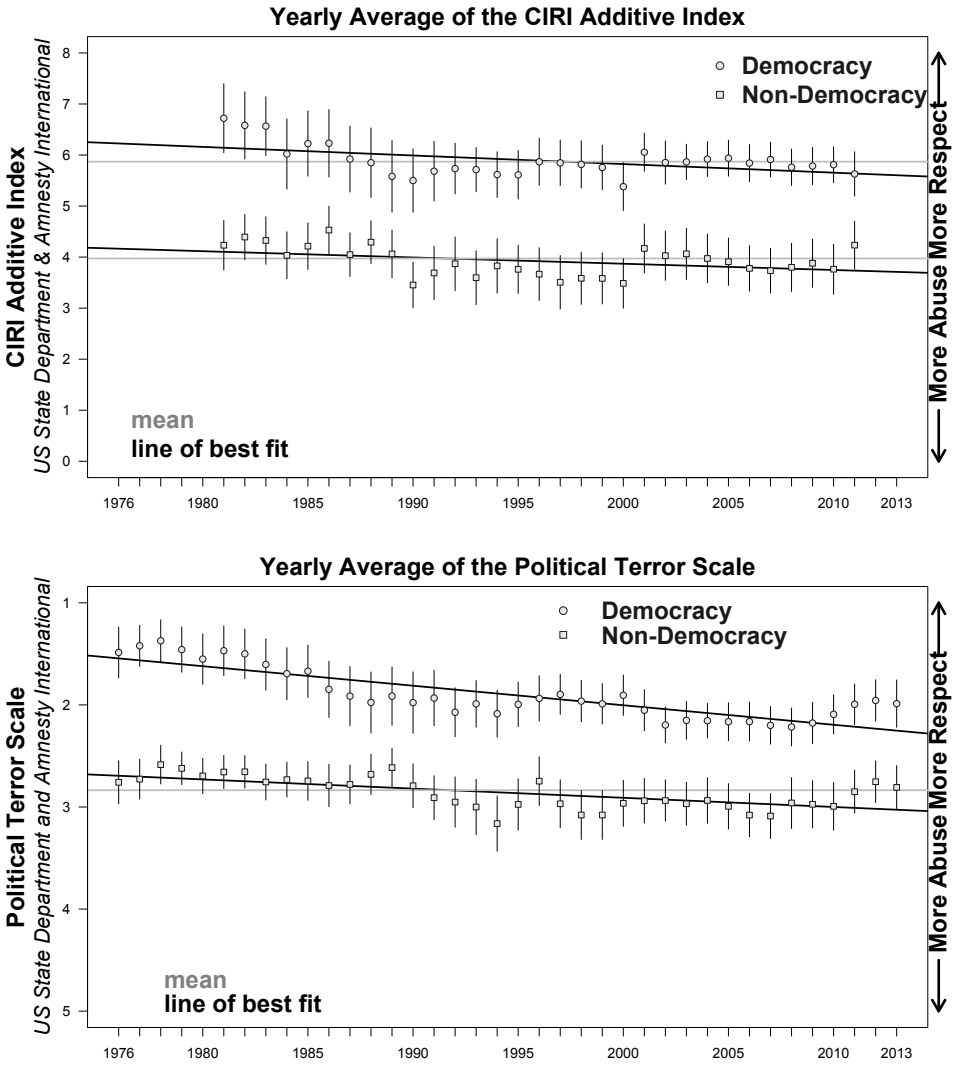

Figure 3: Yearly mean and 95% confidence intervals for the estimated level of repression using the CIRI Additive index (upper panel), and the Political Terror Scale index (lower panel) for democratic and non-democratic states as measured by Polity IV (values of 6 or greater). Each series is based on the human rights reports from the US State Department and Amnesty International. The level of human rights decreases for both democracies and non-democracies according to the CIRI physical integrity index and the Political Terror Scale. See Fariss (2014) for additional details.

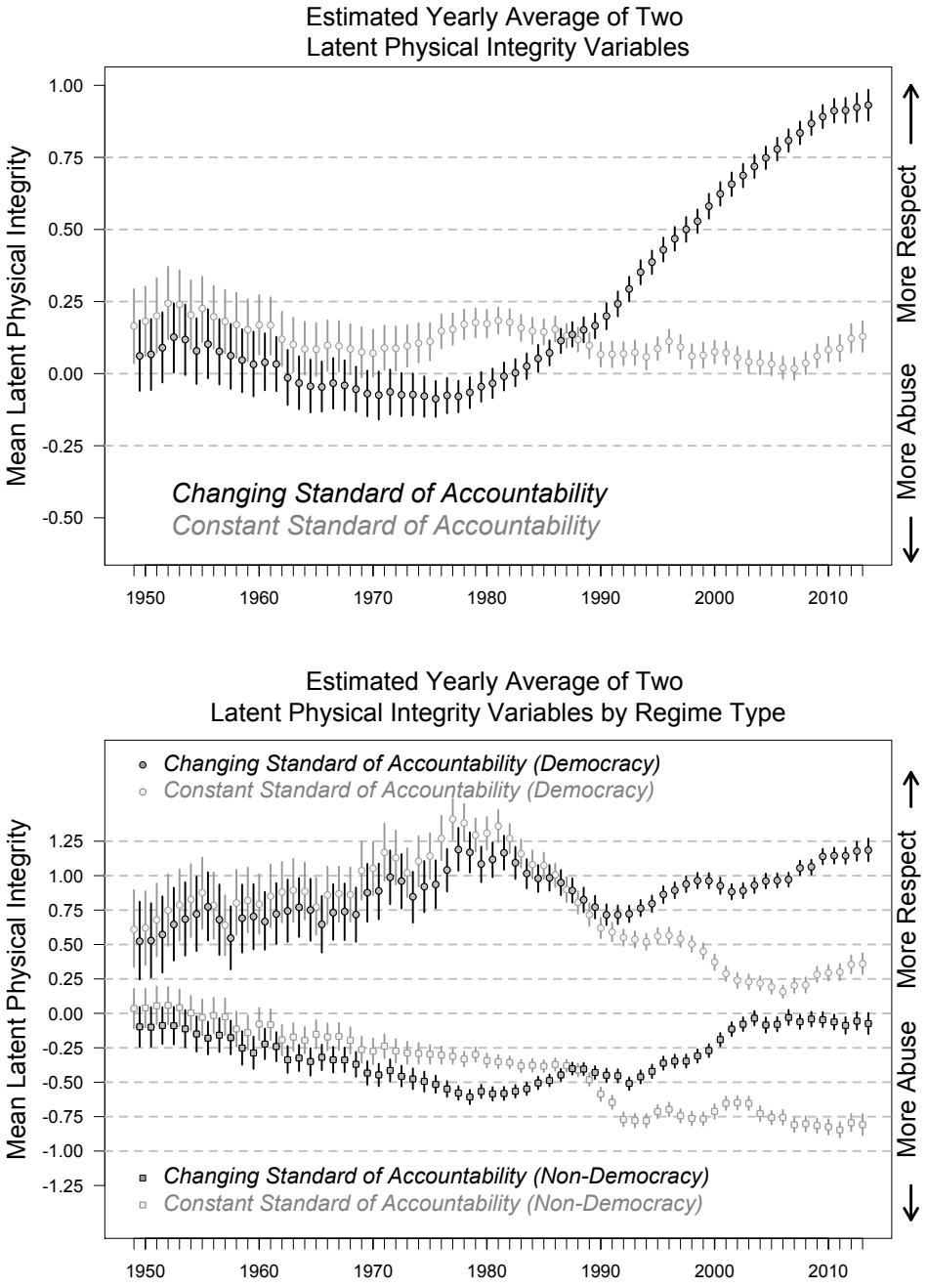

Figure 4: The upper panel displays yearly mean and credible intervals for latent physical integrity estimates from the changing standard latent variable model and the constant standard latent variable model. The lower panel displays yearly mean and credible intervals for these same variables across democratic and non-democratic states as measured by Polity IV (values of 6 or greater). Only the latent variable estimates that assume a changing standard of accountability show improvement for either type of country-year. Without the assumption of the changing standard of accountability, one must believe that the level of human rights in just the set of democratic states has been steadily decreasing since a high point in the early 1980s. It is more likely that the standard of accountability is improving as monitoring agencies look harder for abuse, look in more places for abuse, and classify more acts as abuse. See Fariss (2014) for additional details.

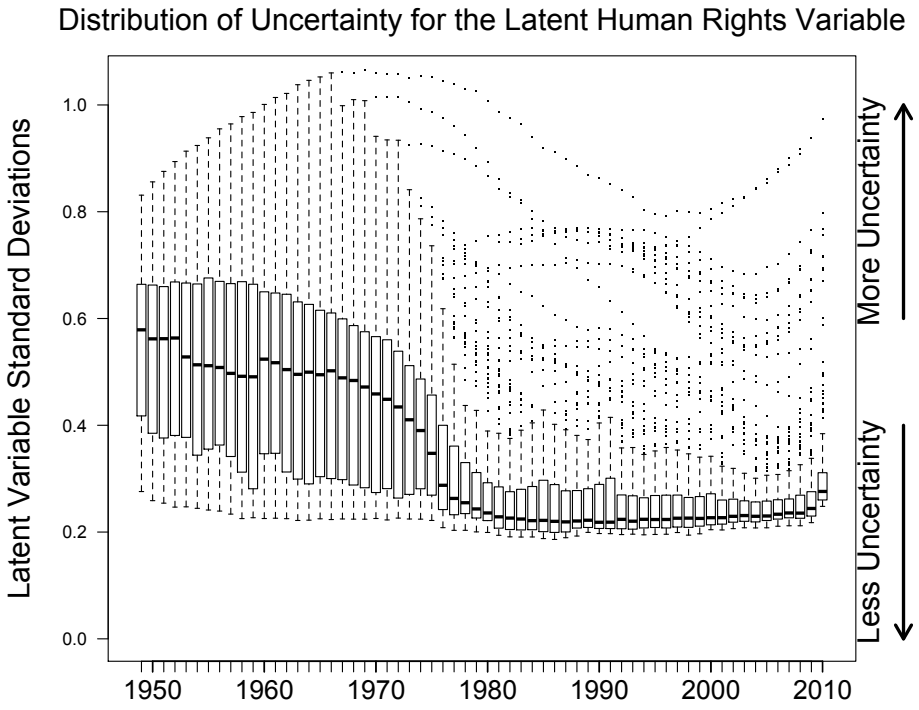

Figure 5: The yearly distribution of the standard deviations from the latent variable estimates from 1949-2010. Though not every one of the repression variables is measured for each country-year unit, the latent variable model is able estimate a value of the latent variable for each country-year unit using the observed variables that are available. As this graph illustrates, the level of uncertainty for each country-year unit is in part a function of the availability of the observed variables. Thus, there is more uncertainty in earlier years and importantly this uncertainty information can be incorporated into standard statistical analyses (Schnakenberg and Fariss, 2014). As new repression variables are incorporated into future versions of the latent human rights model, these estimates will decrease, conditional on the relative quality of those new variables. See Fariss (2014) for additional details.

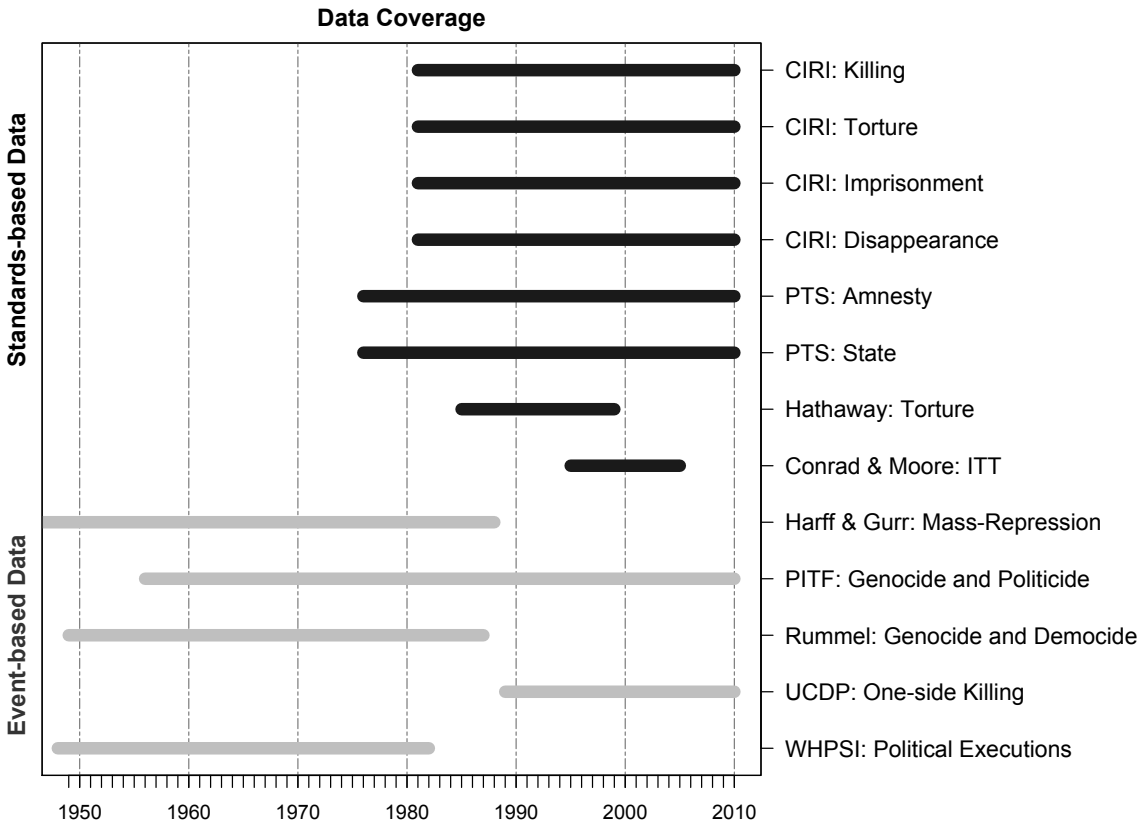

Figure 6: Temporal coverage and data type of repression data sources. Grey lines are event-based data. Black lines are standards-based measures. As additional data becomes available, the level of uncertainty of the latent variable estimates decrease as show in Figure 5. See Fariss (2014) for additional details.

B V-DEM Expert Survey Question Wording: Freedom from torture

Below are descriptions for the the two V-DEM human rights variables used to provide evidence of the convergent validity of the latent human rights variable developed by Fariss (2014) and to replicate the positive association between the level of human rights and ratification of human rights treaties presented in Fariss (2015). The text is taken directly from the V-DEM code book.[1]

[1] Coppedge et al. (2016).

B.1 V-DEM Expert Survey Question Wording: Freedom from torture

Question: Is there freedom from torture?

Clarification: Torture refers to the purposeful inflicting of extreme pain, whether mental or physical, with an aim to extract information or intimidate victims, who are in a state of incarceration. Here, we are concerned with torture practiced by state officials or other agents of the state (e.g., police, security forces, prison guards, and paramilitary groups).

Responses:

1. Not respected by public authorities. Torture is practiced systematically and is incited and approved by the leaders of government.
2. Weakly respected by public authorities. Torture is practiced frequently but is often not incited or approved by top leaders of government. At the same time, leaders of government are not actively working to prevent it.
3. Somewhat. Torture is practiced occasionally but is typically not approved by top leaders of government.
4. Mostly respected by public authorities. Torture is practiced in a few isolated cases but is not incited or approved by top government leaders.
5. Fully respected by public authorities. Torture is non-existent.

Scale: Ordinal, converted to interval by the measurement model.

Cross-coder aggregation: Bayesian item response theory measurement model (see V-Dem Methodology, posted at V-Dem.net).[2]

B.2 V-DEM Expert Survey Question Wording: Freedom from political killing

Question: Is there freedom from political killings?

[2] Pemstein et al. (2015).

Clarification: Political killings are killings by the state or its agents without due process of law for the purpose of eliminating political opponents. These killings are the result of deliberate use of lethal force by the police, security forces, prison officials, or other agents of the state (including paramilitary groups).

Responses:

1. Not respected by public authorities. Political killings are practiced systematically and they are typically incited and approved by top leaders of government.
2. Weakly respected by public authorities. Political killings are practiced frequently and top leaders of government are not actively working to prevent them.
3. Somewhat respected by public authorities. Political killings are practiced occasionally but they are typically not incited and approved by top leaders of government.
4. Mostly respected by public authorities. Political killings are practiced in a few isolated cases but they are not incited or approved by top leaders of government.
5. Fully respected by public authorities. Political killings are non-existent.

Scale: Ordinal, converted to interval by the measurement model.

Cross-coder aggregation: Bayesian item response theory measurement model (see V-Dem Methodology, posted at V-Dem.net).[3]

[3] Pemstein et al. (2015).

C All Model Graphs with Latent Human Rights Variable Comparison

C.1 Model Specifications

Recall that in Fariss (2015), two linear model coefficients are compared using the dependent variable from the latent variable model that does not account for the changing standard of accountability (labeled the constant standard model) and the dependent variable from the latent variable model that does account for the changing standard of accountability (labeled the dynamic standard model). These competing dependent variables are regressed on 10 treaty variables, including a latent treaty variable, two versions of an additive treaty scale, a proportion of the total number of ratified treaties over the treaties open for ratification, and six binary variables. Each binary treaty variable measures whether or not a country has ratified the Convention Against Torture (CAT), the Convention on the Elimination of all Forms of Discrimination Against Women (CEDW), the Covenant on Civil and Political Rights (CCPR), Covenant on Civil and Political Rights (CCPR), Convention on the Rights of the Child (CRC), or Convention on the Elimination of All Forms of Racial Discrimination (CERD) in a given year.

The control variables include a measure of democracy (Marshall, Jaggers and Gurr, 2013), the natural log of GDP per capita (Gleditsch, 2002), the natural log of population (Gleditsch, 2002), and the lagged value of the latent human rights variable and finally the lagged value of one of the various different treaty variables. Overall, the choices of variables for these models does not change the difference in the relationship of treaty ratification and respect for human rights. Each model always includes the lagged version of one of the two human rights variables and a lagged treaty variable.

The model comparisons demonstrate that the differences between the coefficients are similar across all of the model specifications; adding or removing any specific control variable does not change the difference between the coefficients. Thus, the results always contradict the negative findings from existing research.[4] That is, omitted variable bias does not change the substantive meaning of the difference in the relationship of treaty ratification and respect for human rights. The eight linear regression models are

[4] The difference between the treaty variable coefficients from any two competing modes is based on the following Z-score: $\frac{\beta_{dynamic} - \beta_{constant}}{\sqrt{SE(\beta_{dynamic})^2 + SE(\beta_{constant})^2}}$.

specified as follows for each of the 10 treaty variables described in Fariss (2015):

Model 1 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$

Model 2 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$

Model 3 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$

Model 4 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$

Model 5 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$

Model 6 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$

Model 7 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$

Model 8 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$

C.2 Latent Treaty Variable Model Graphs

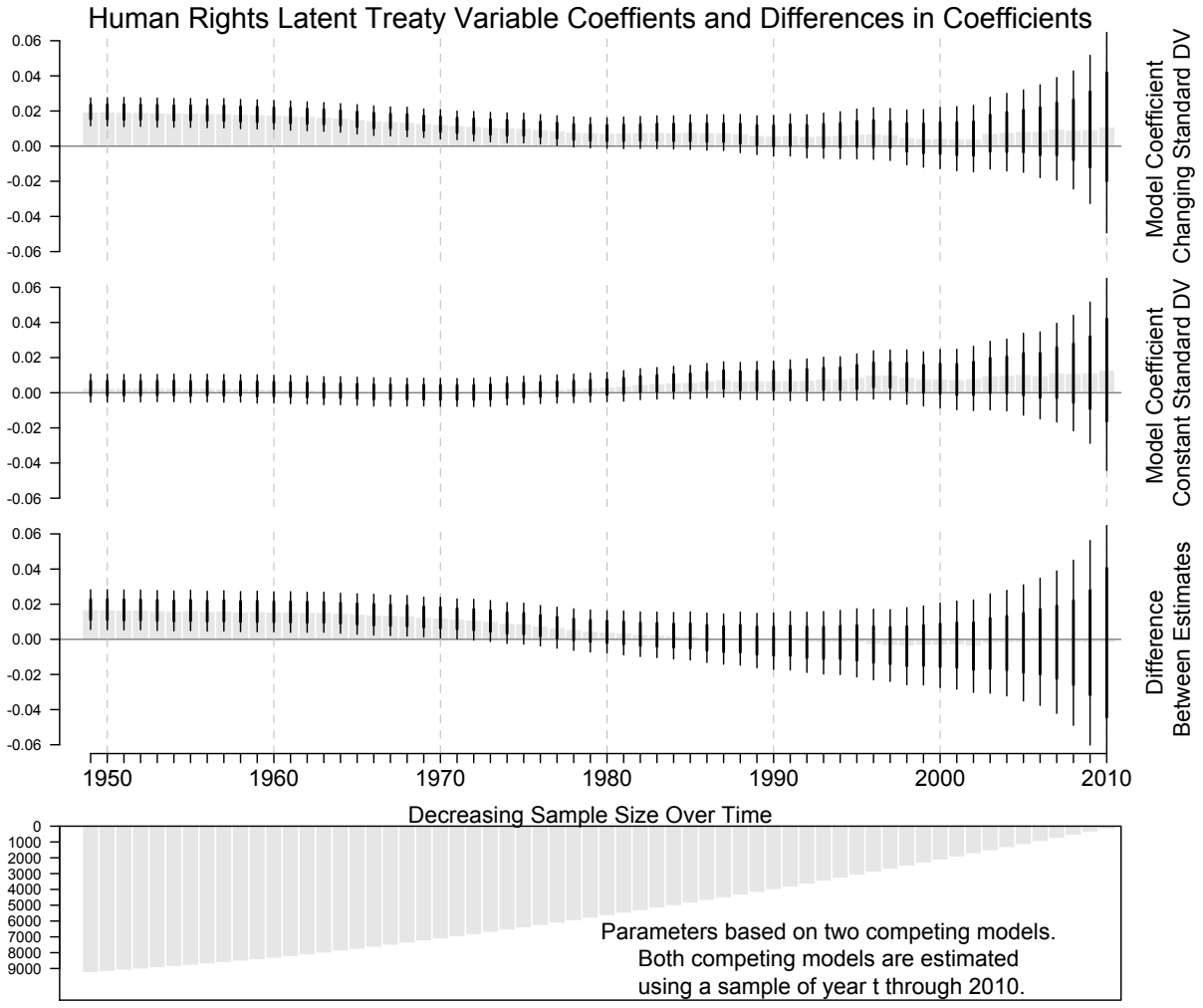

Figure 7: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

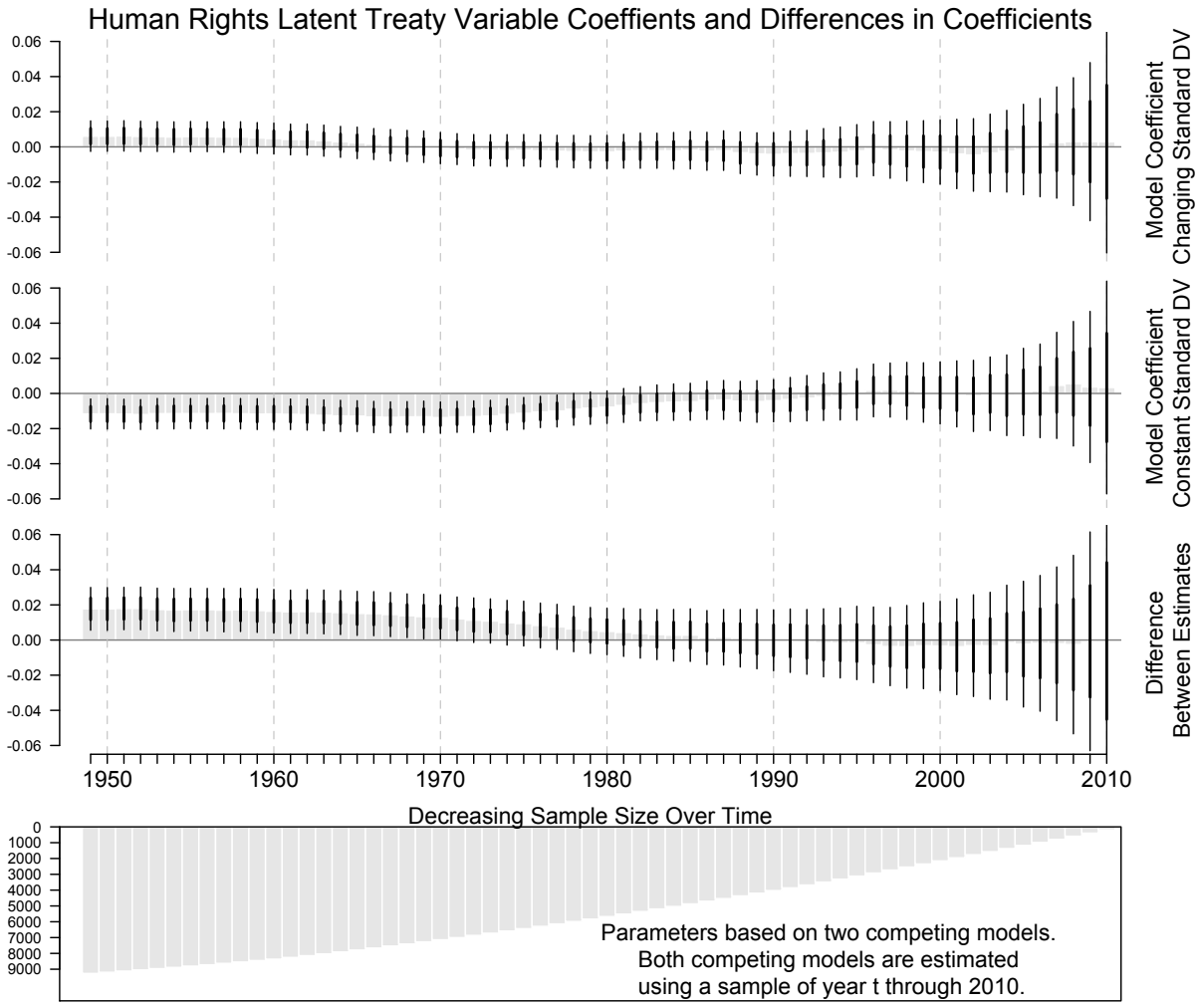

Figure 8: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

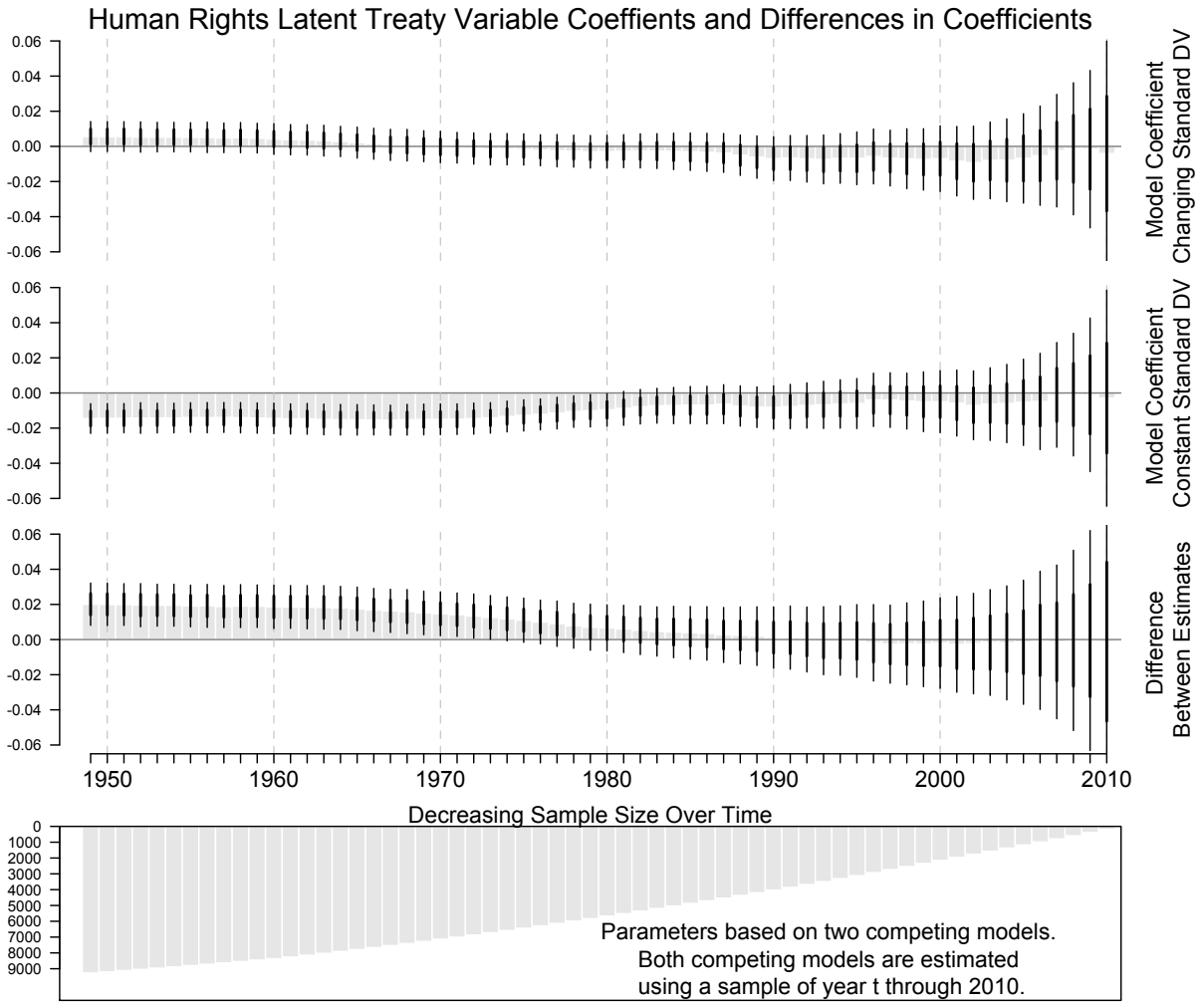

Figure 9: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

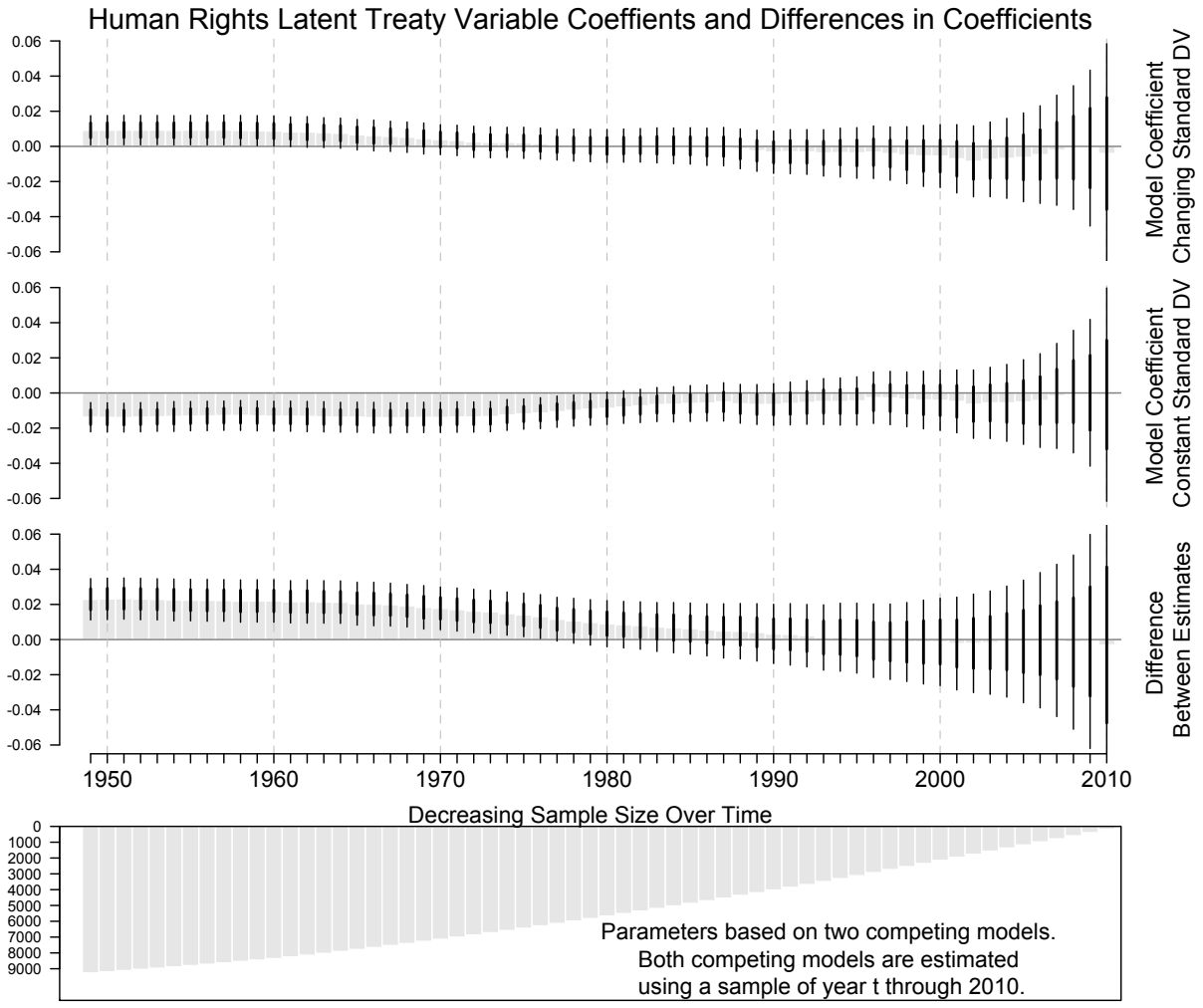

Figure 10: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

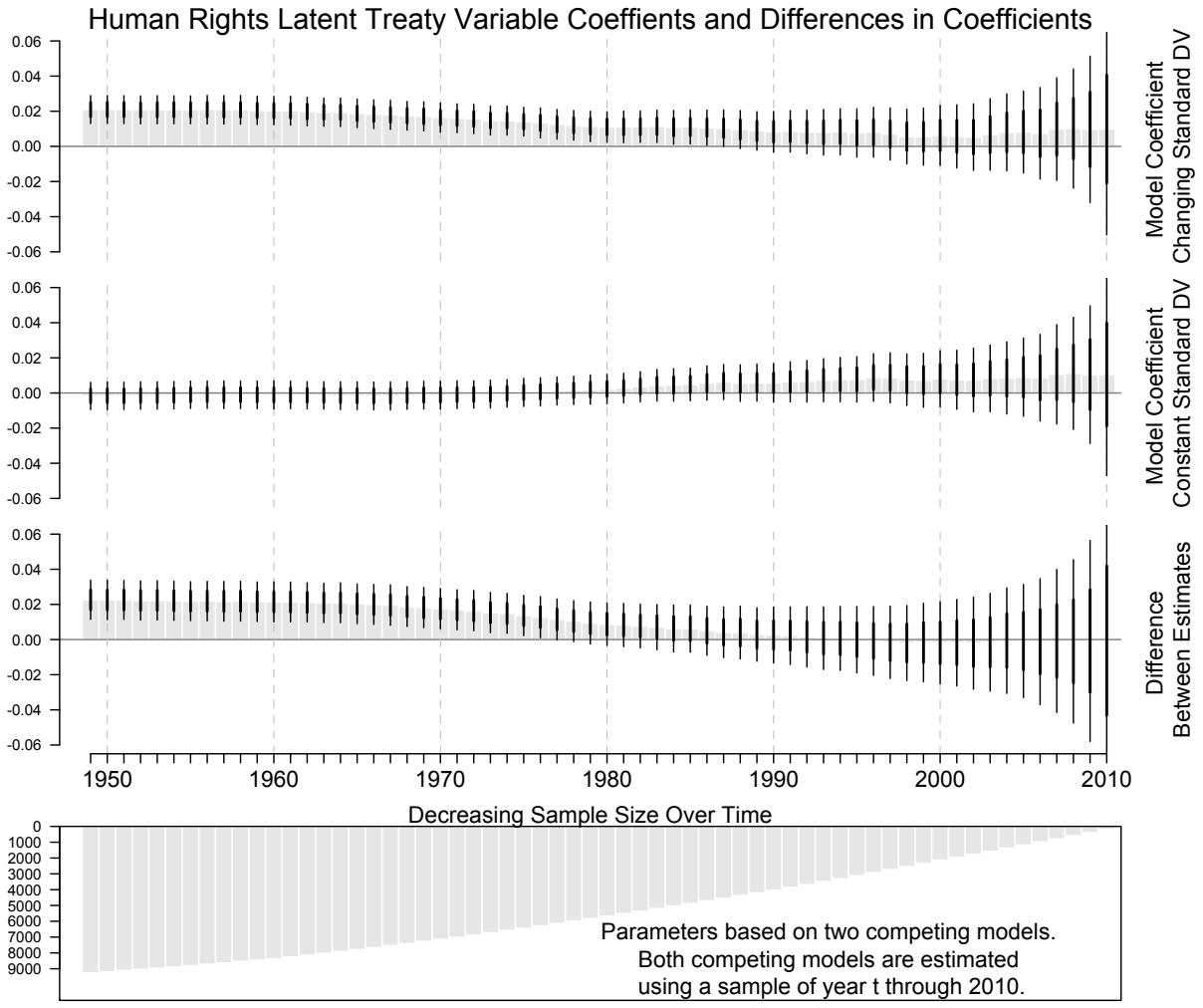

Figure 11: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

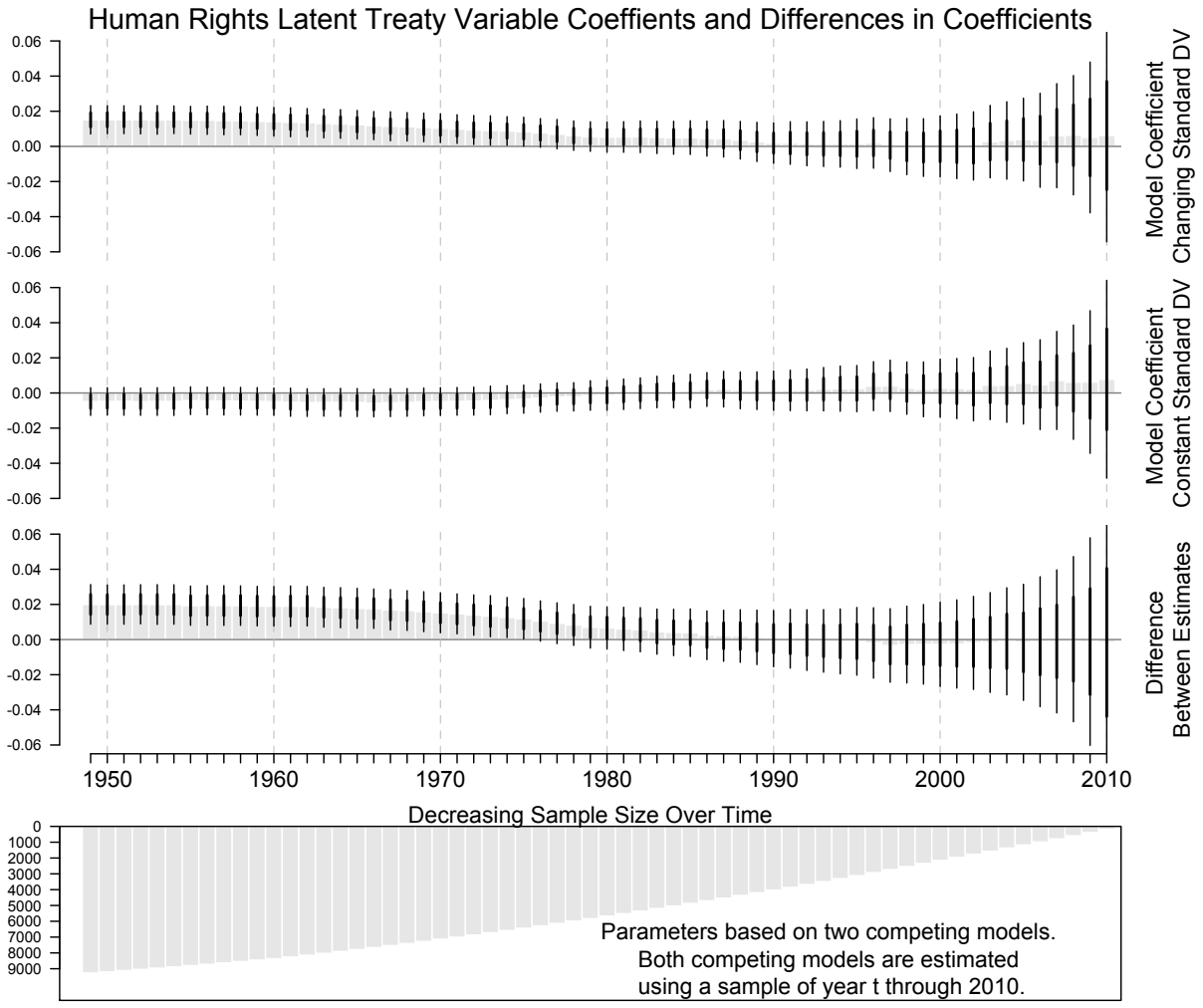

Figure 12: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

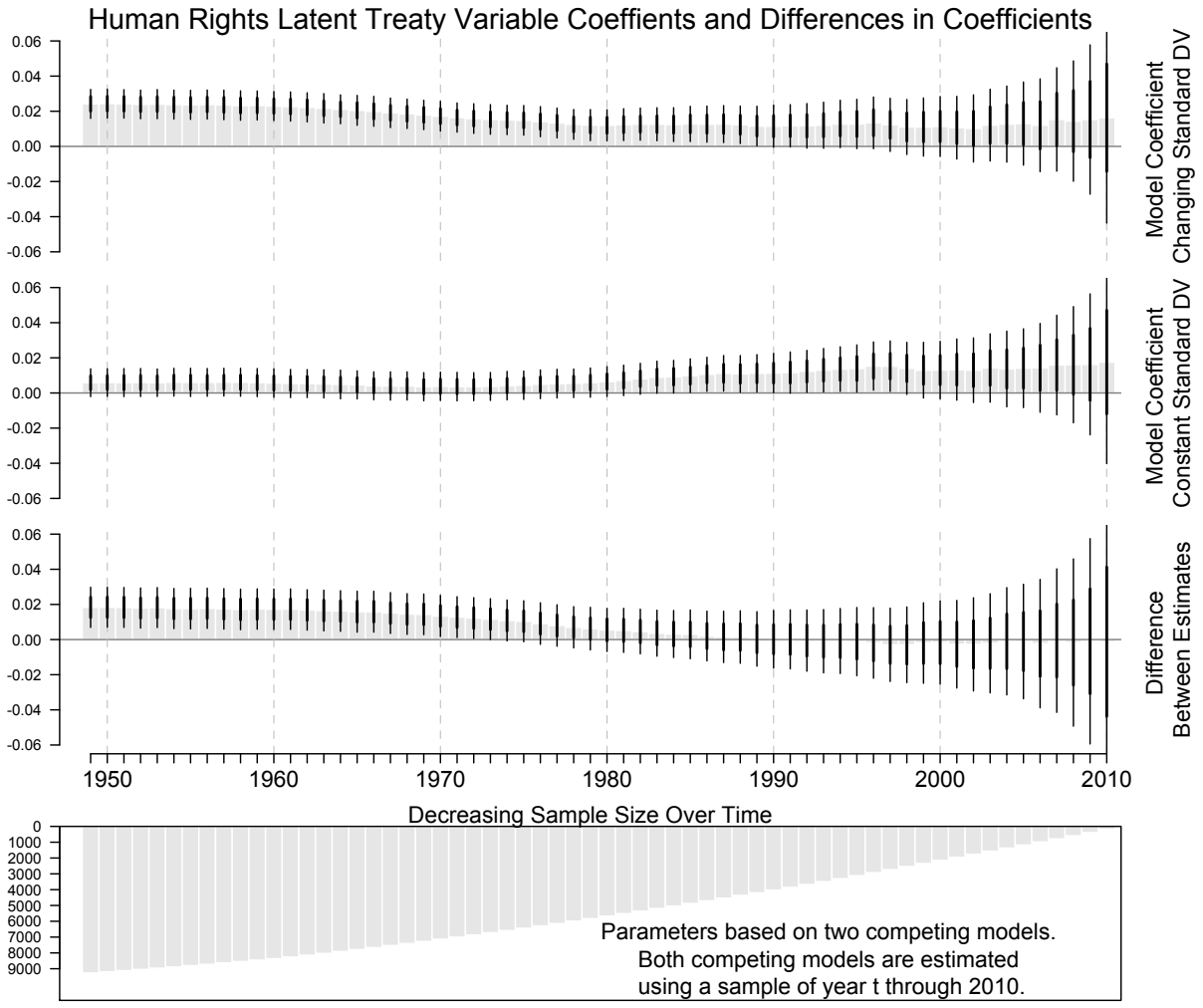

Figure 13: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

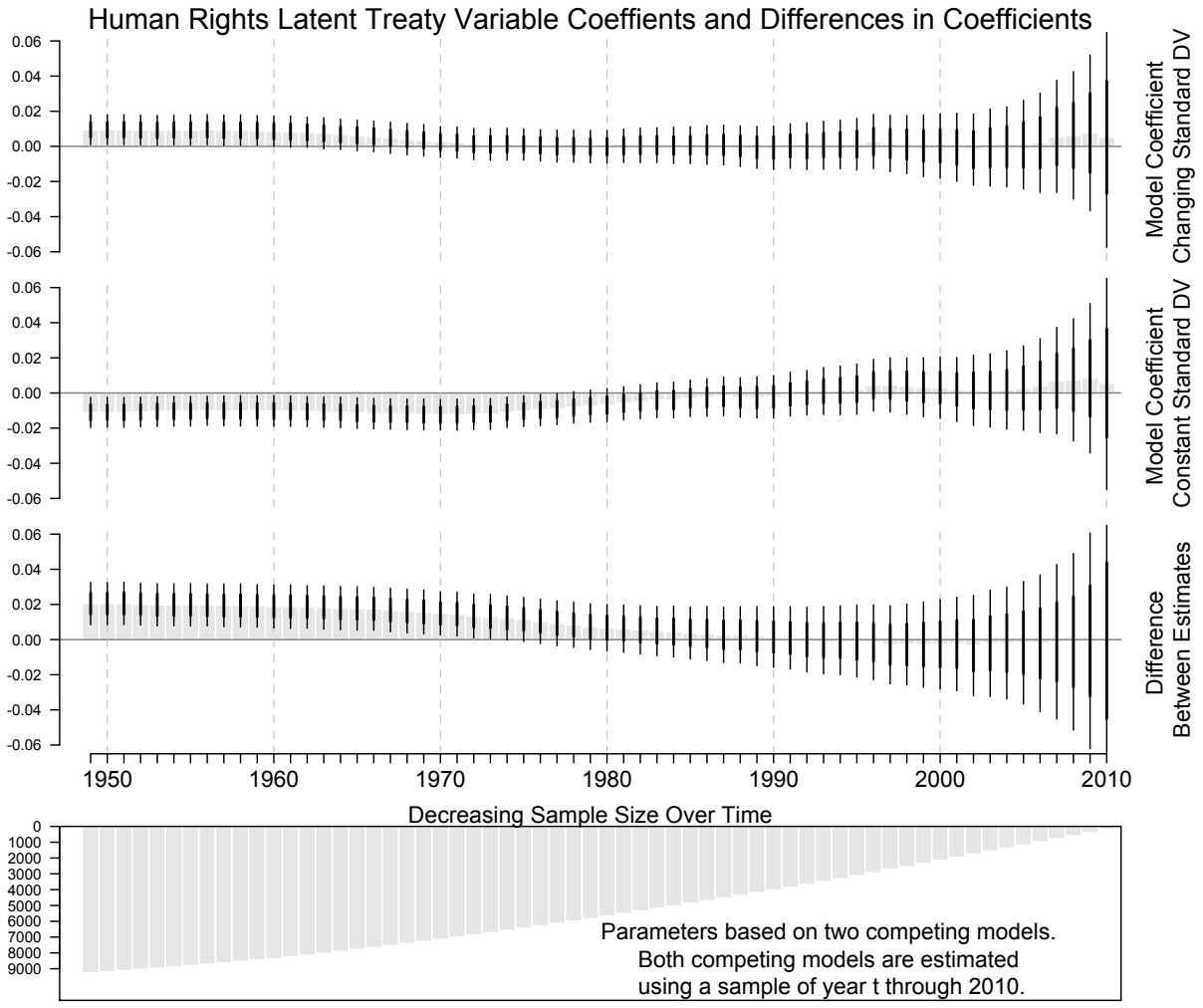

Figure 14: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.3 Count (CAT, CCPR, CESCR, CERD, CEDAW, CRC) Treaty Variable Model Graphs

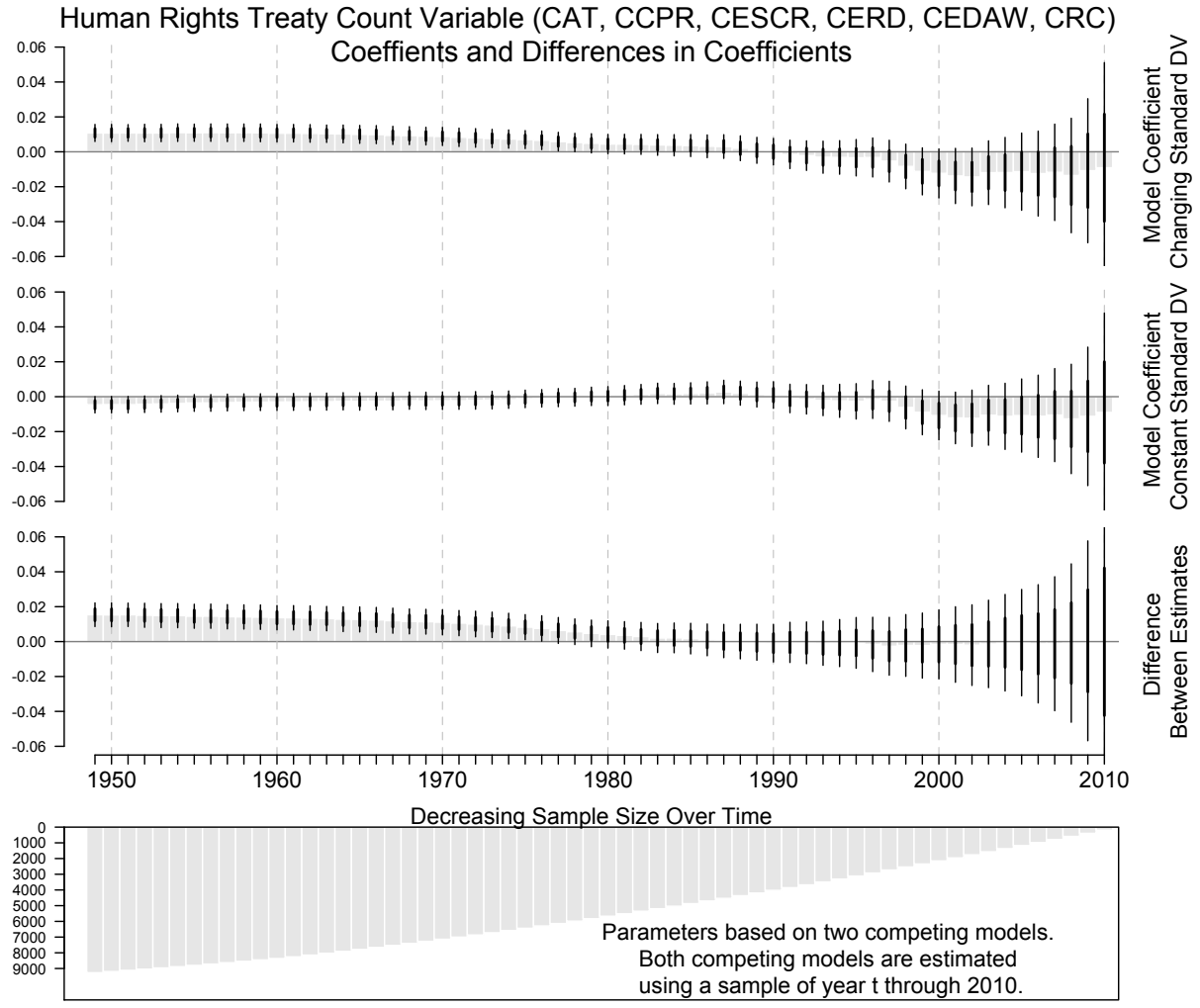

Figure 15: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

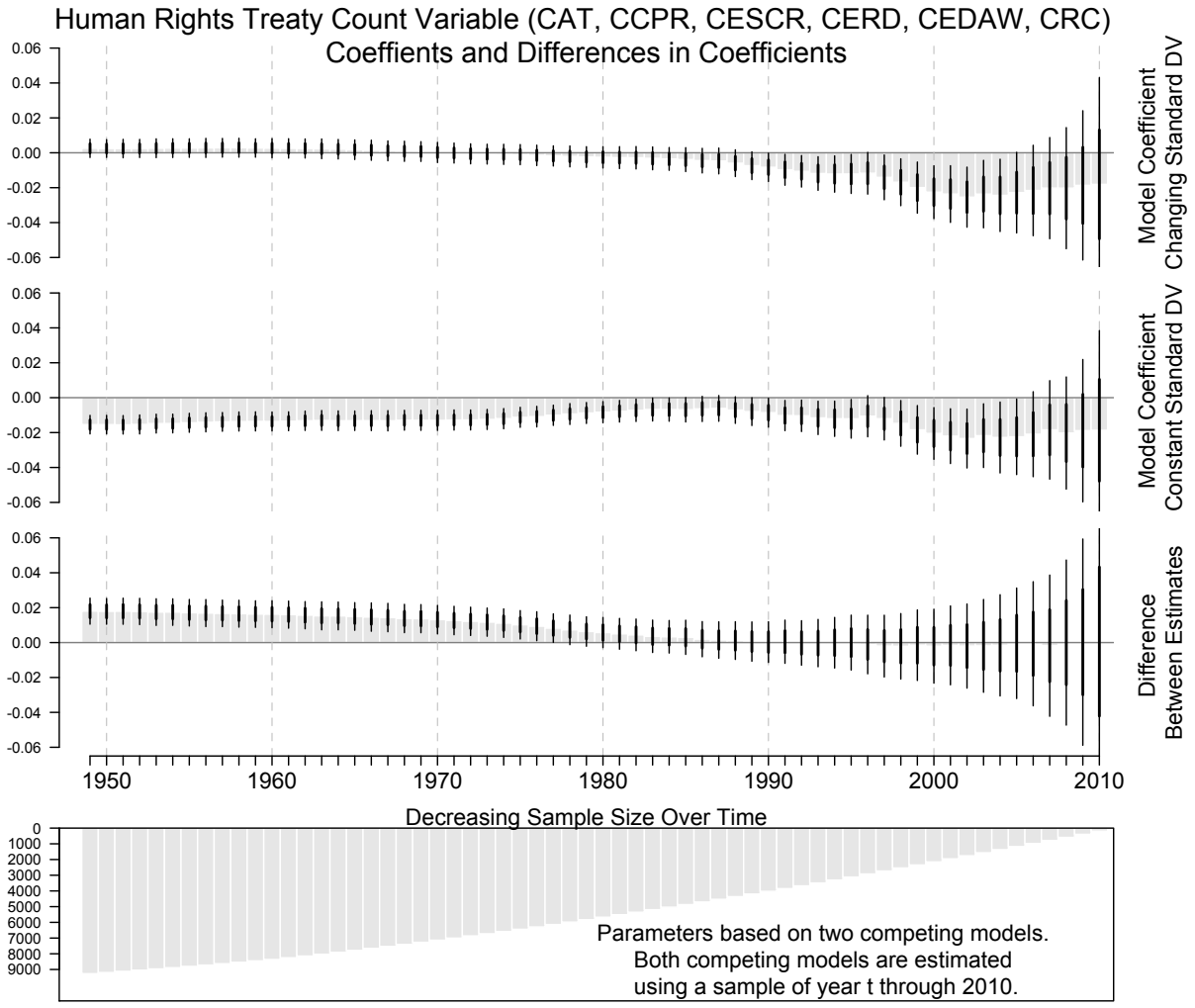

Figure 16: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

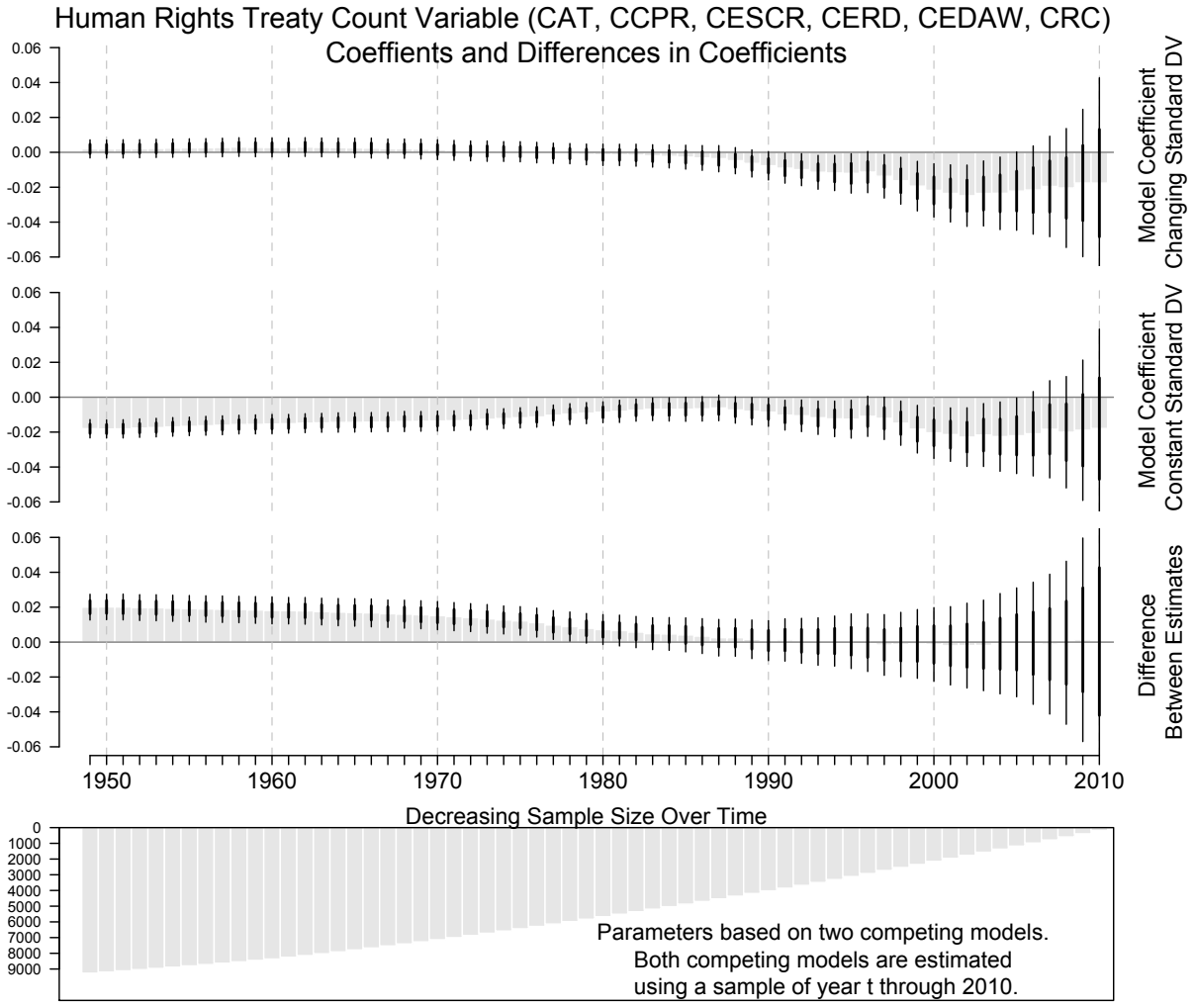

Figure 17: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

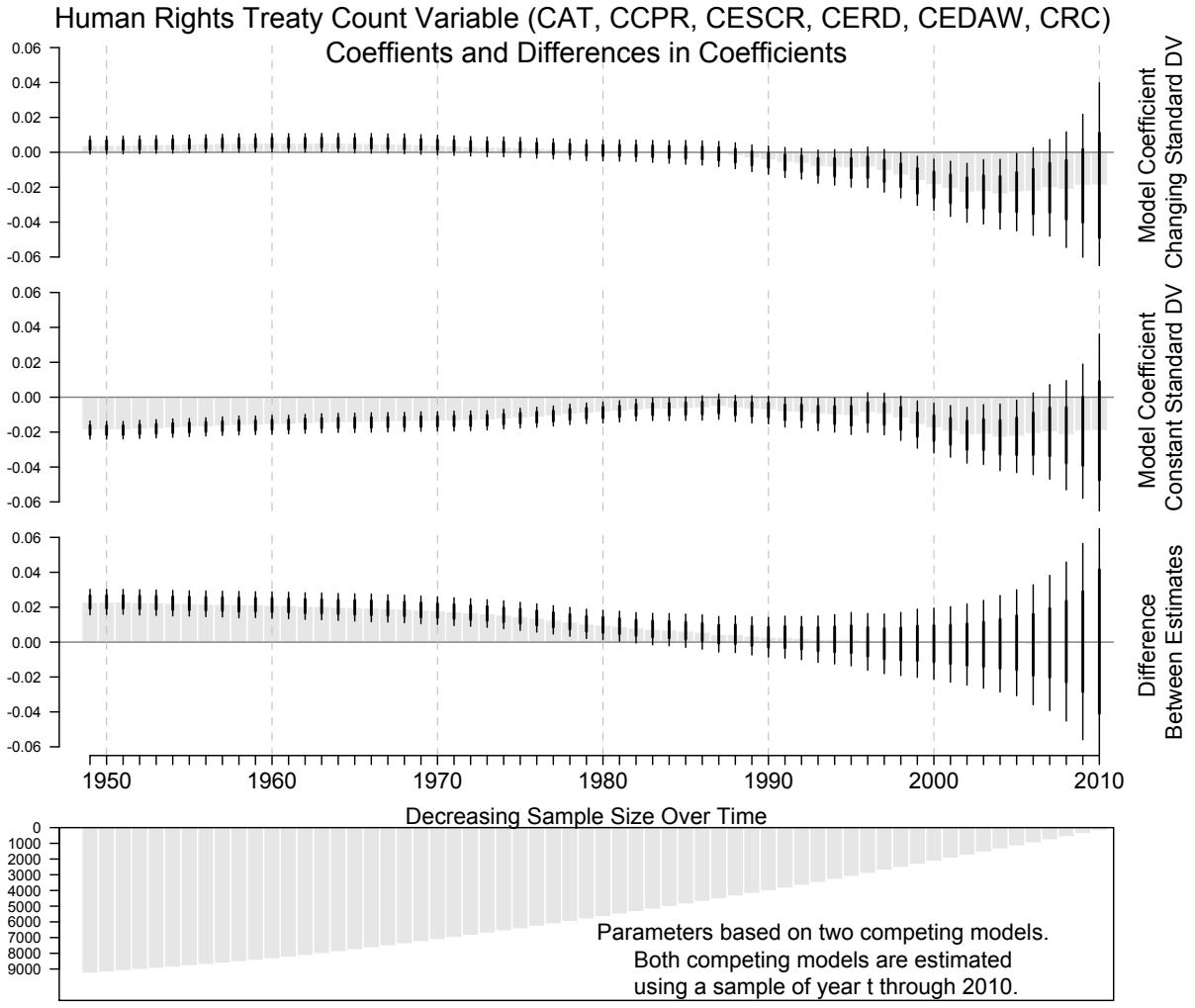

Figure 18: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

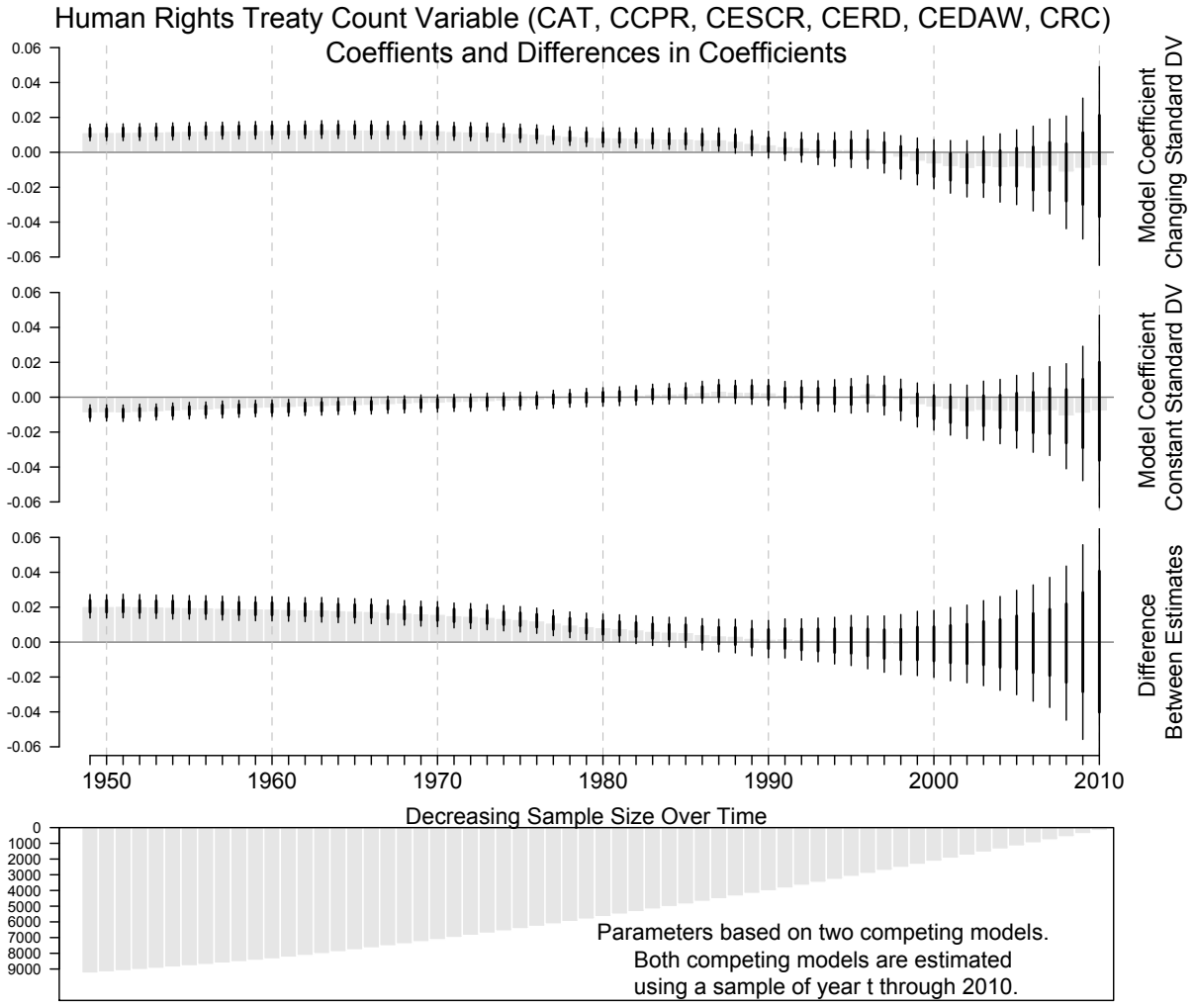

Figure 19: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

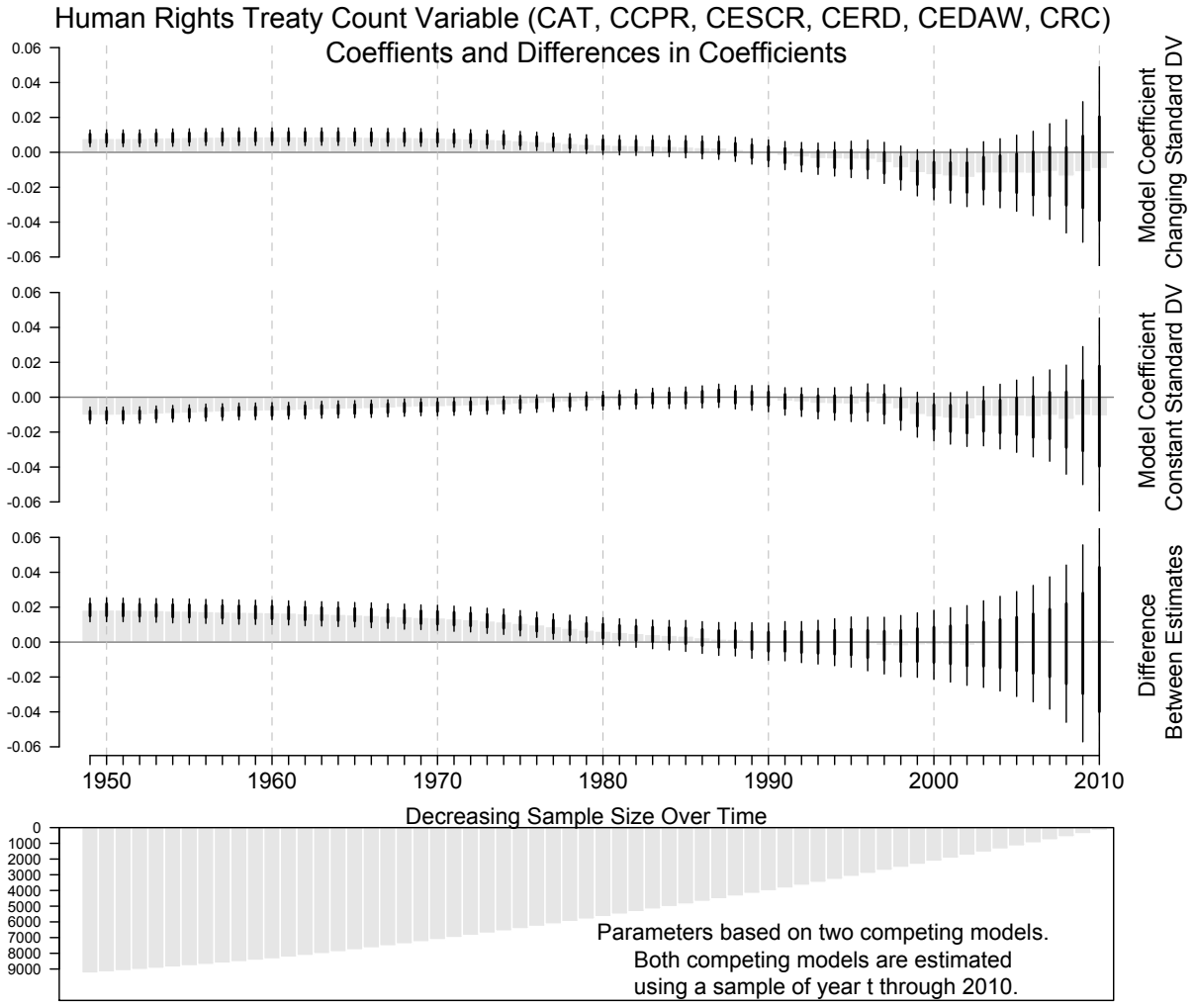

Figure 20: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

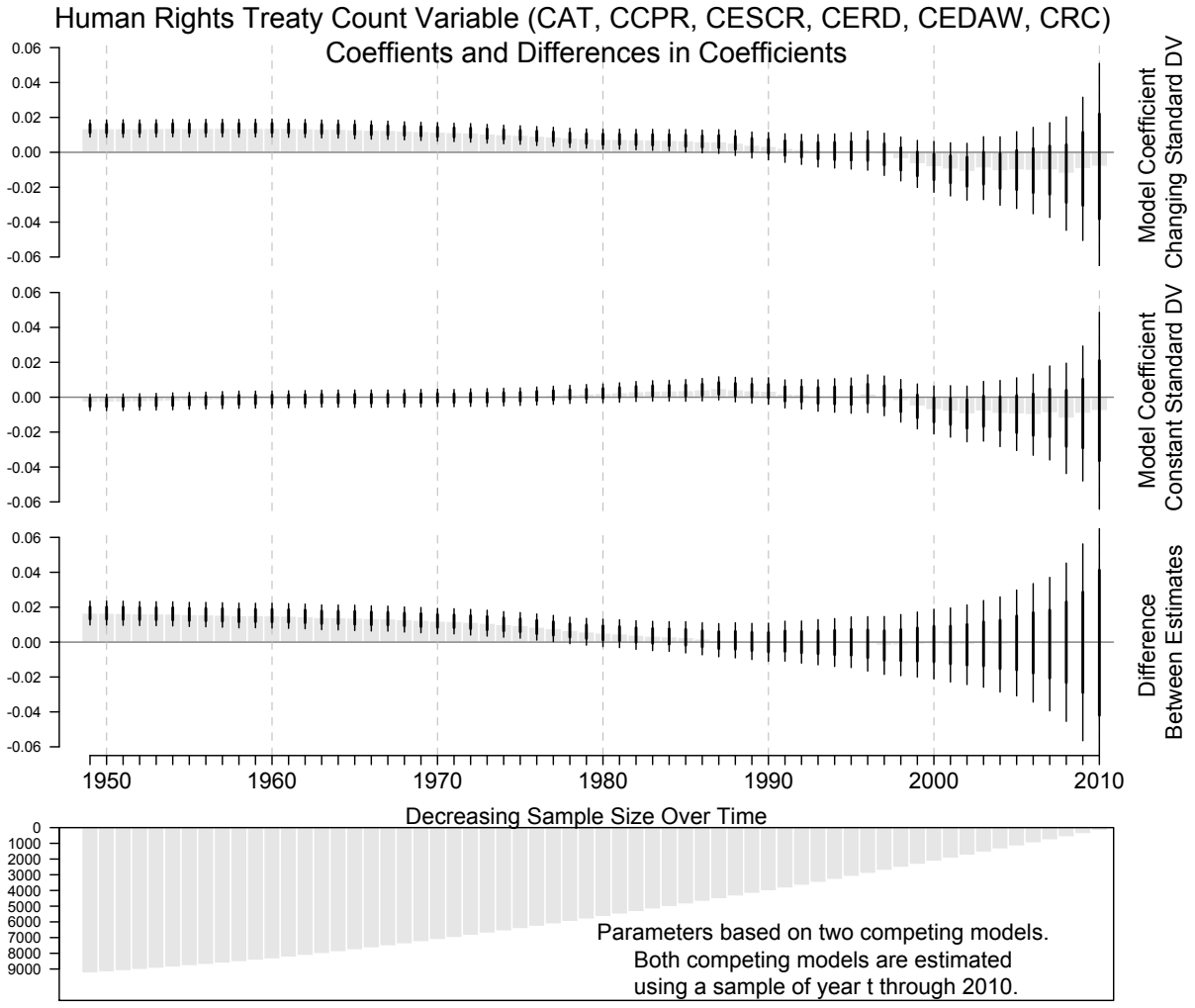

Figure 21: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

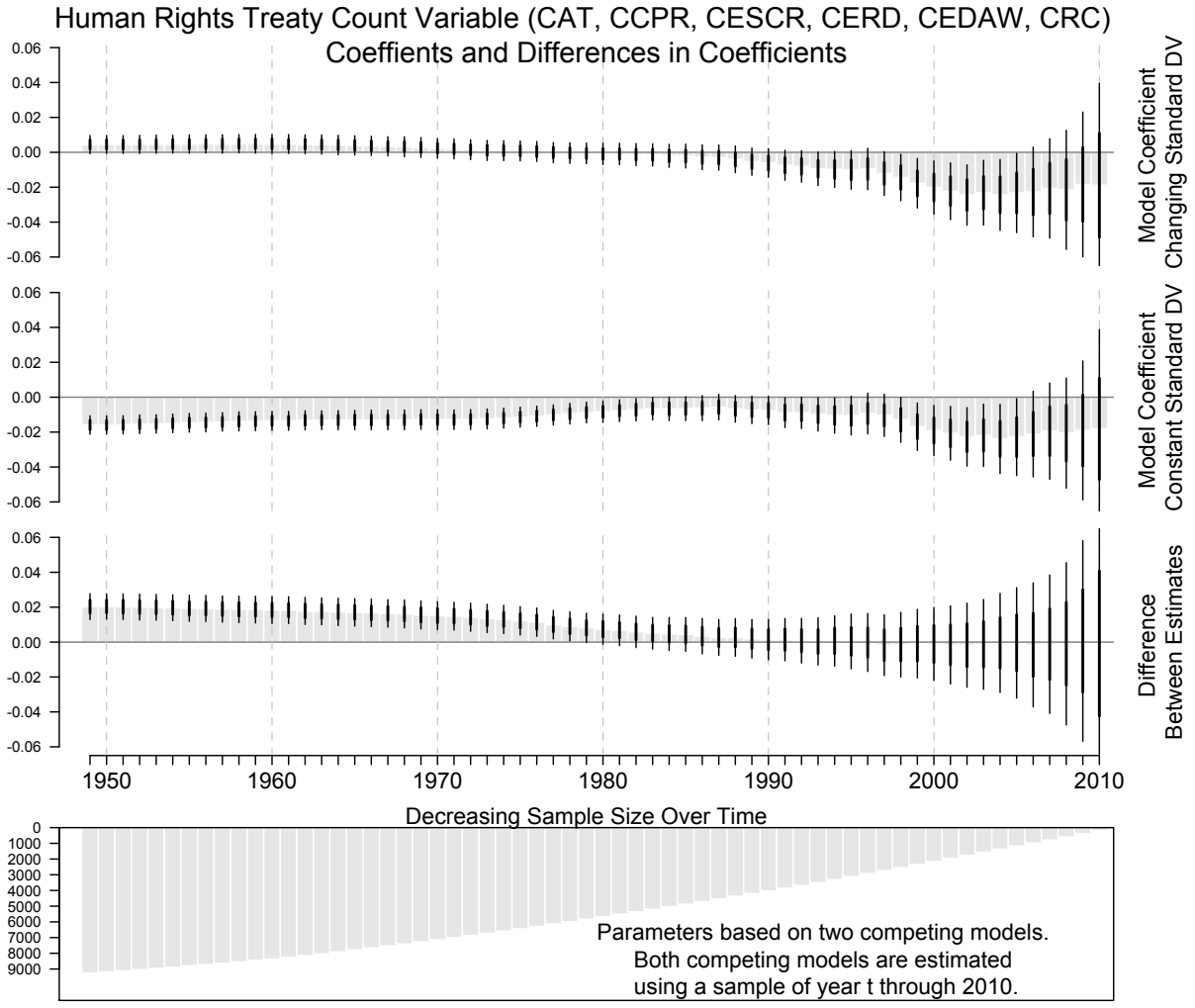

Figure 22: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.4 Count (ALL) Treaty Variable Model Graphs

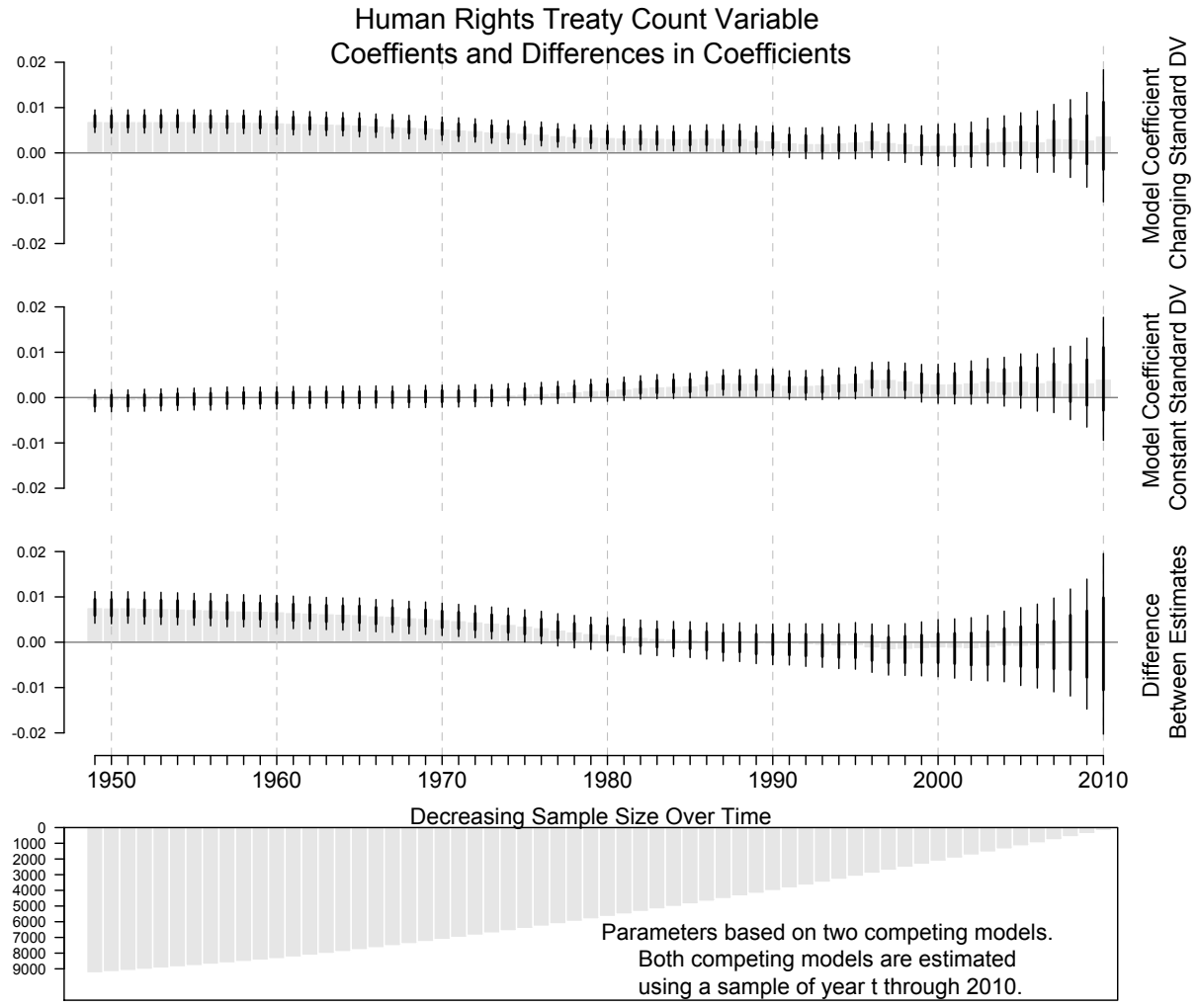

Figure 23: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient.

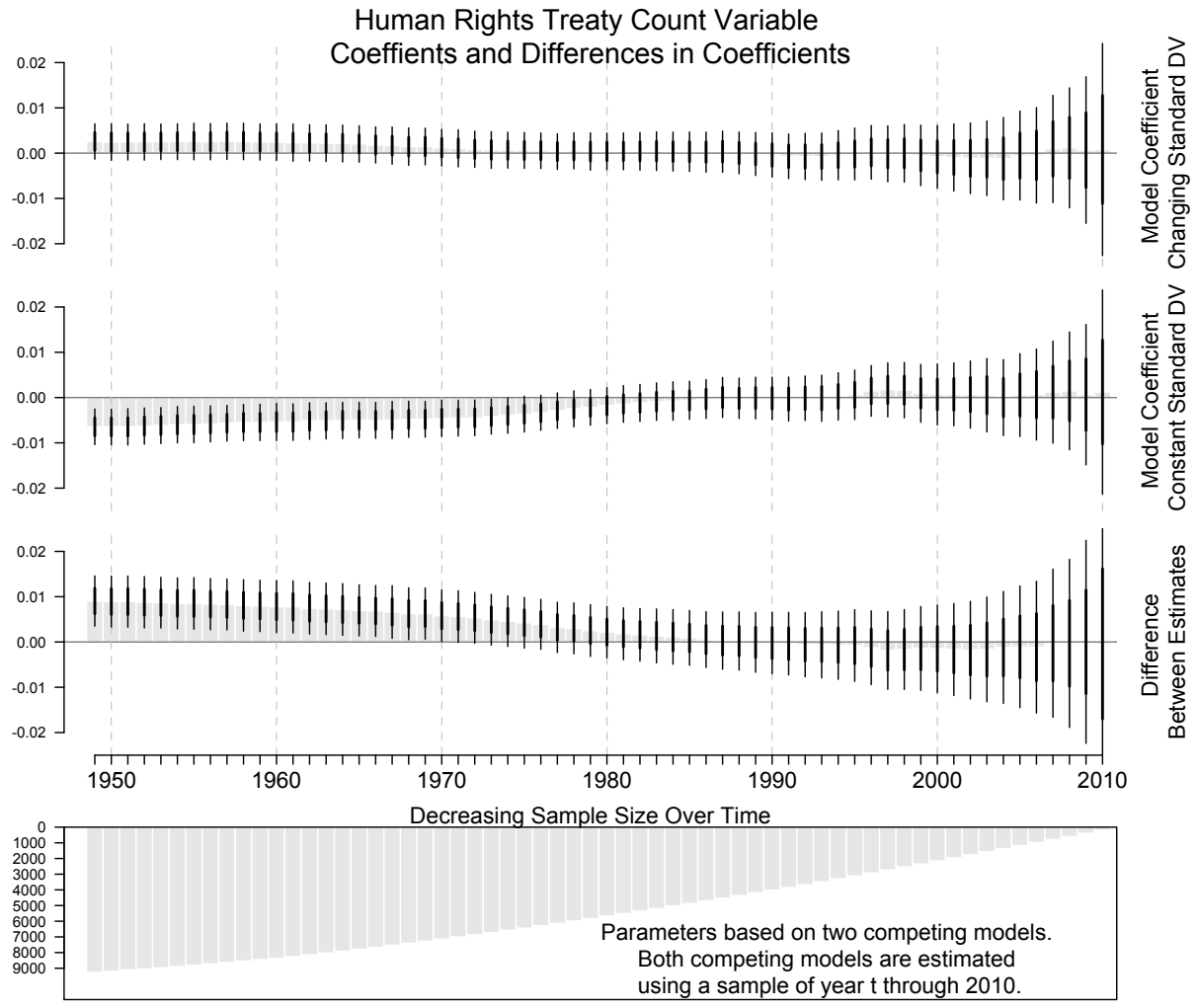

Figure 24: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

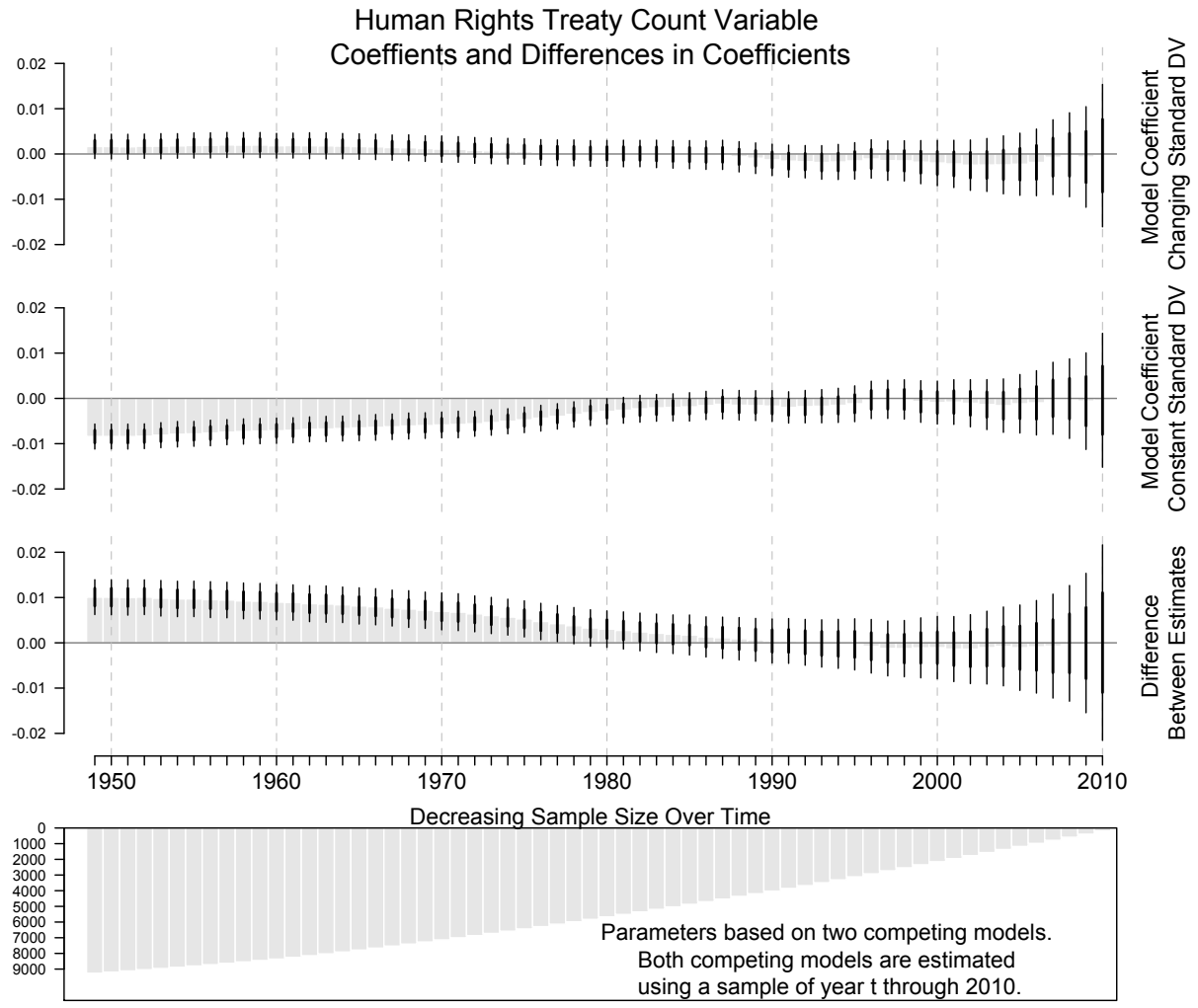

Figure 25: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

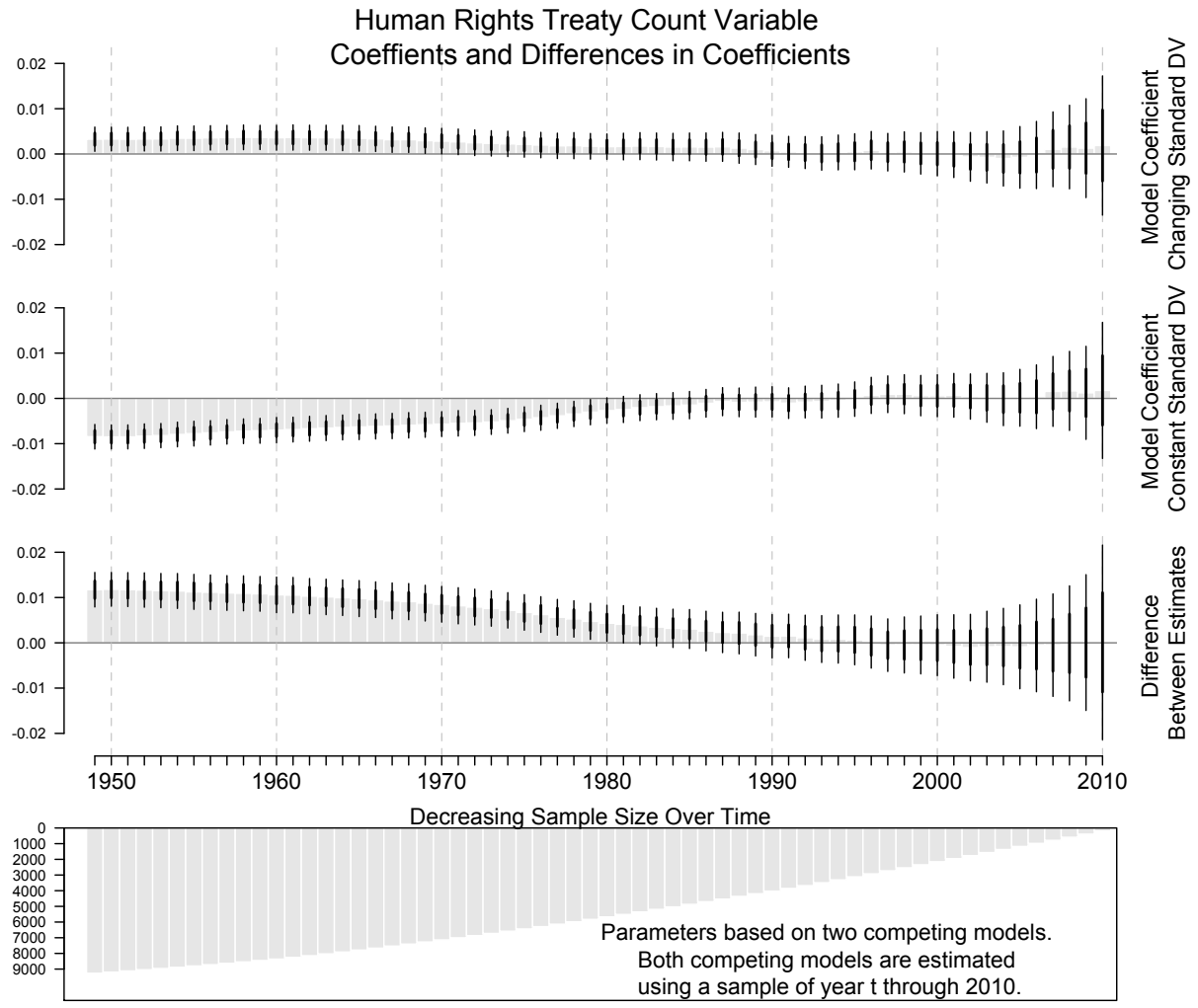

Figure 26: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

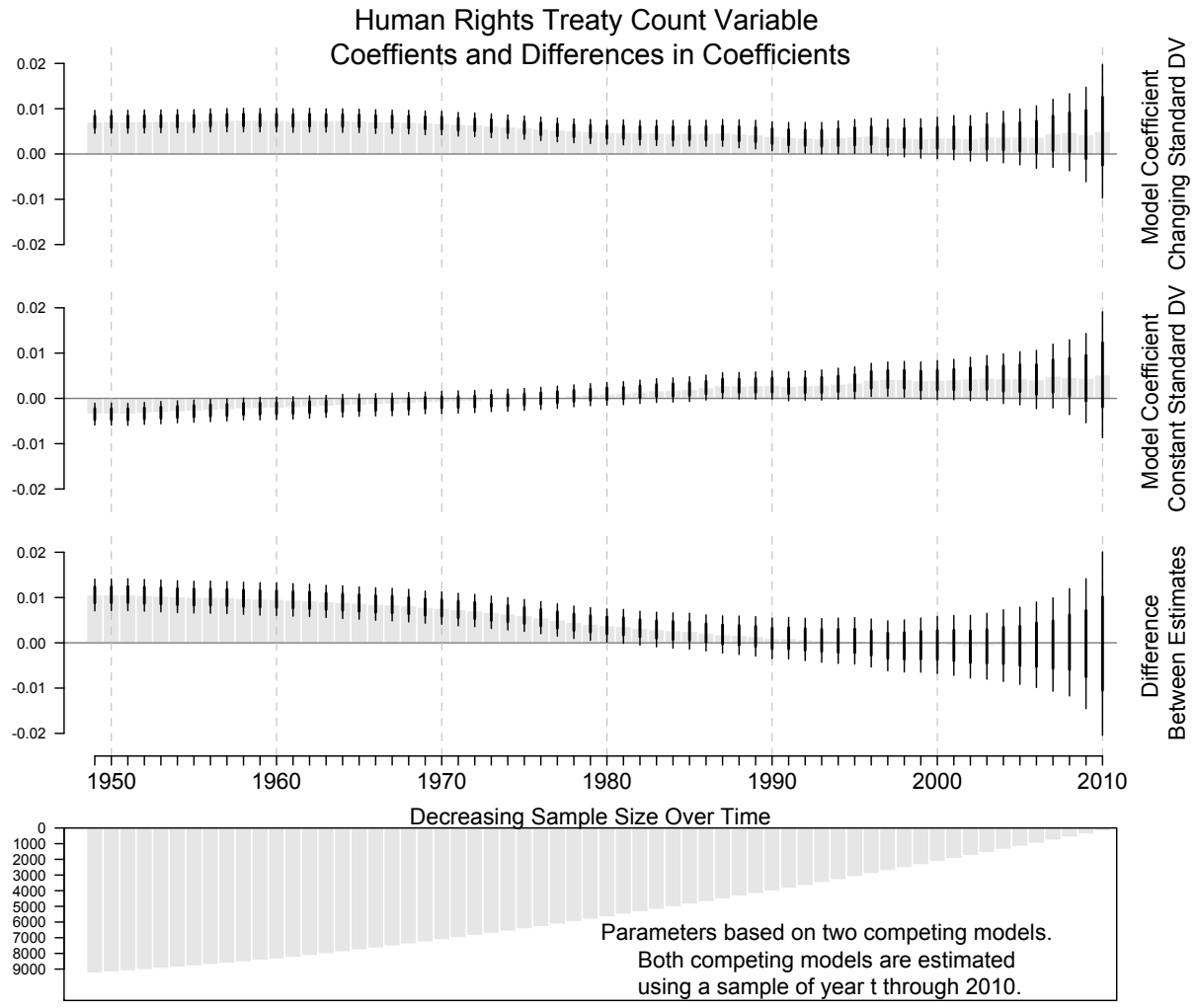

Figure 27: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

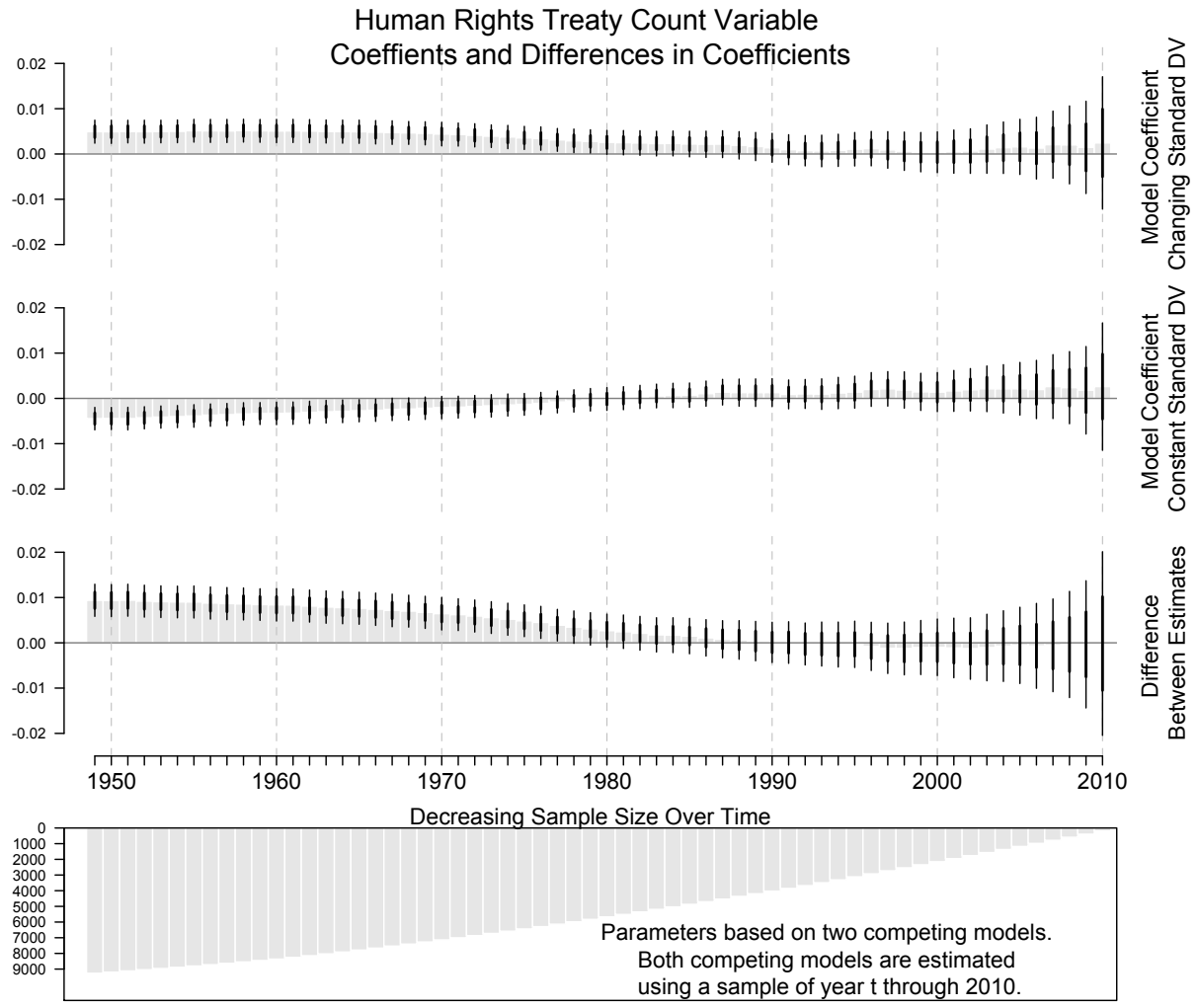

Figure 28: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

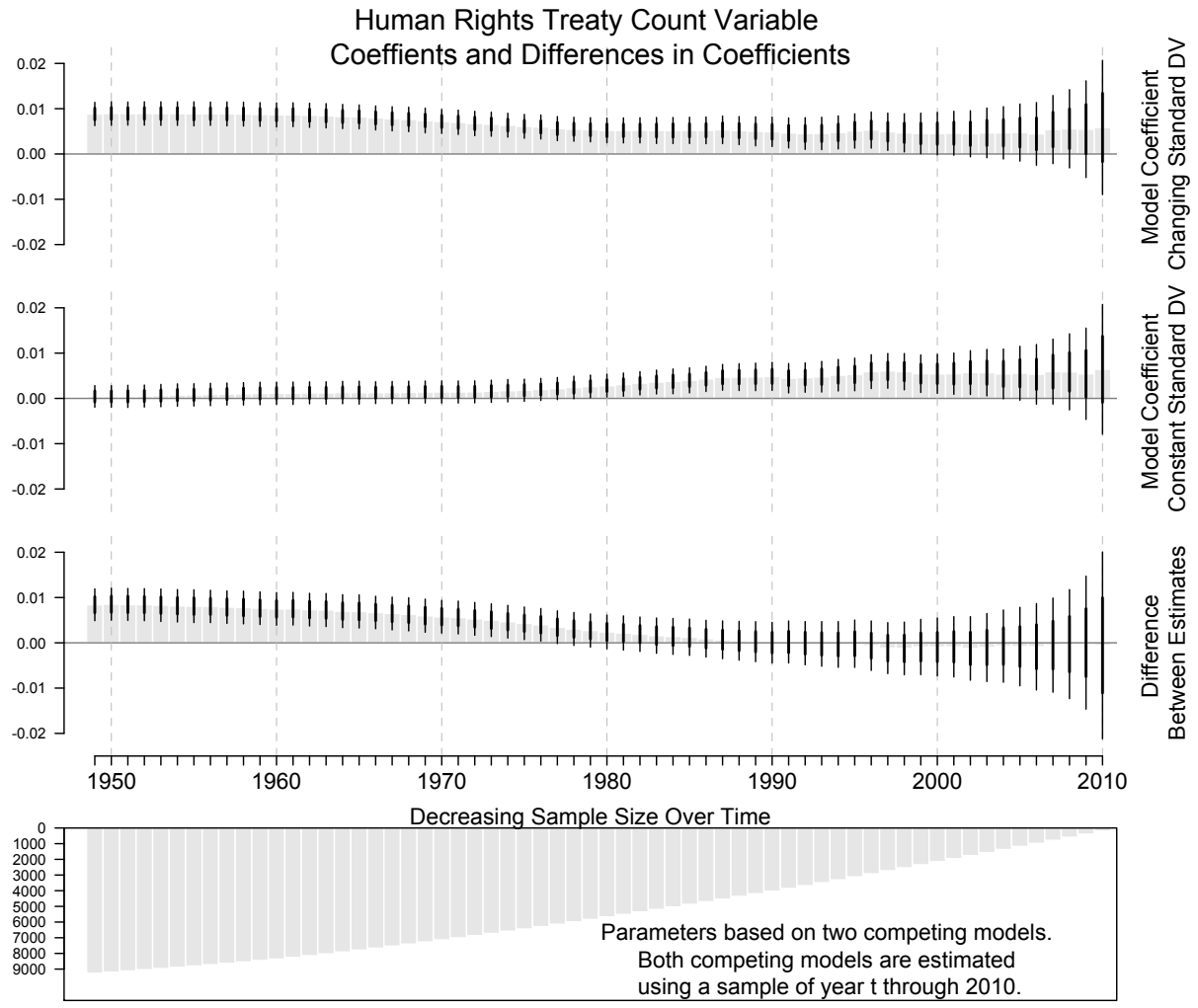

Figure 29: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

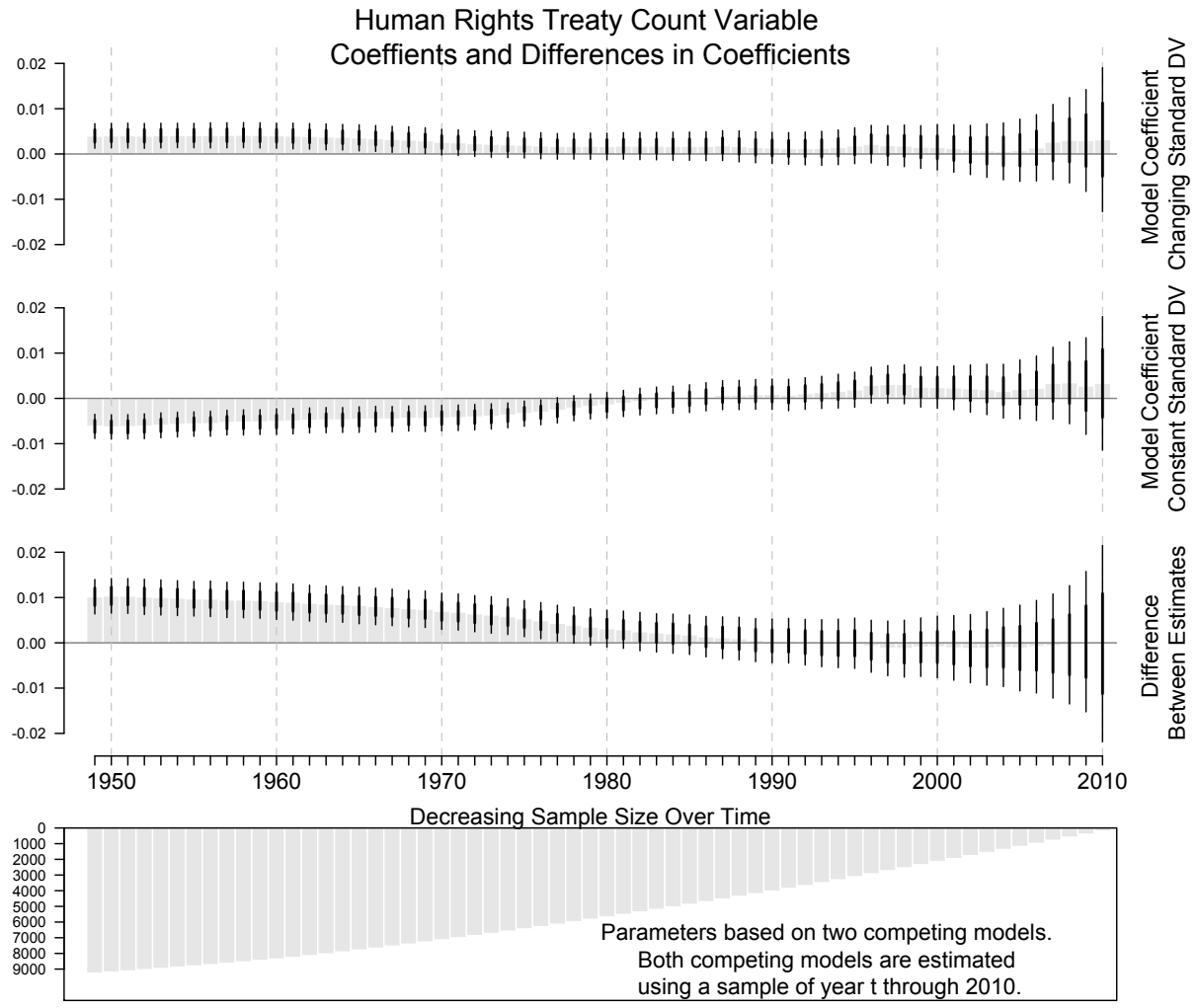

Figure 30: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.5 Proportion Treaty Variable Model Graphs

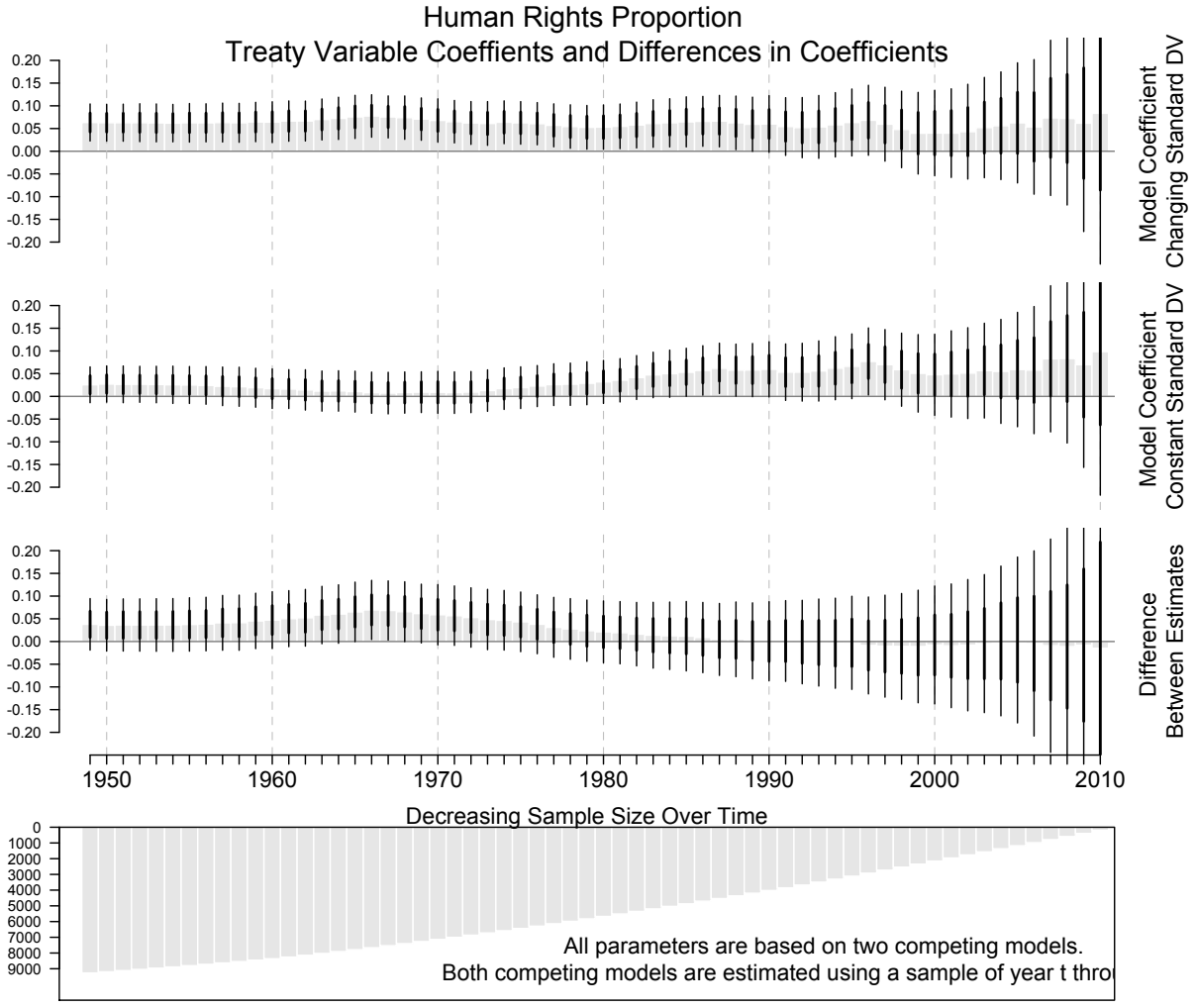

Figure 31: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

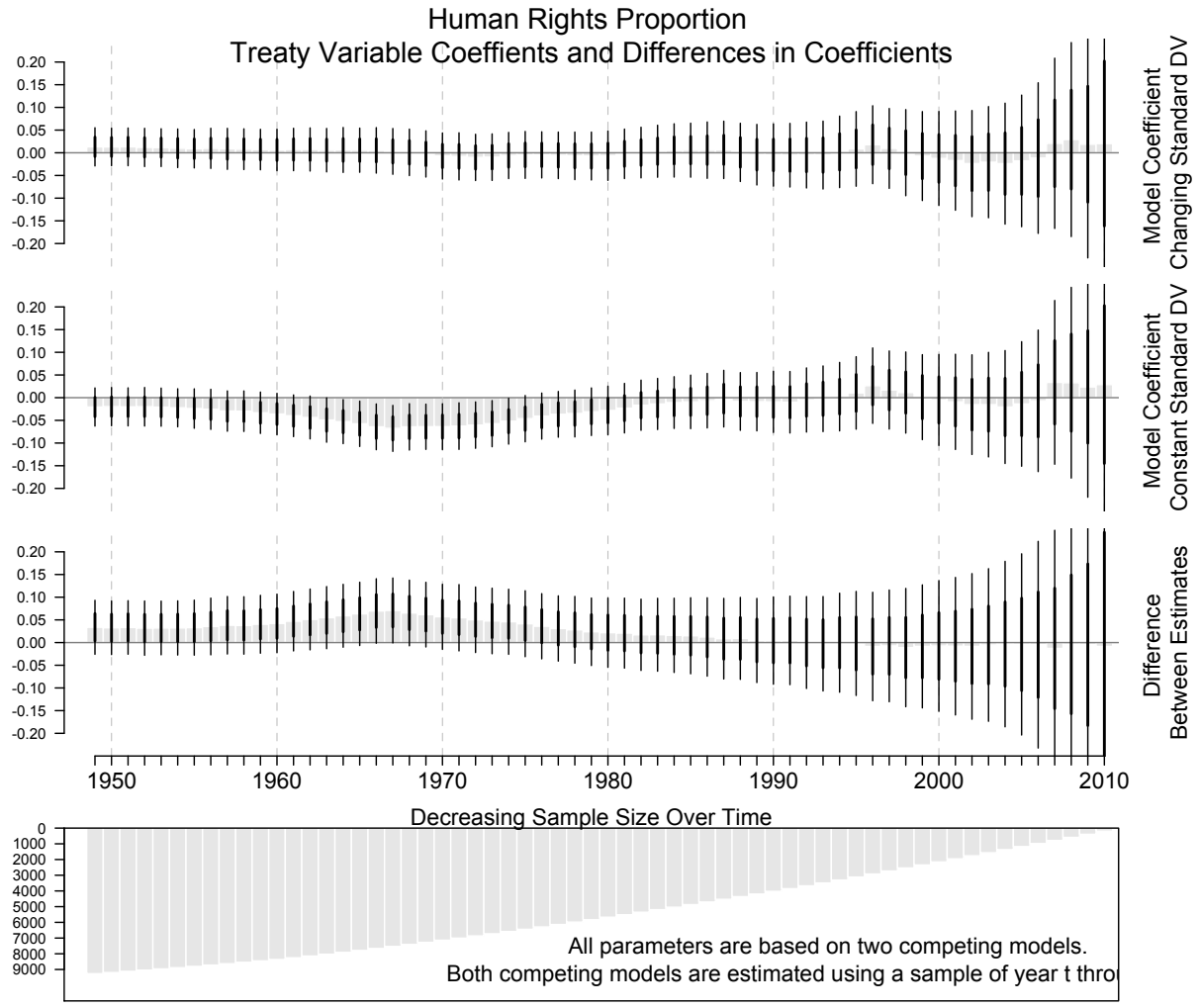

Figure 32: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

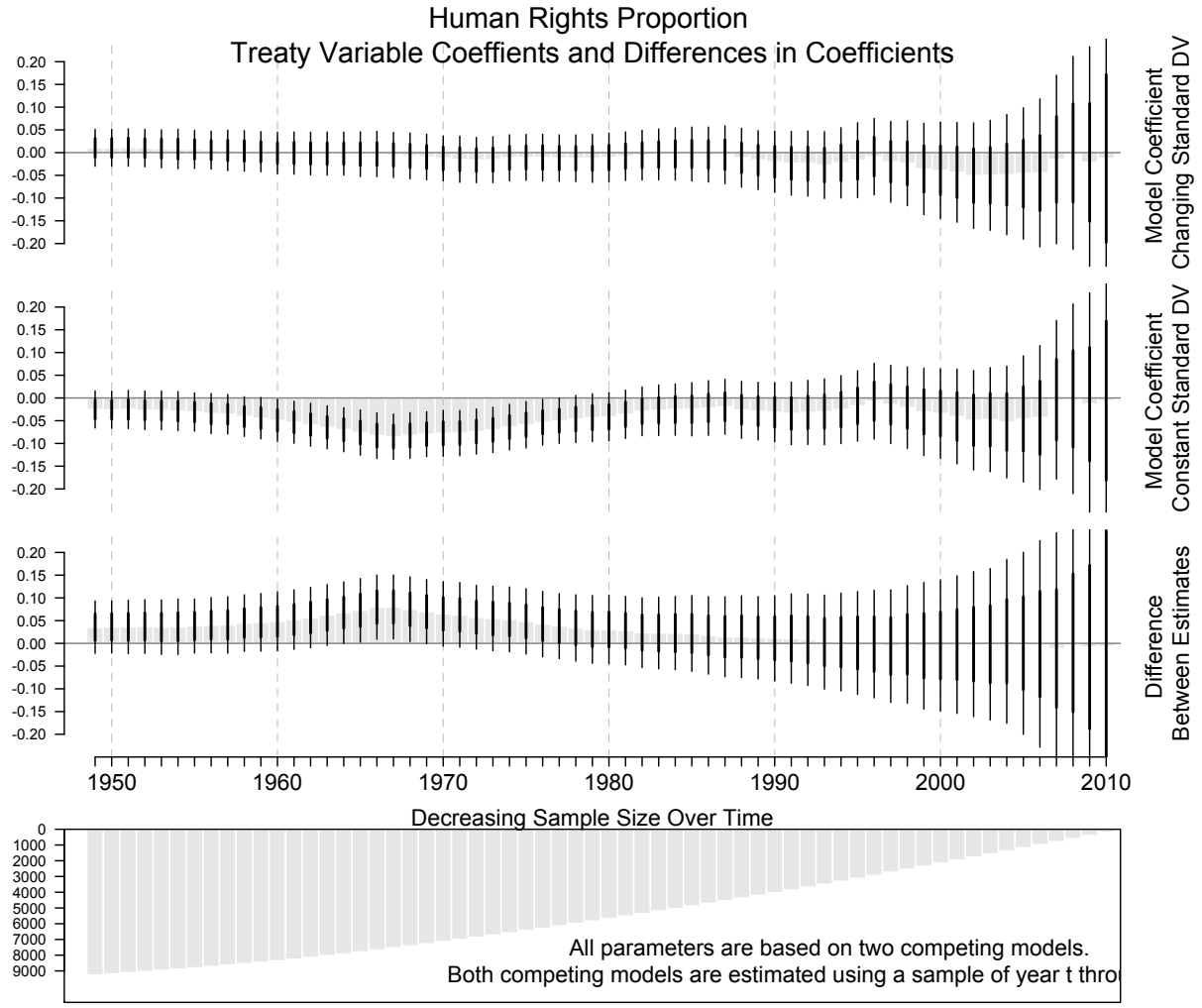

Figure 33: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

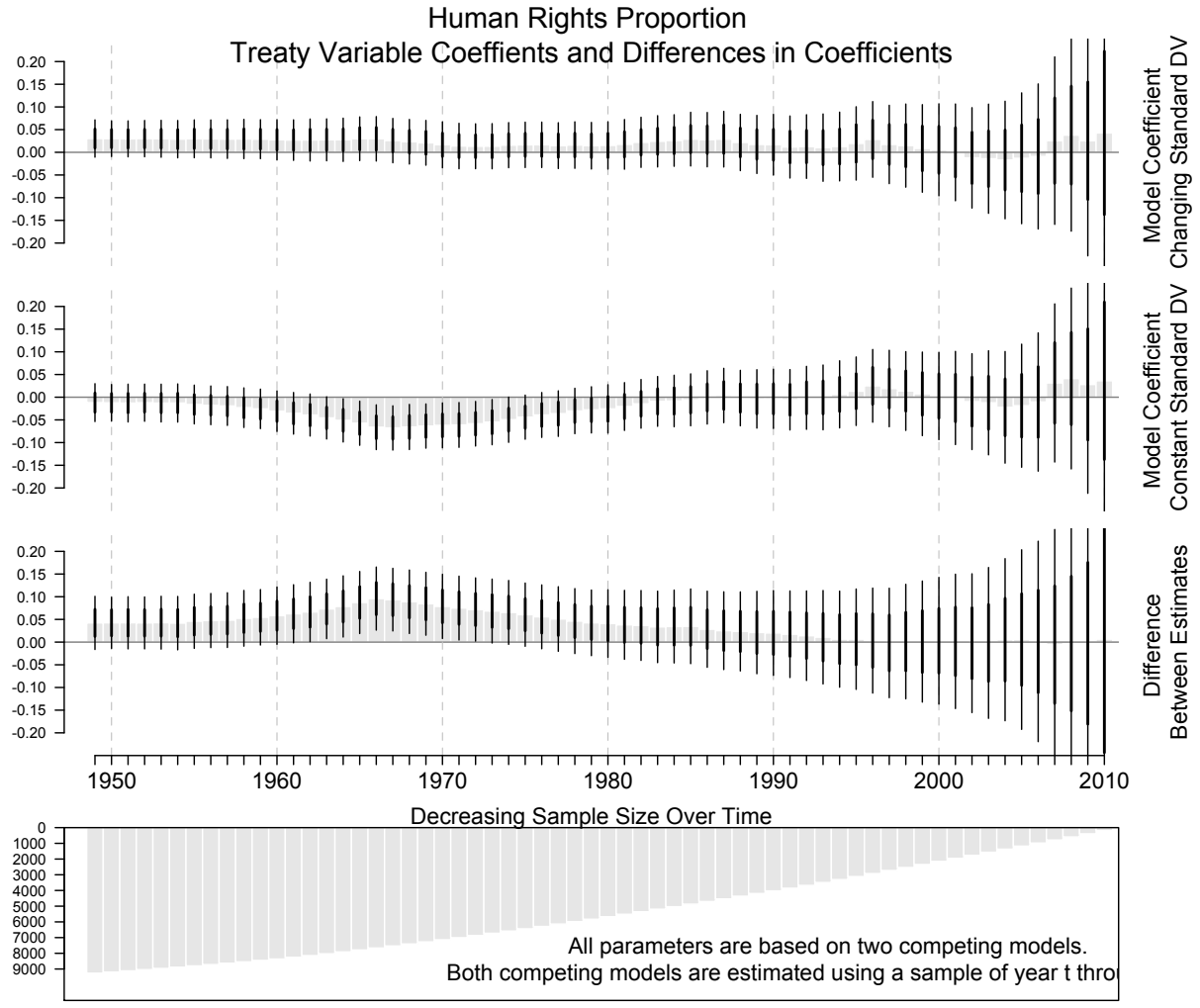

Figure 34: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

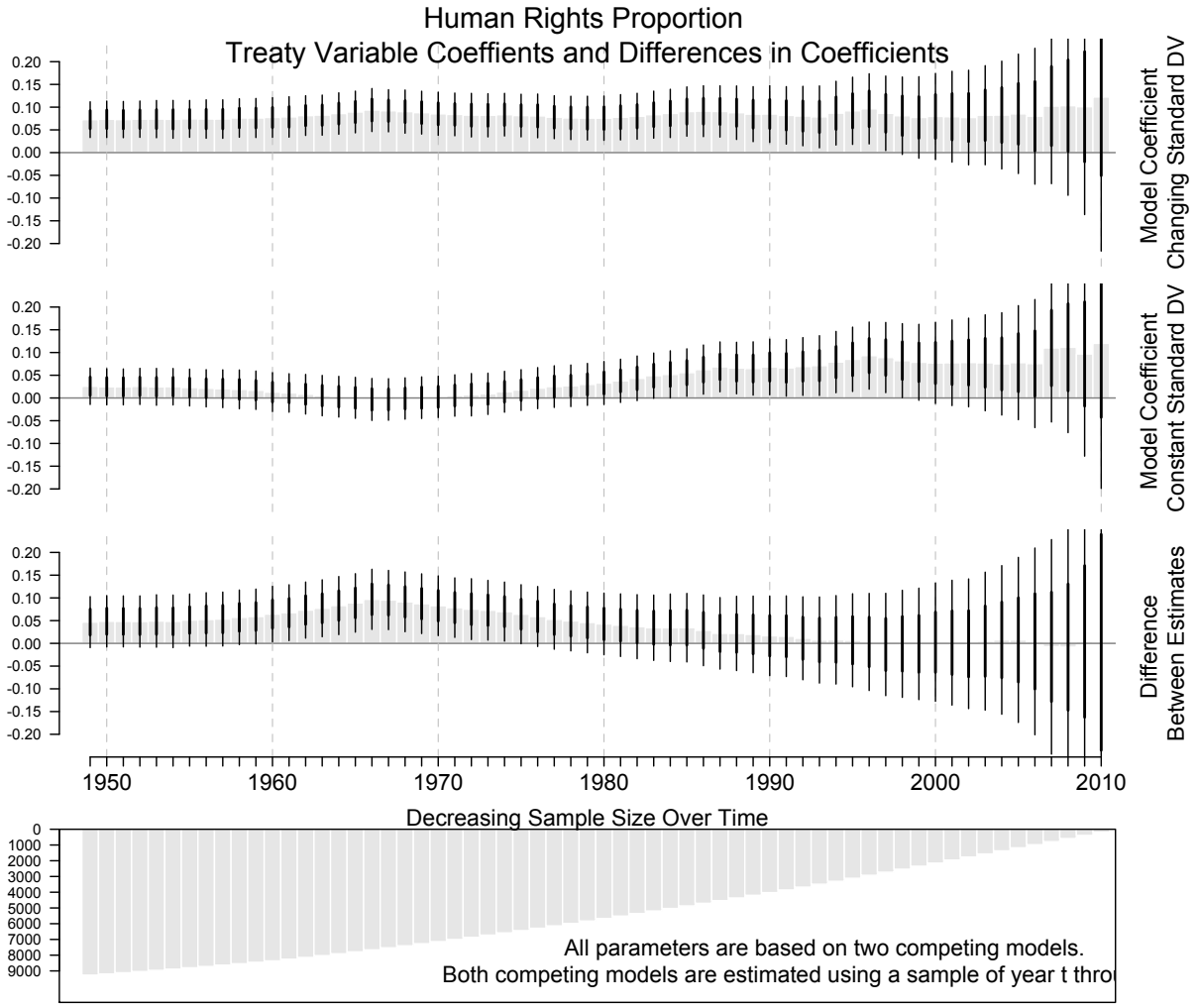

Figure 35: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

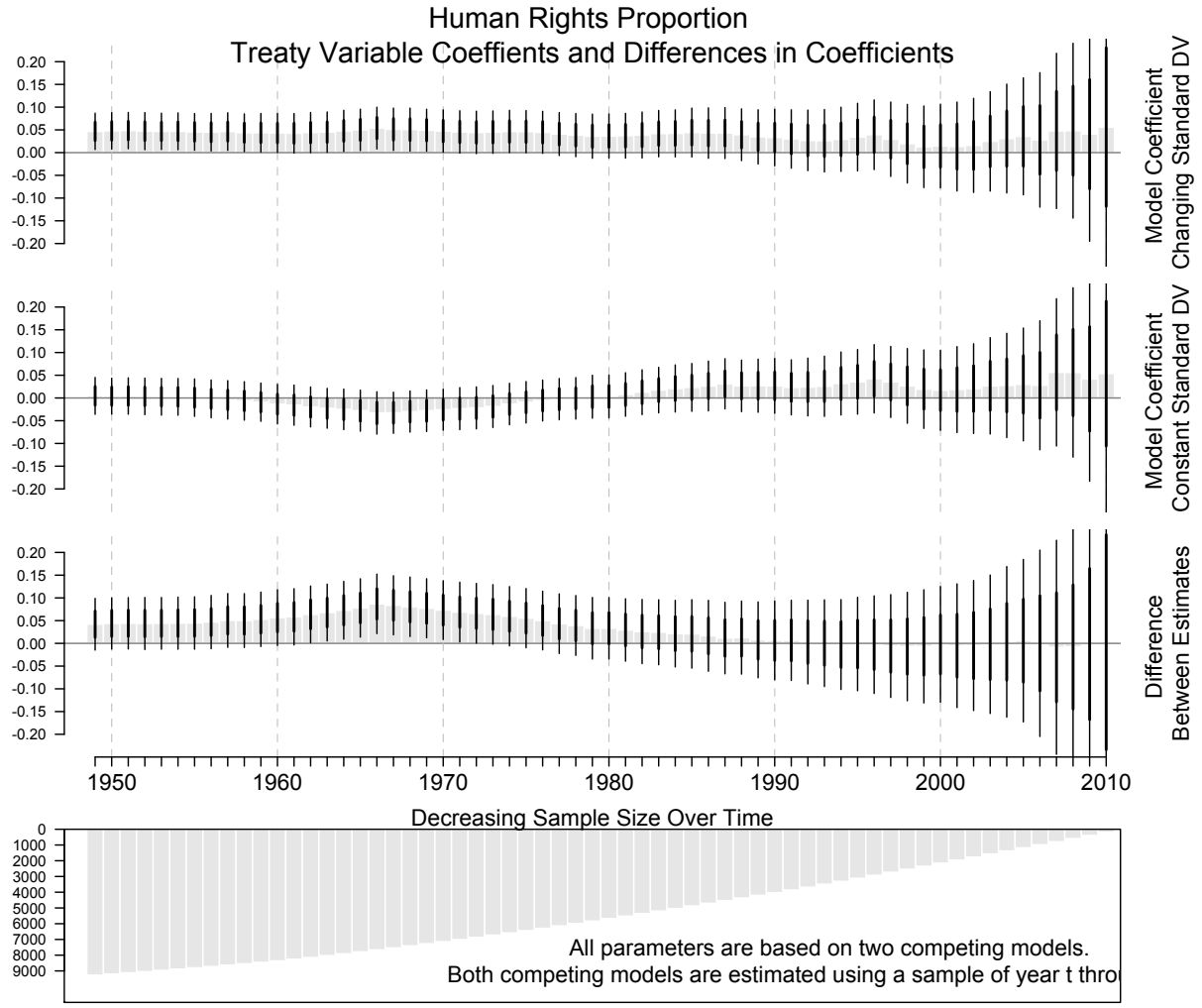

Figure 36: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

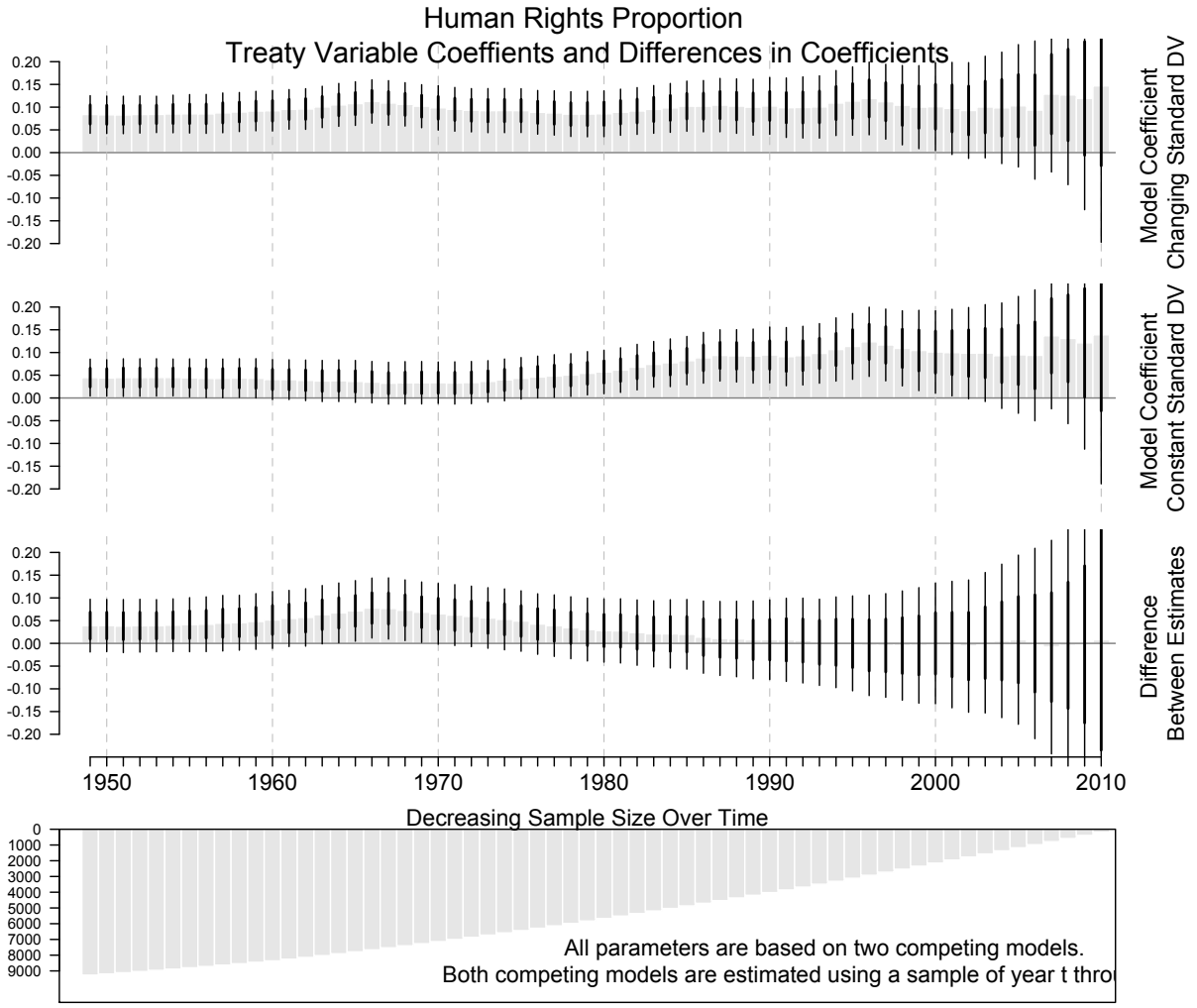

Figure 37: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

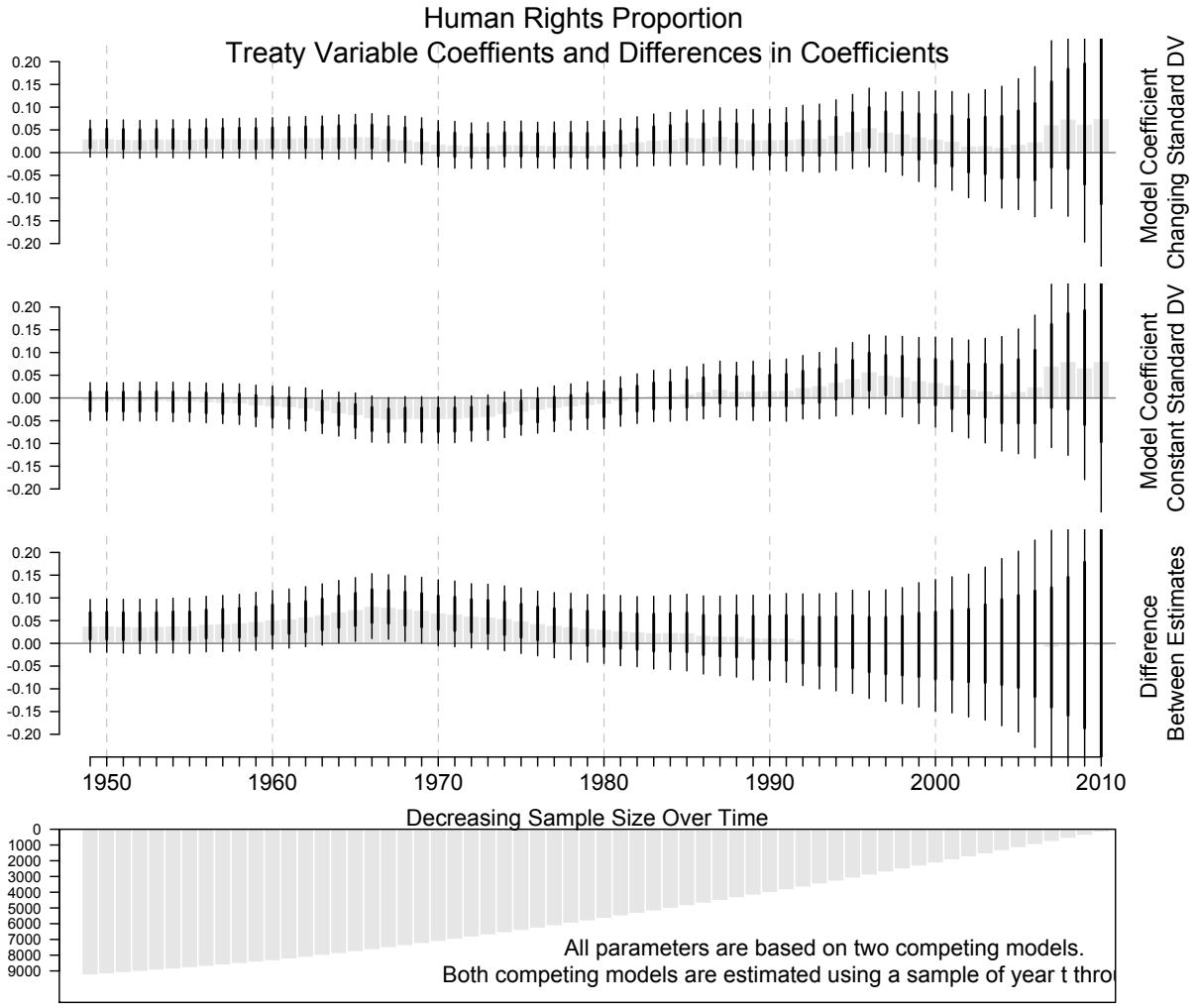

Figure 38: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.6 CAT Treaty Variable Model Graphs

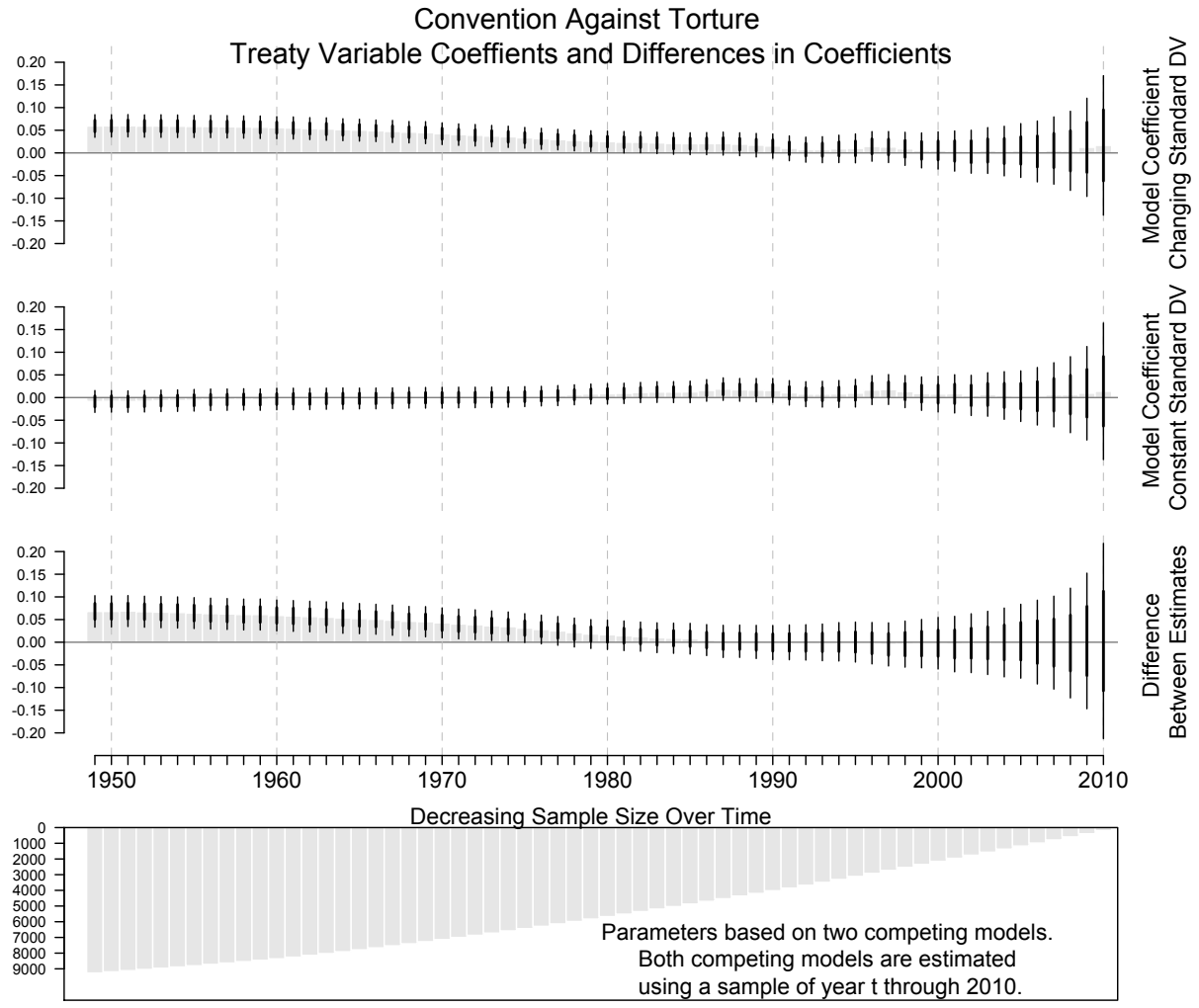

Figure 39: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

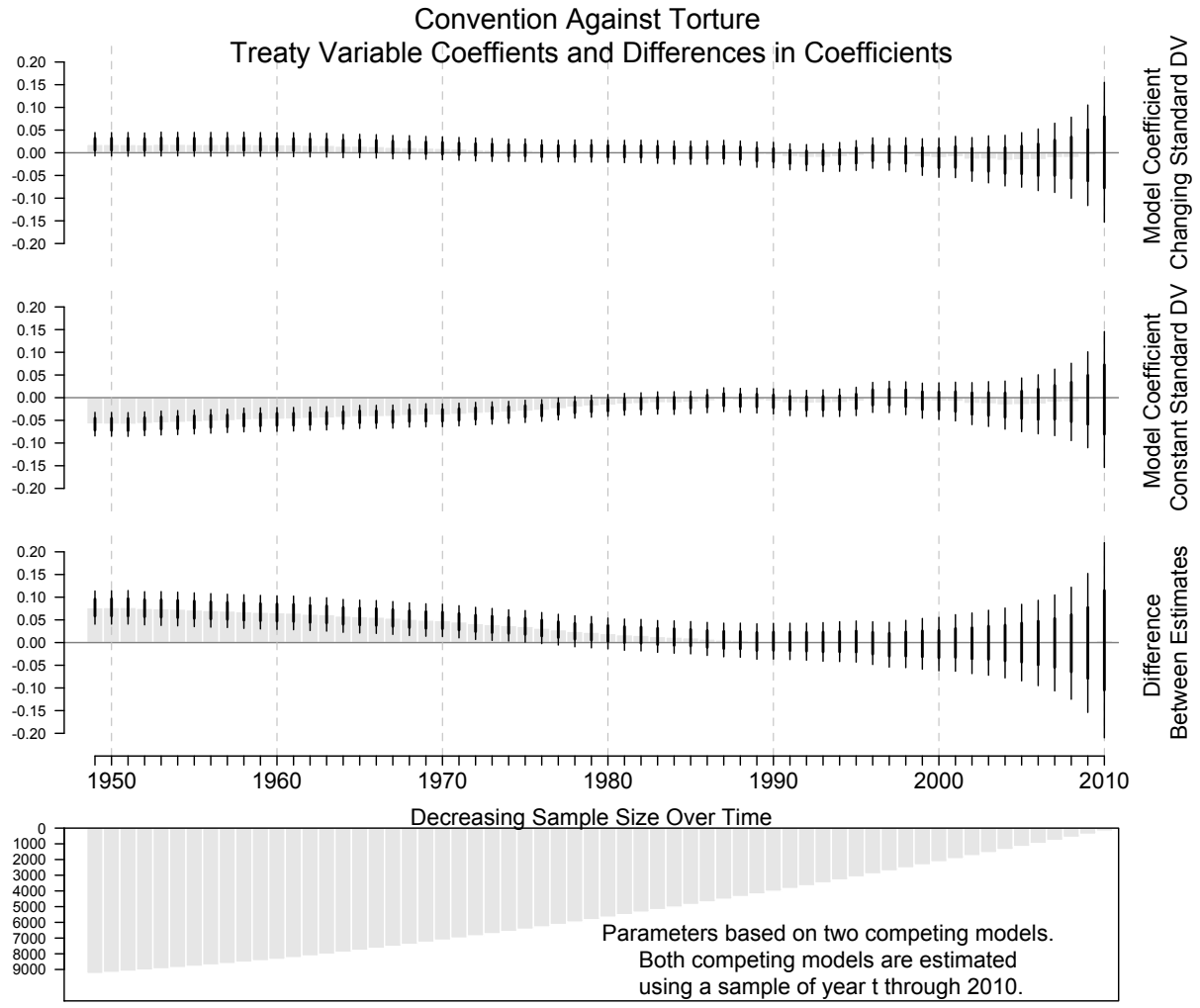

Figure 40: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

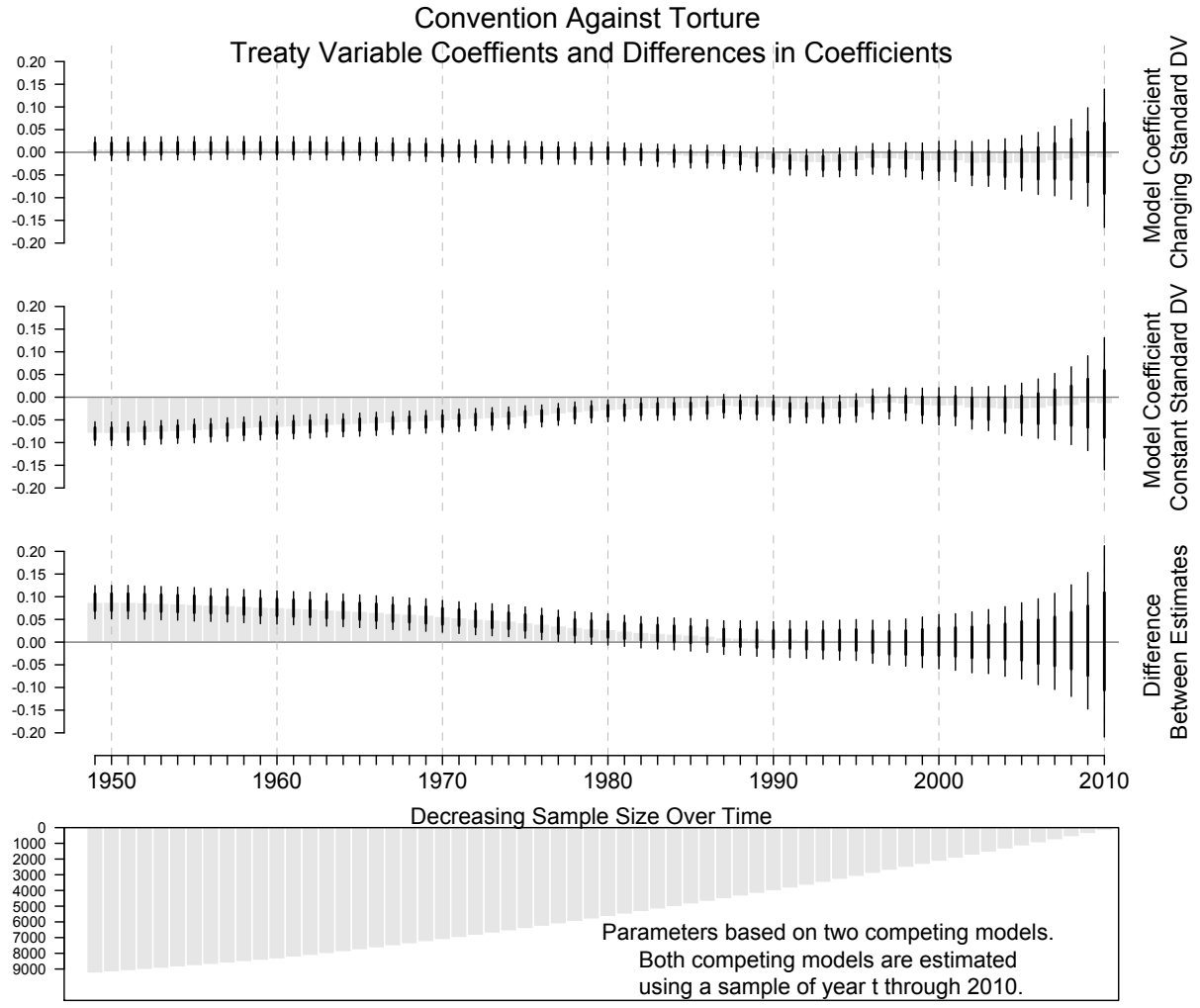

Figure 41: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

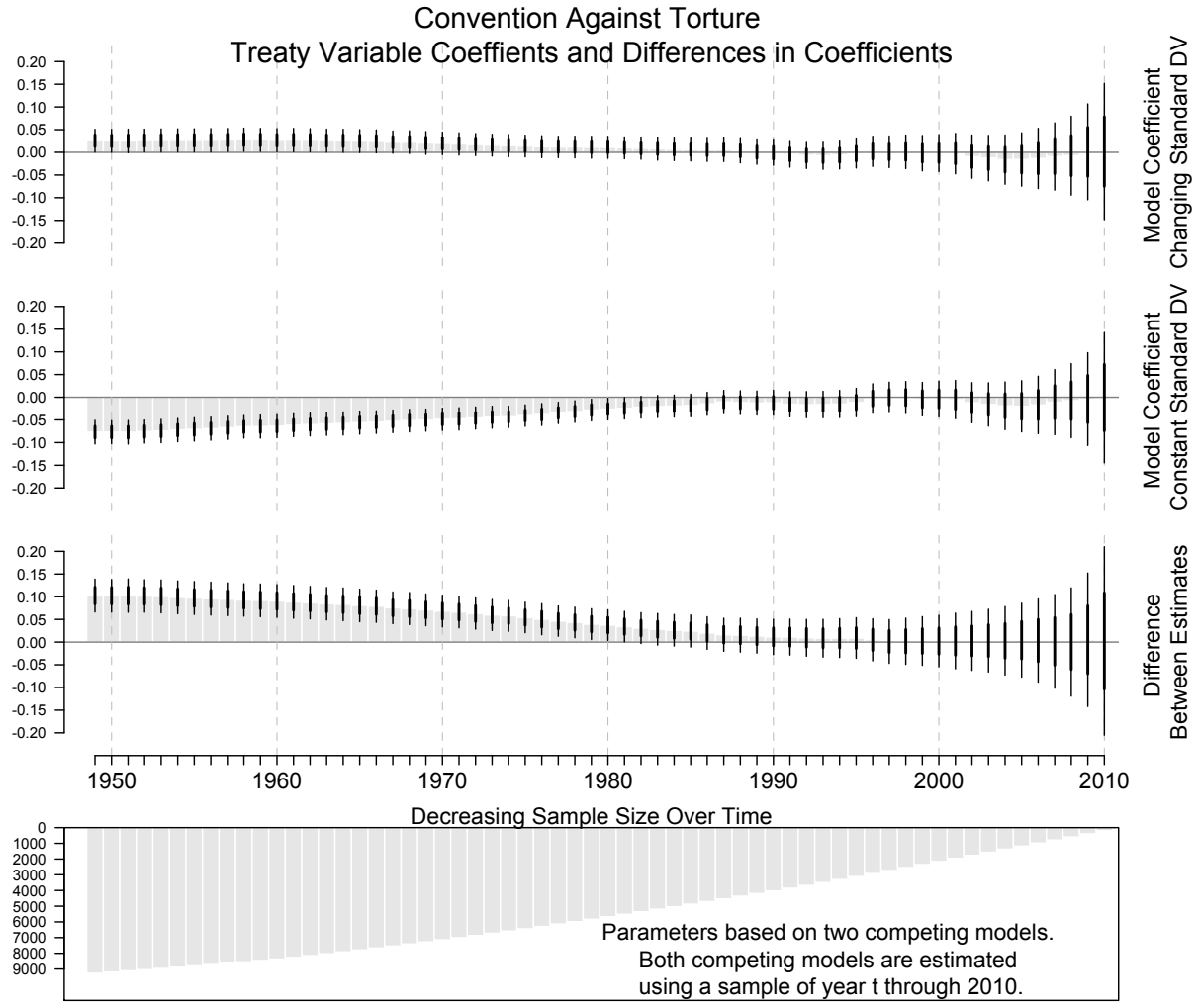

Figure 42: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

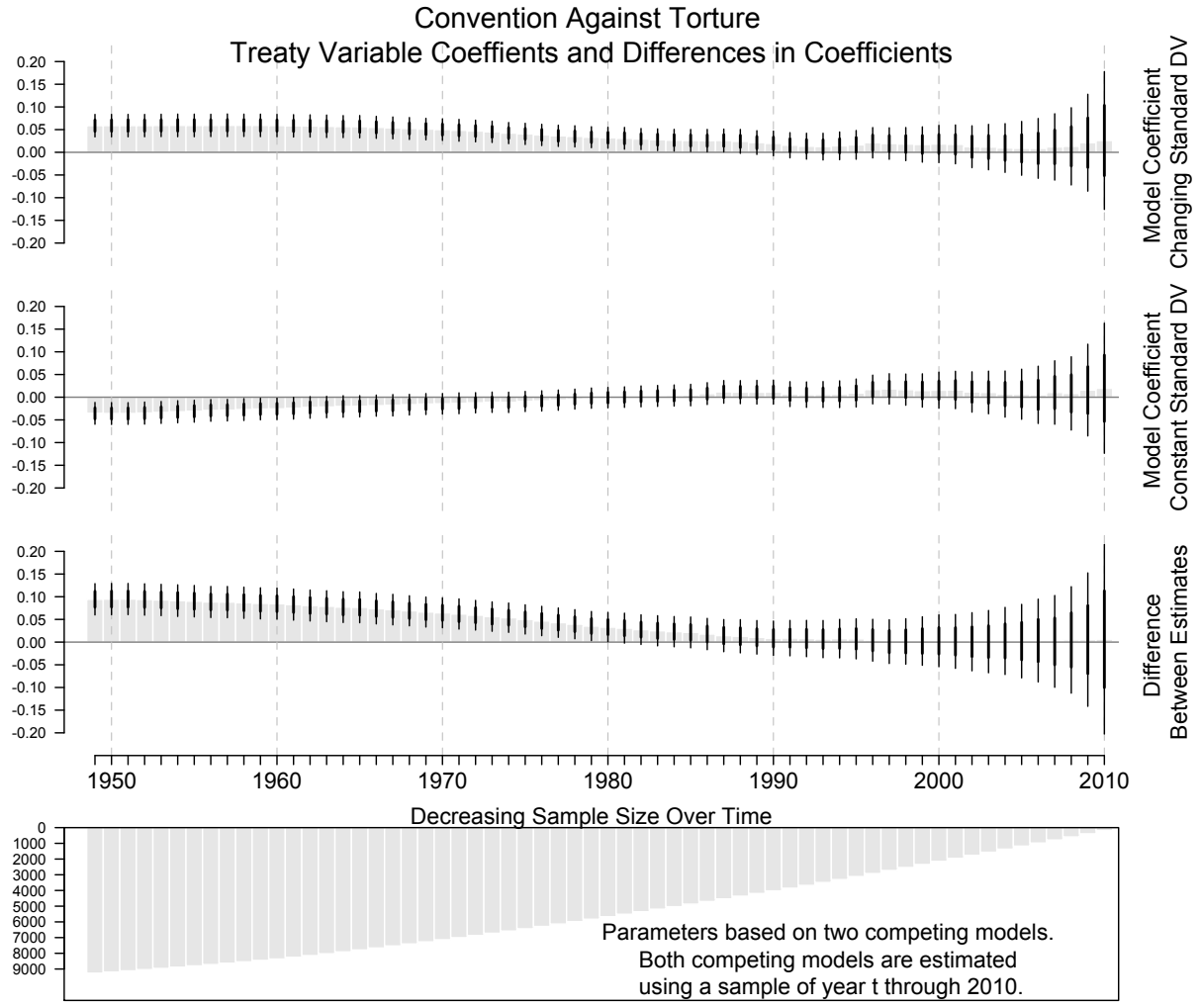

Figure 43: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

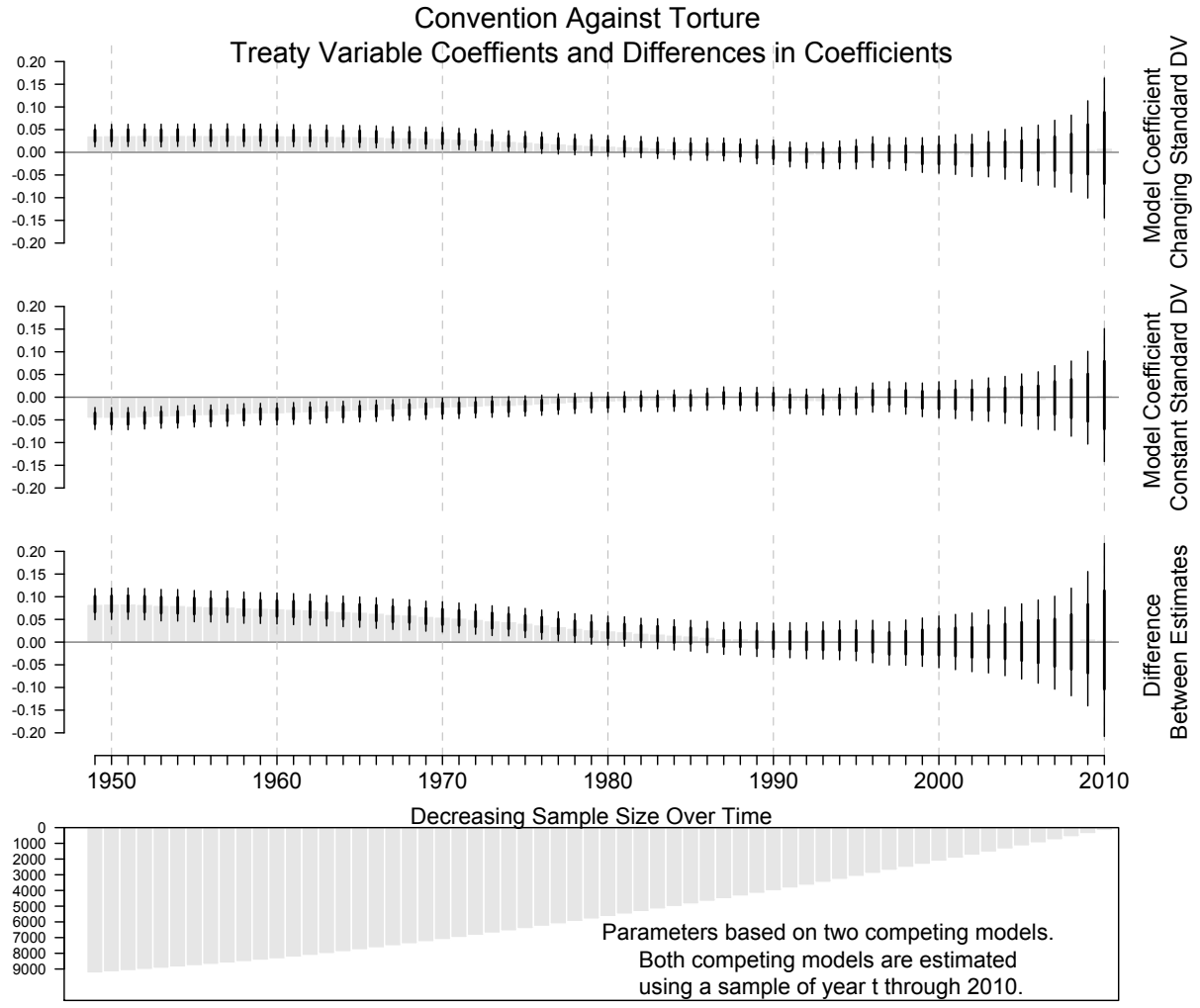

Figure 44: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

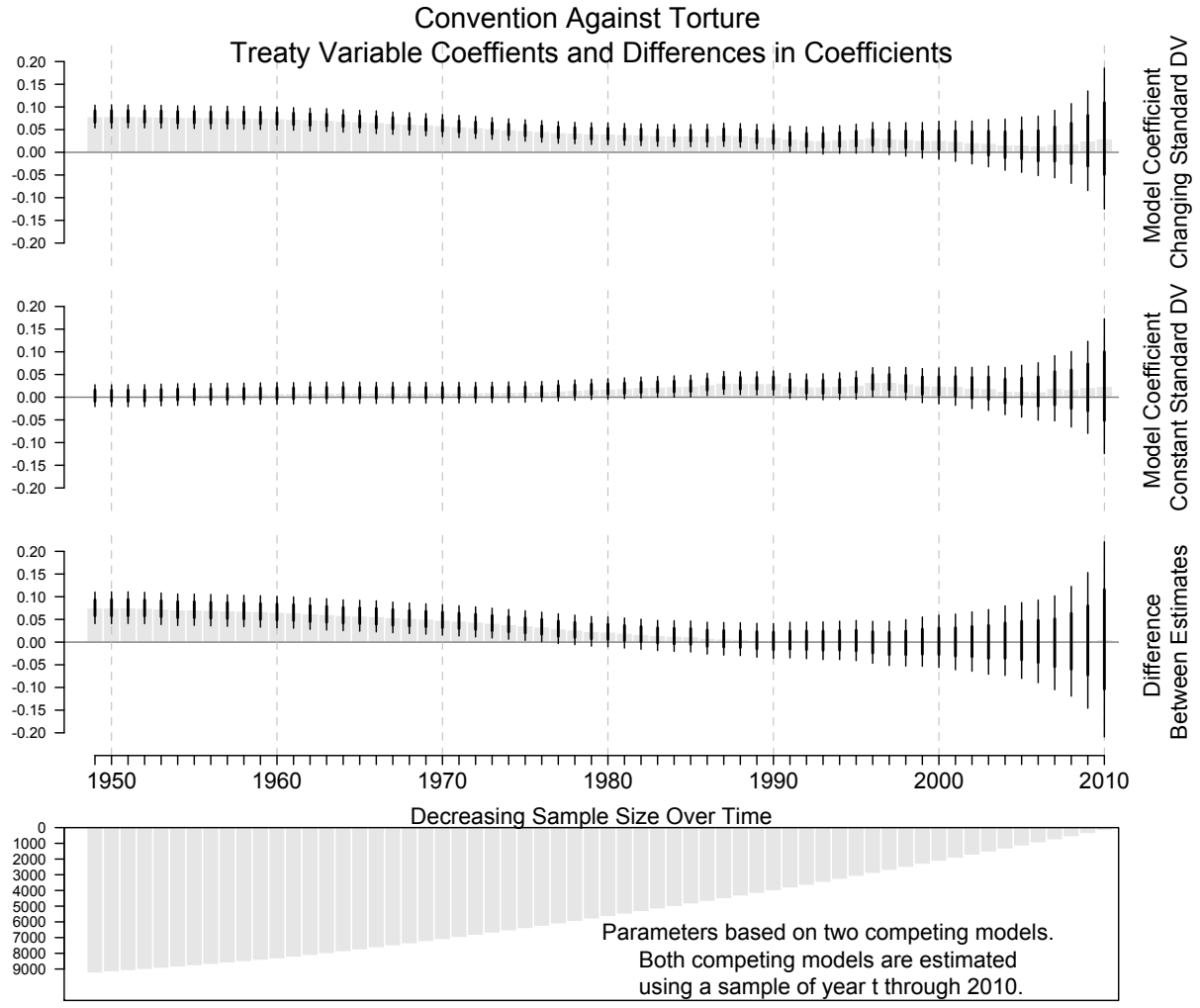

Figure 45: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

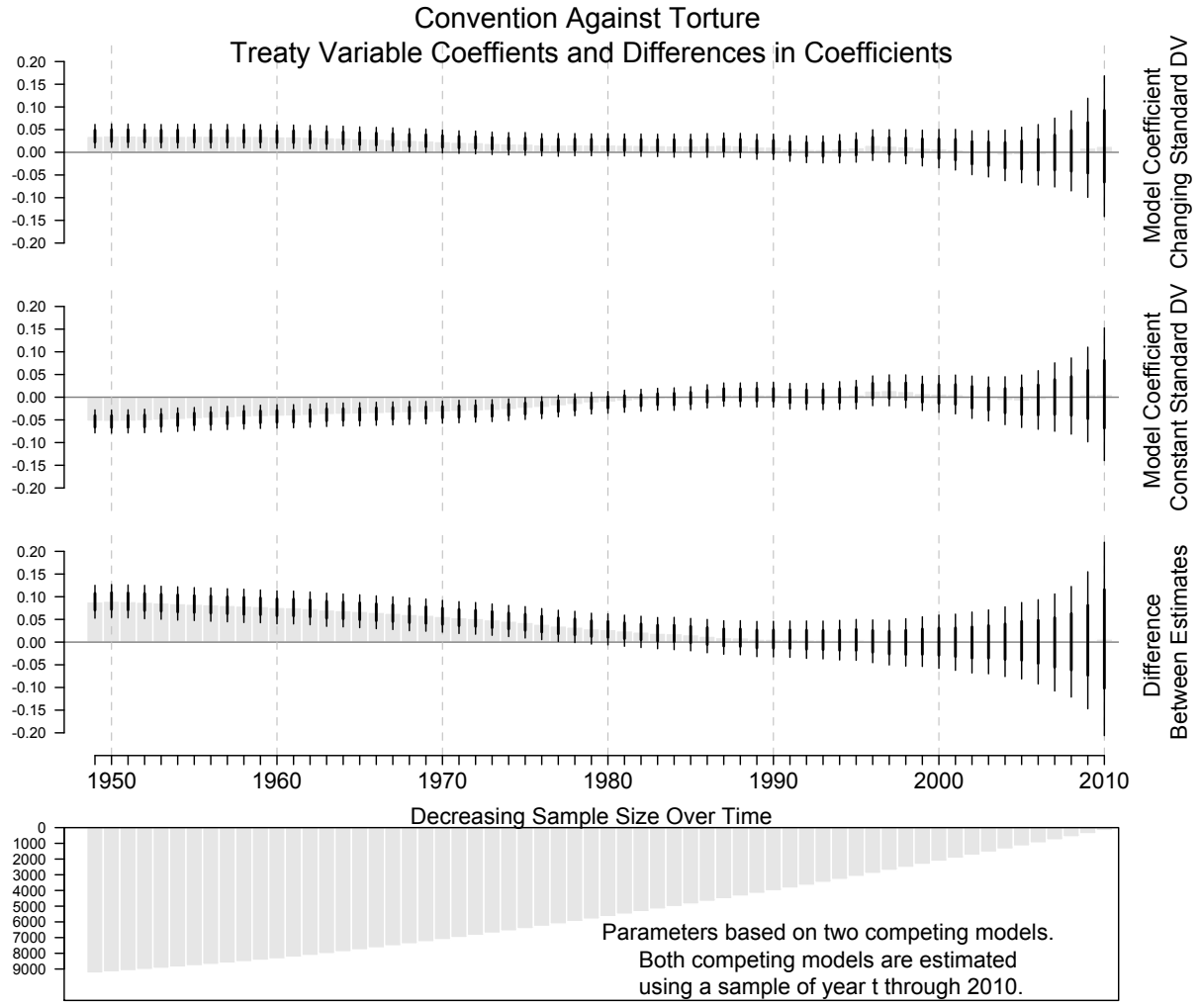

Figure 46: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.7 CCPR Treaty Variable Model Graphs

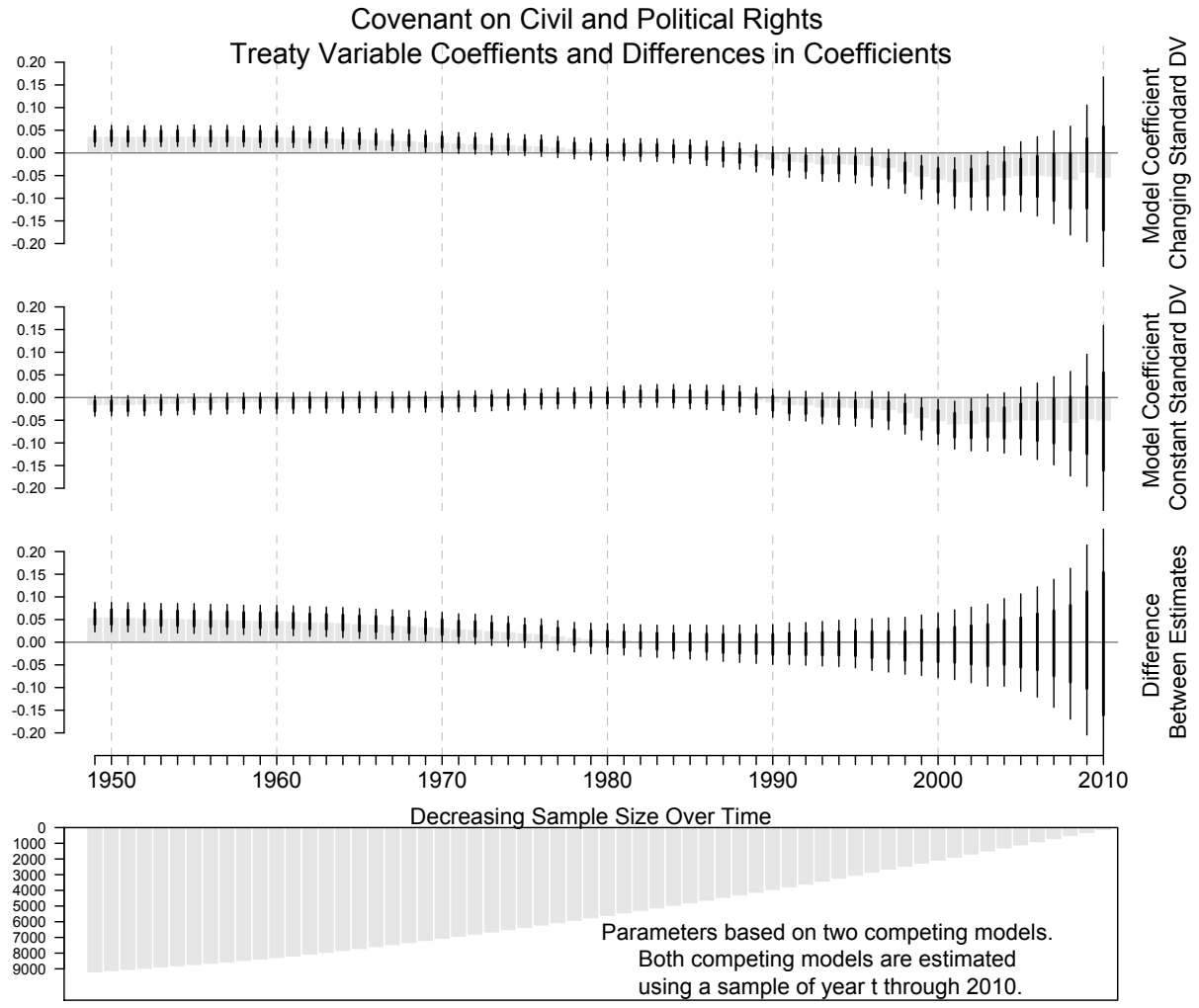

Figure 47: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

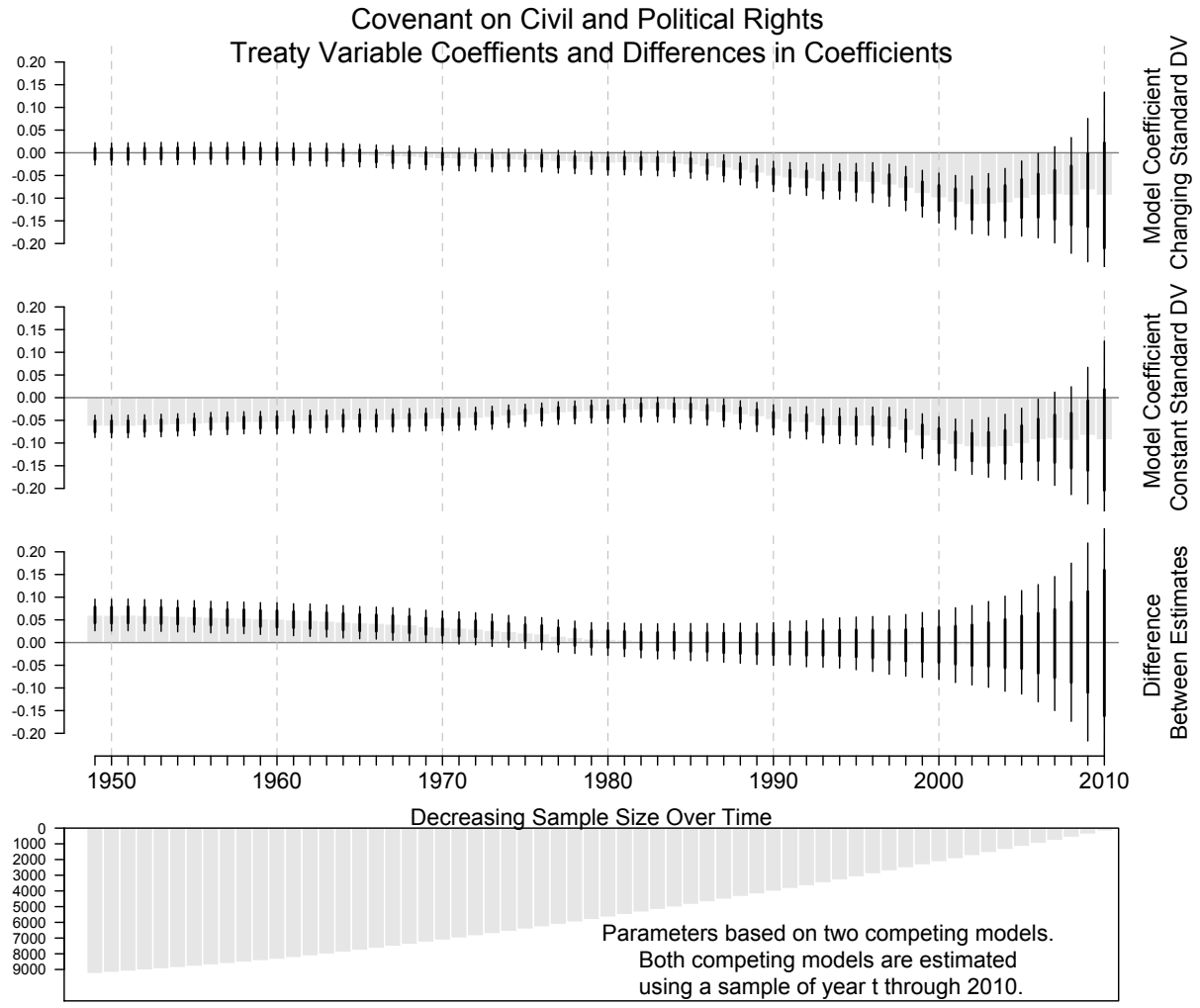

Figure 48: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

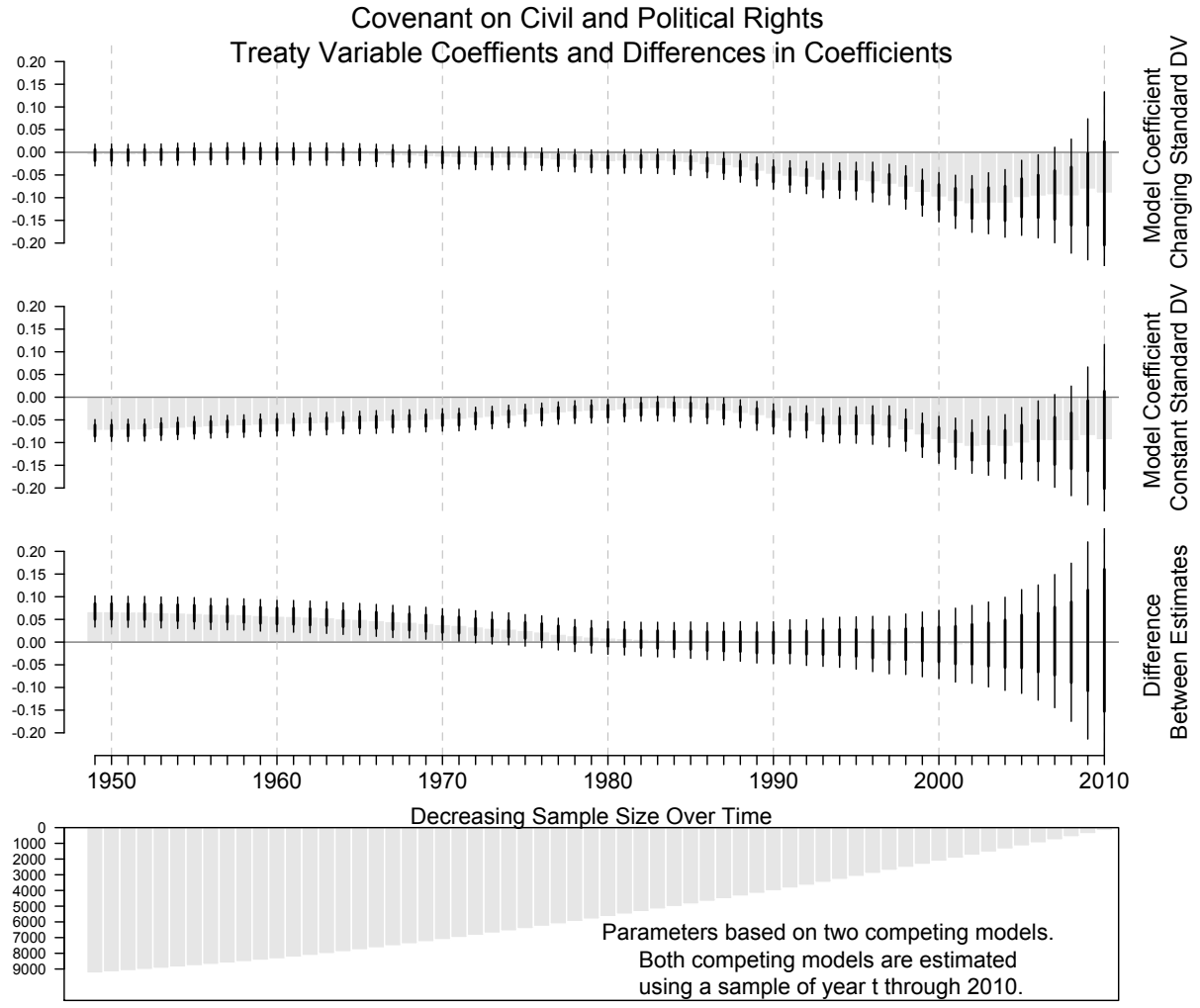

Figure 49: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

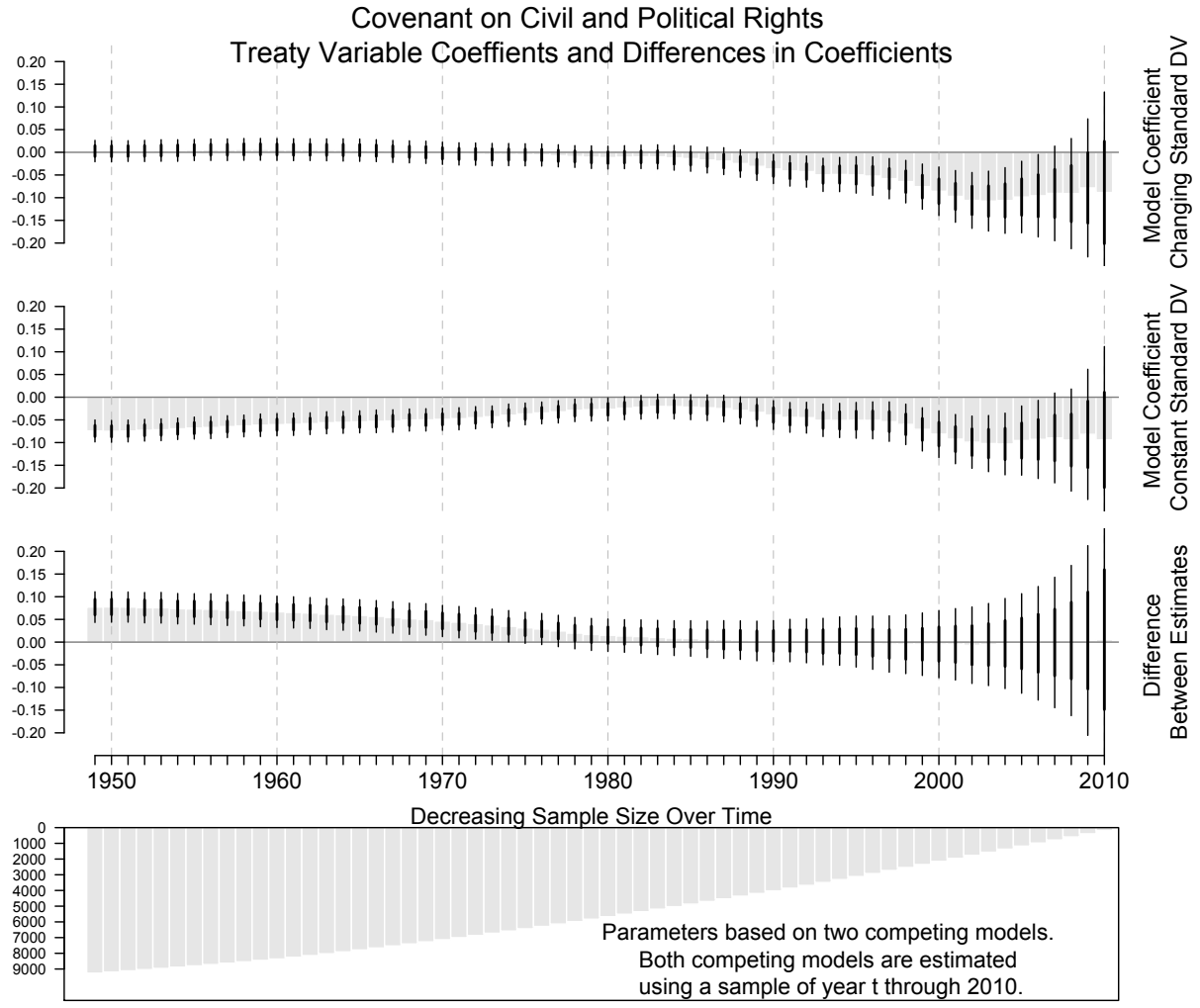

Figure 50: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

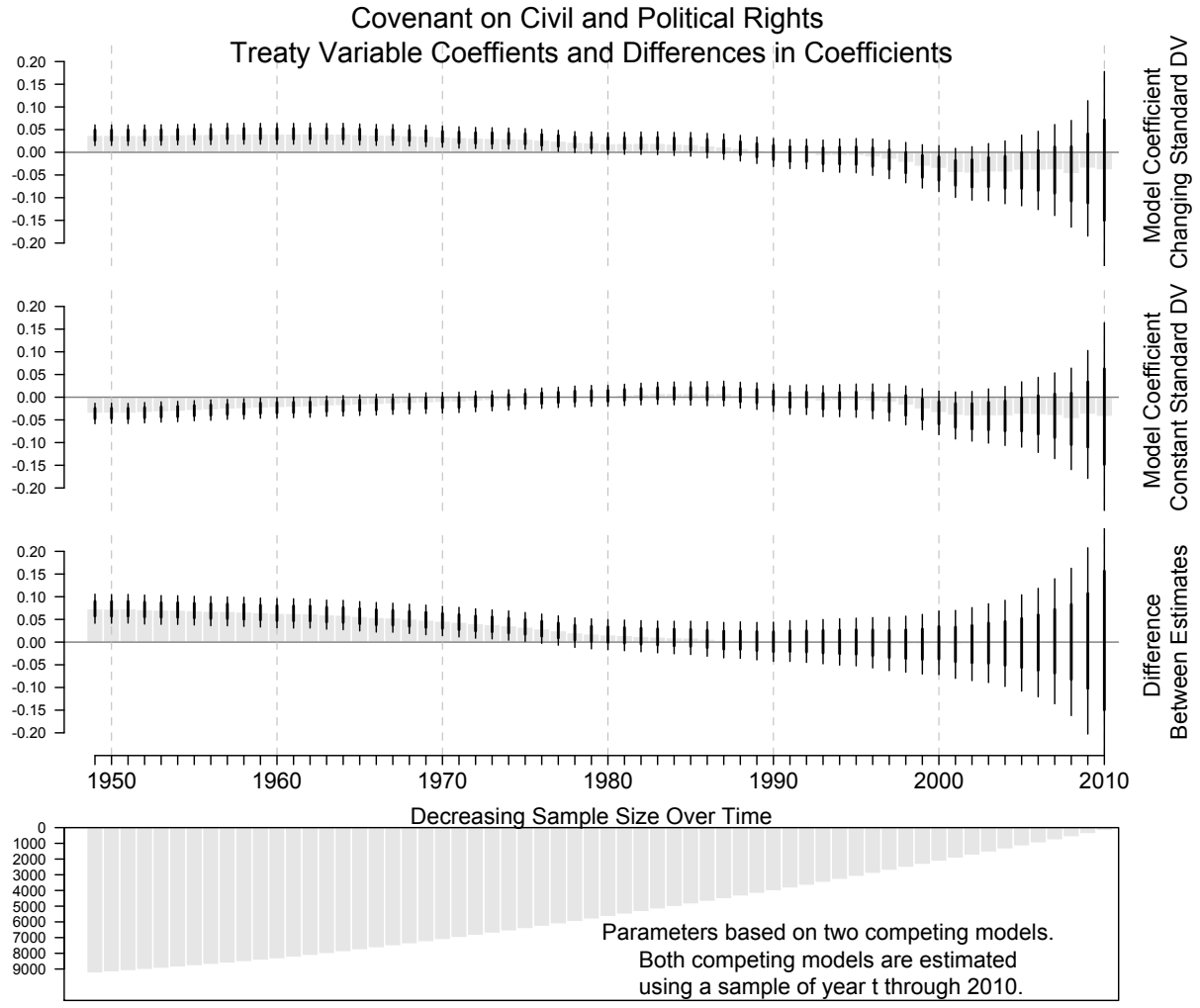

Figure 51: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

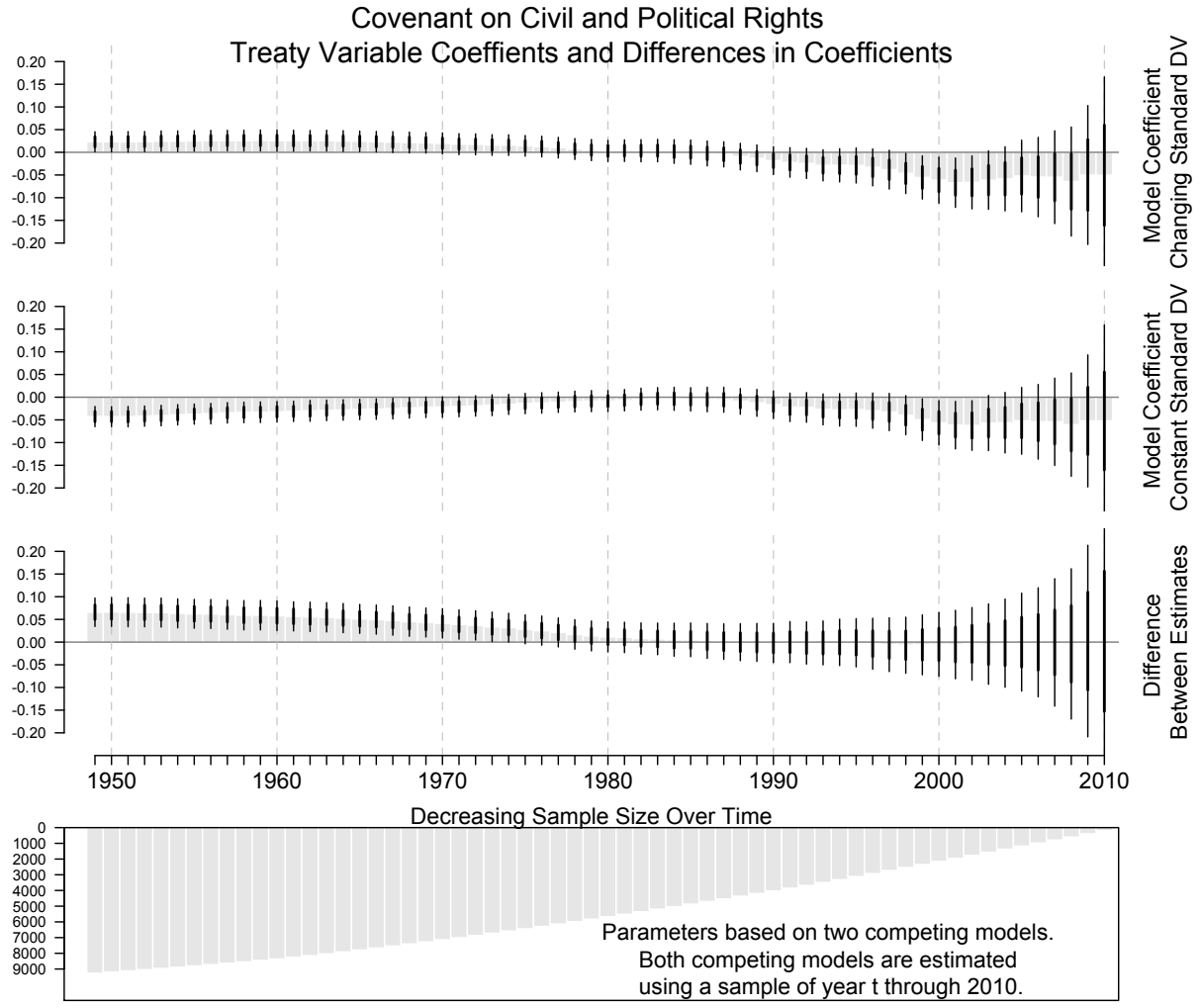

Figure 52: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

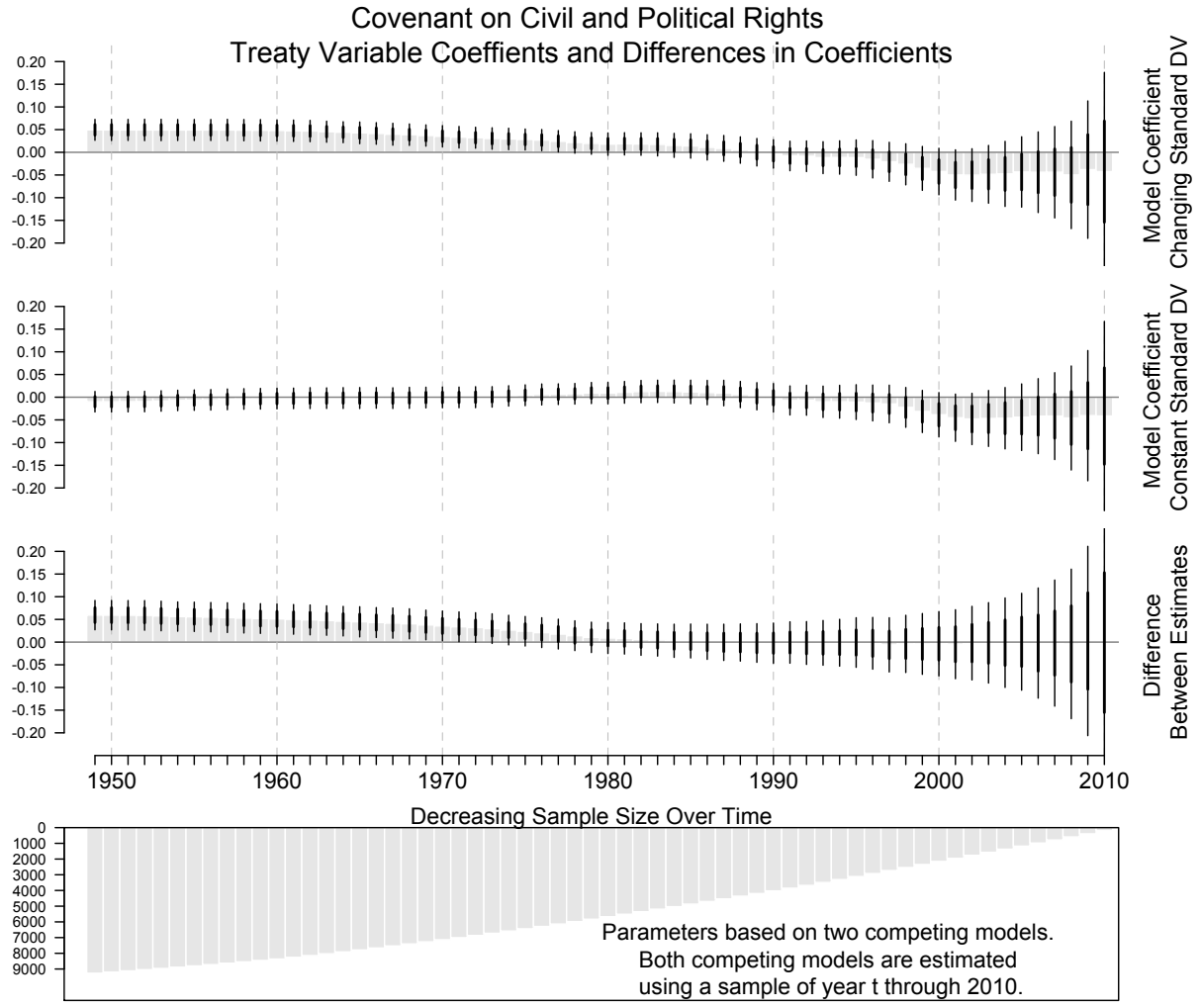

Figure 53: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

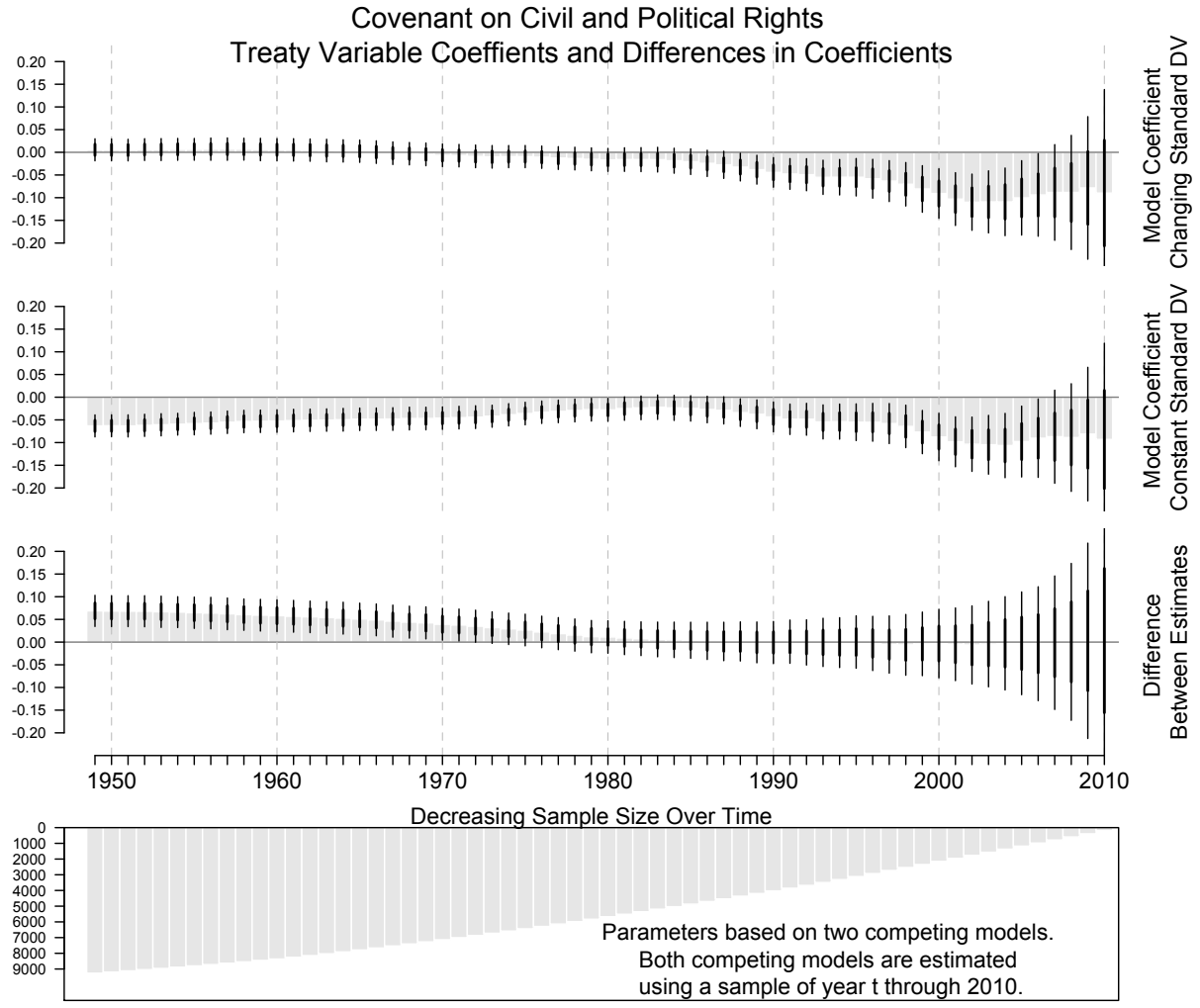

Figure 54: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.8 CEDAW Treaty Variable Model Graphs

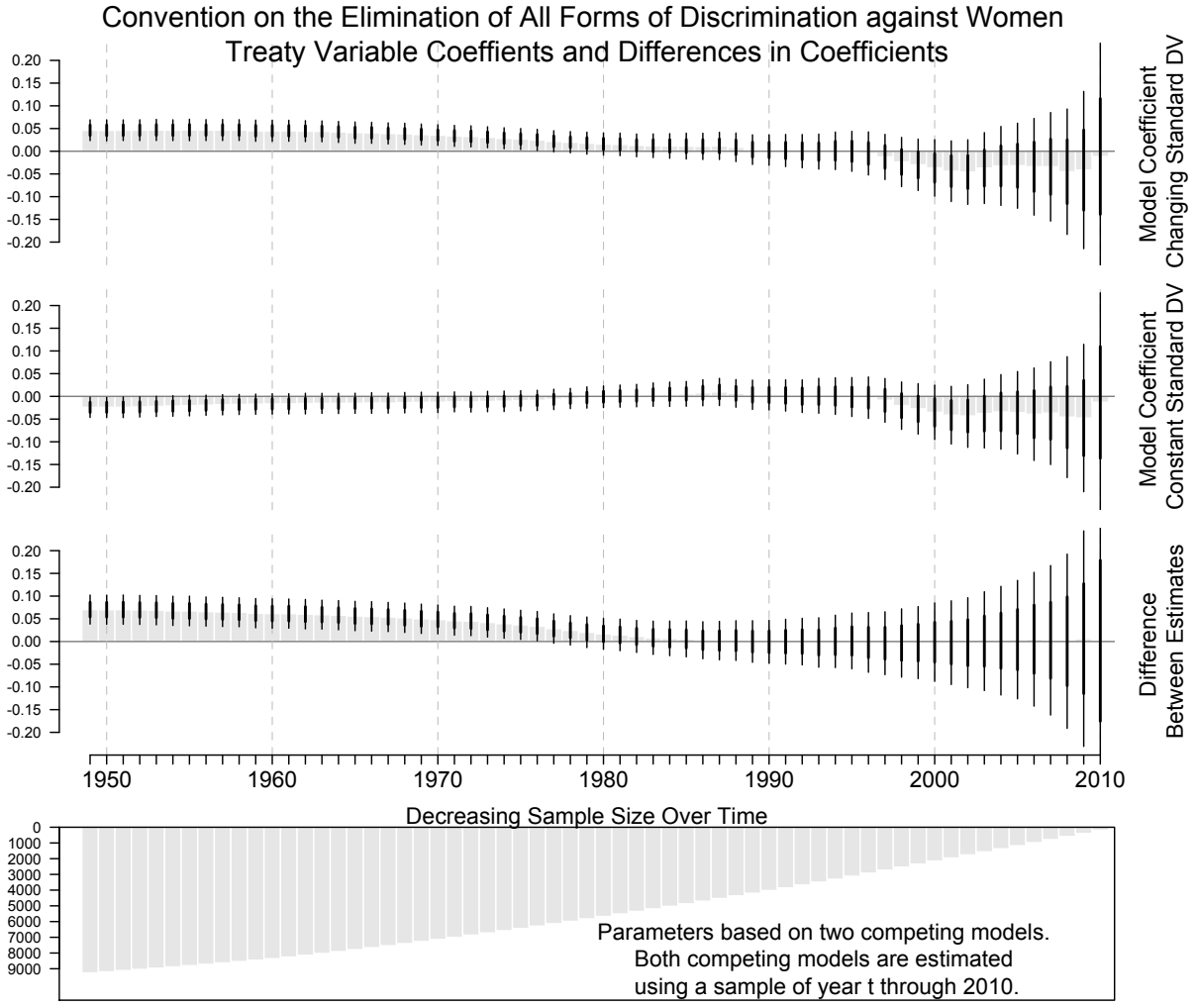

Figure 55: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

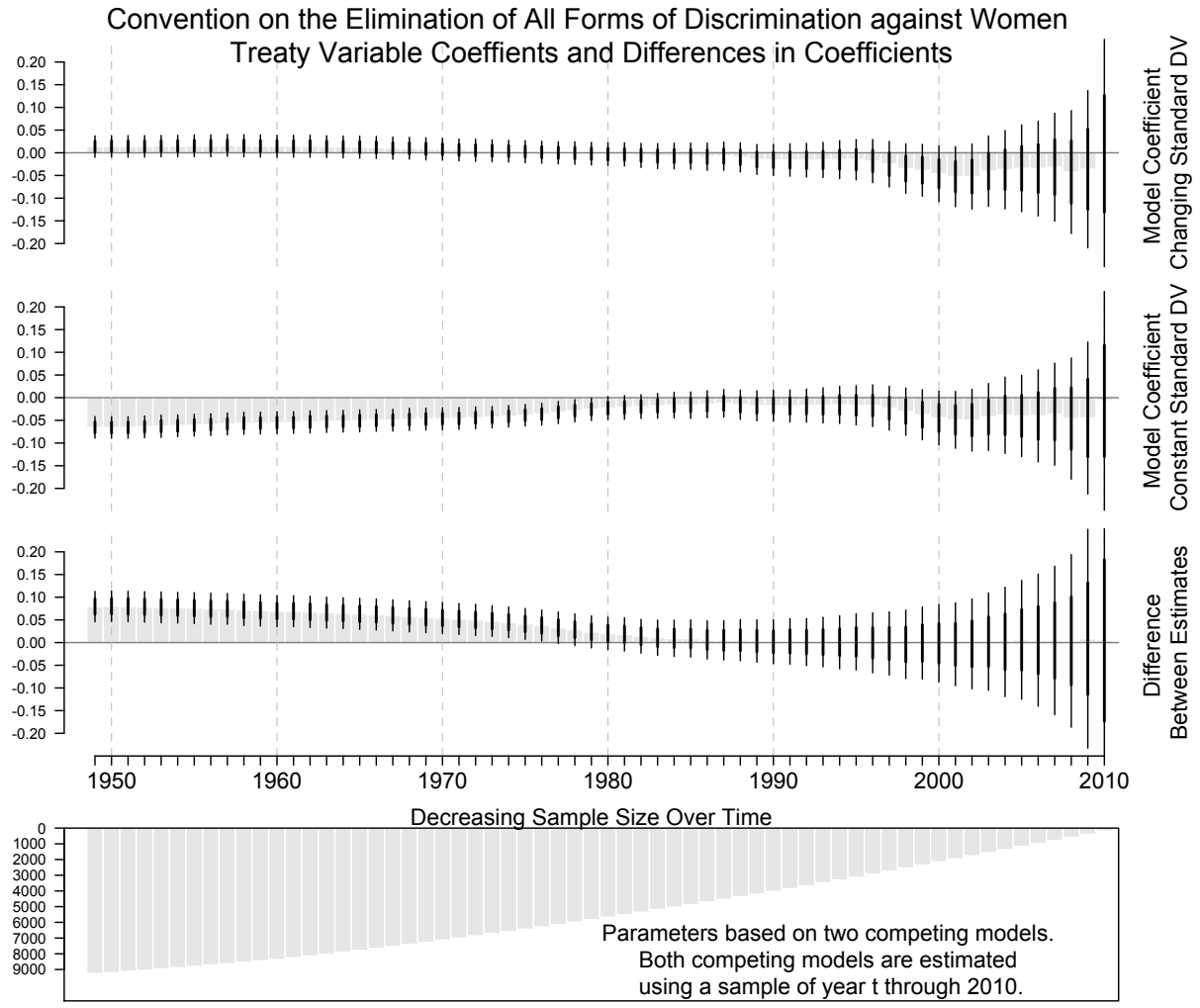

Figure 56: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

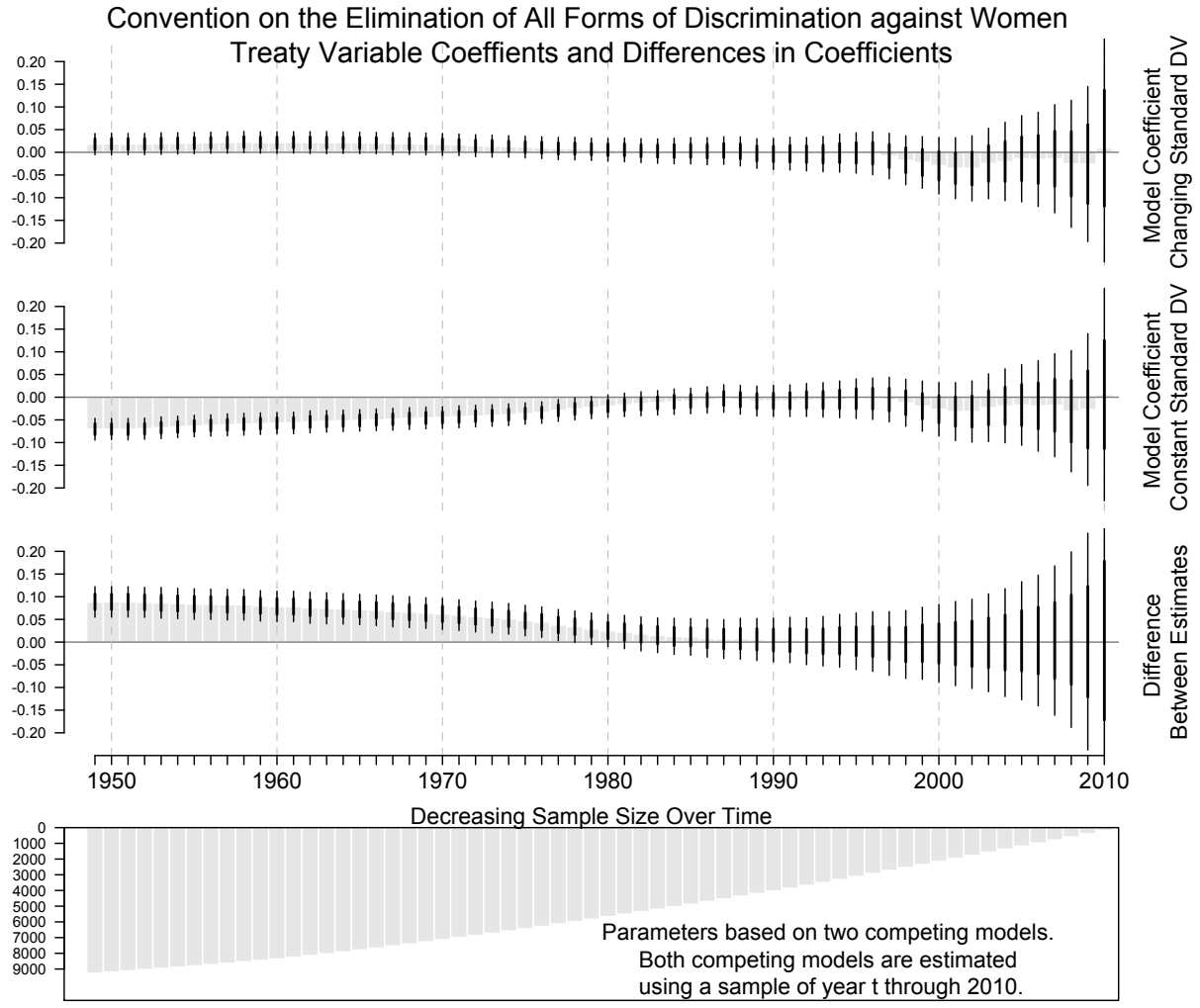

Figure 57: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

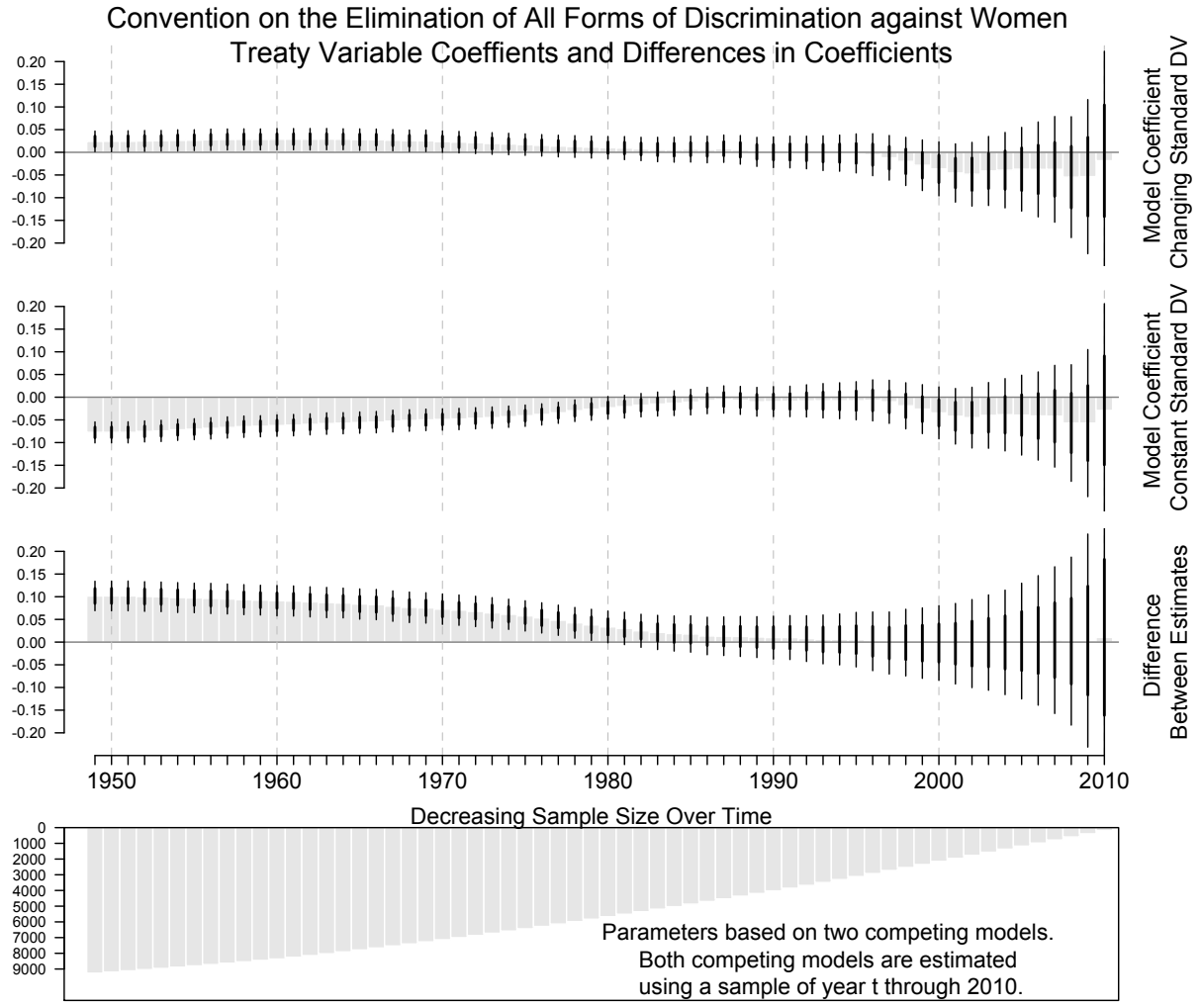

Figure 58: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

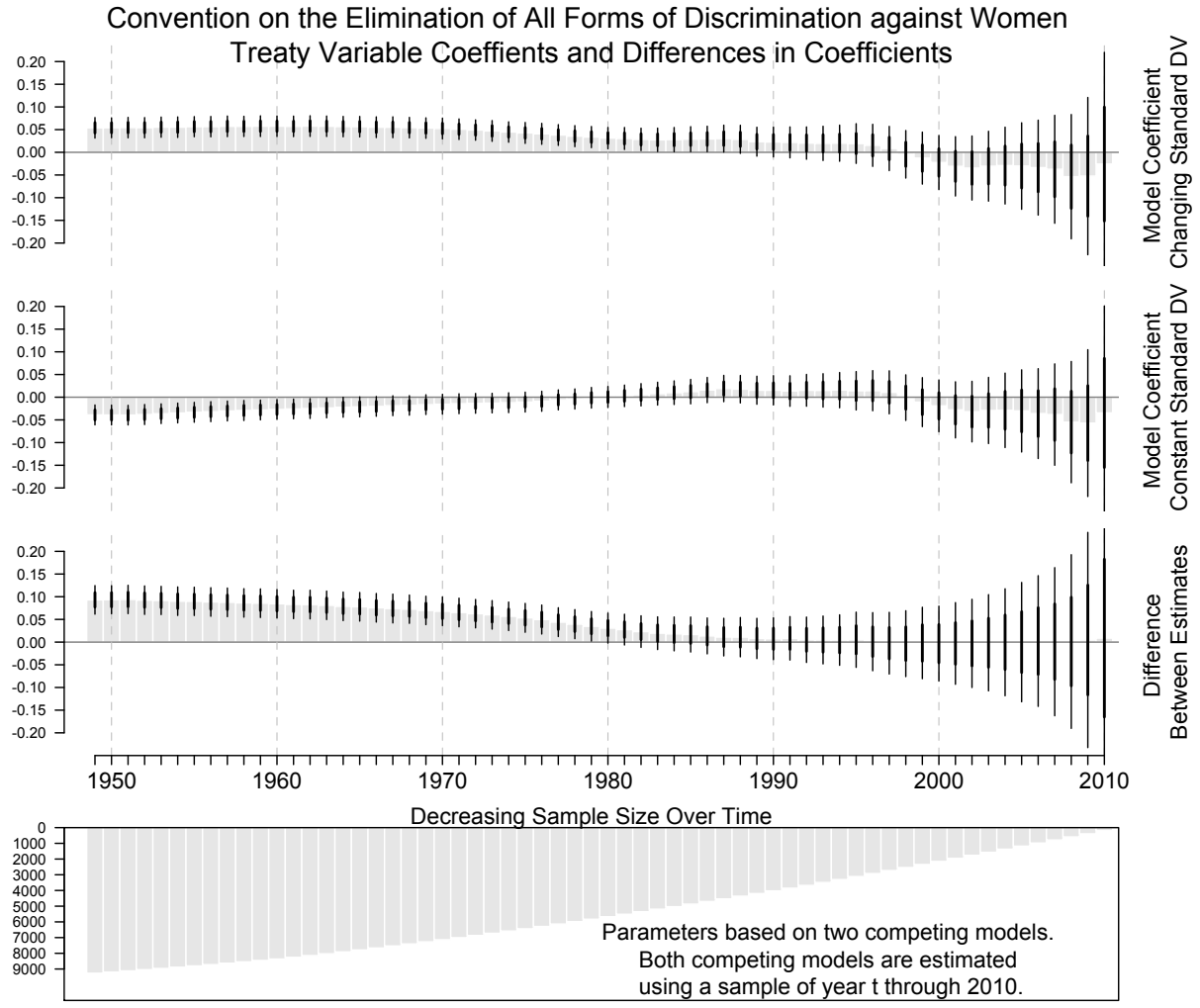

Figure 59: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

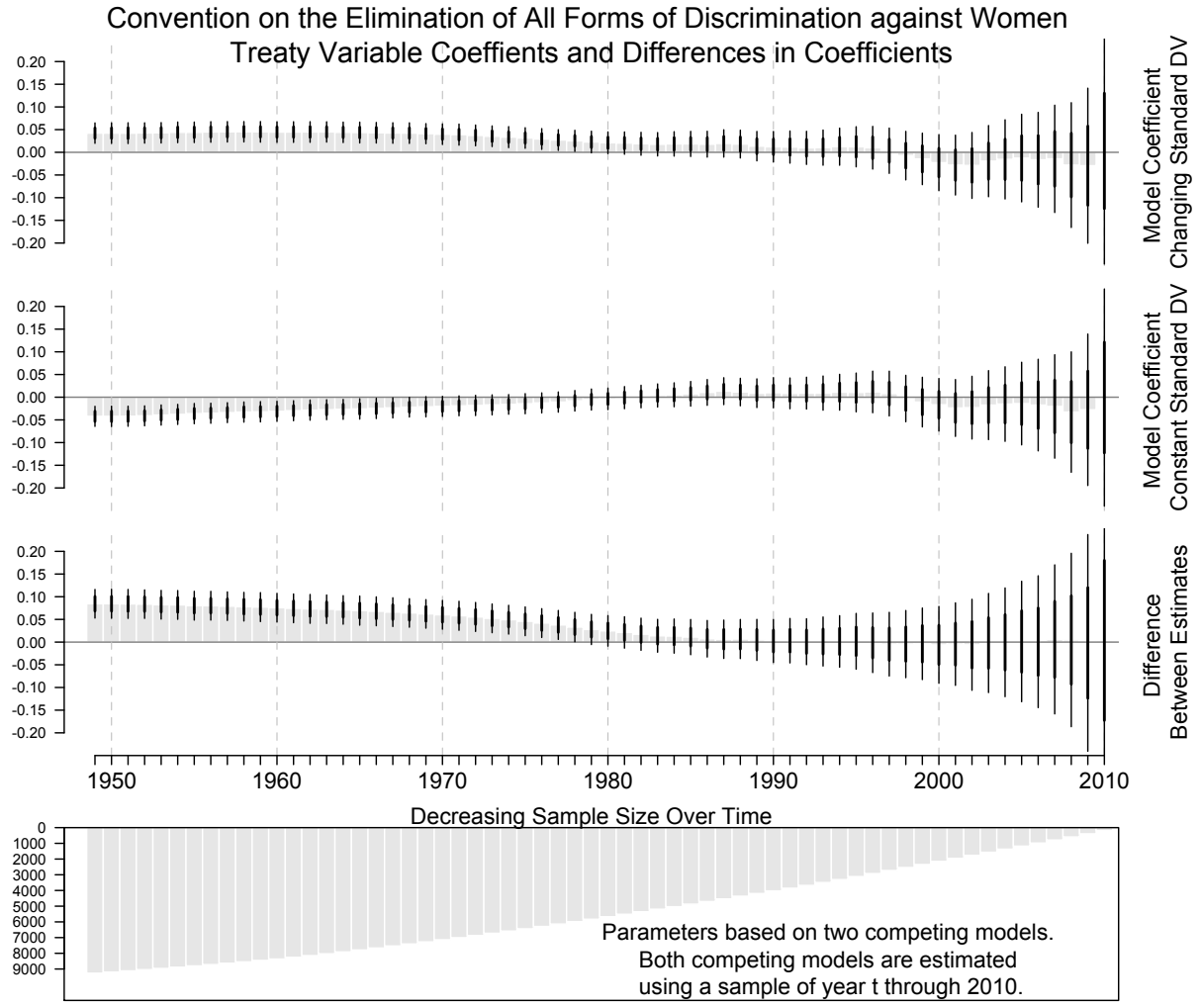

Figure 60: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

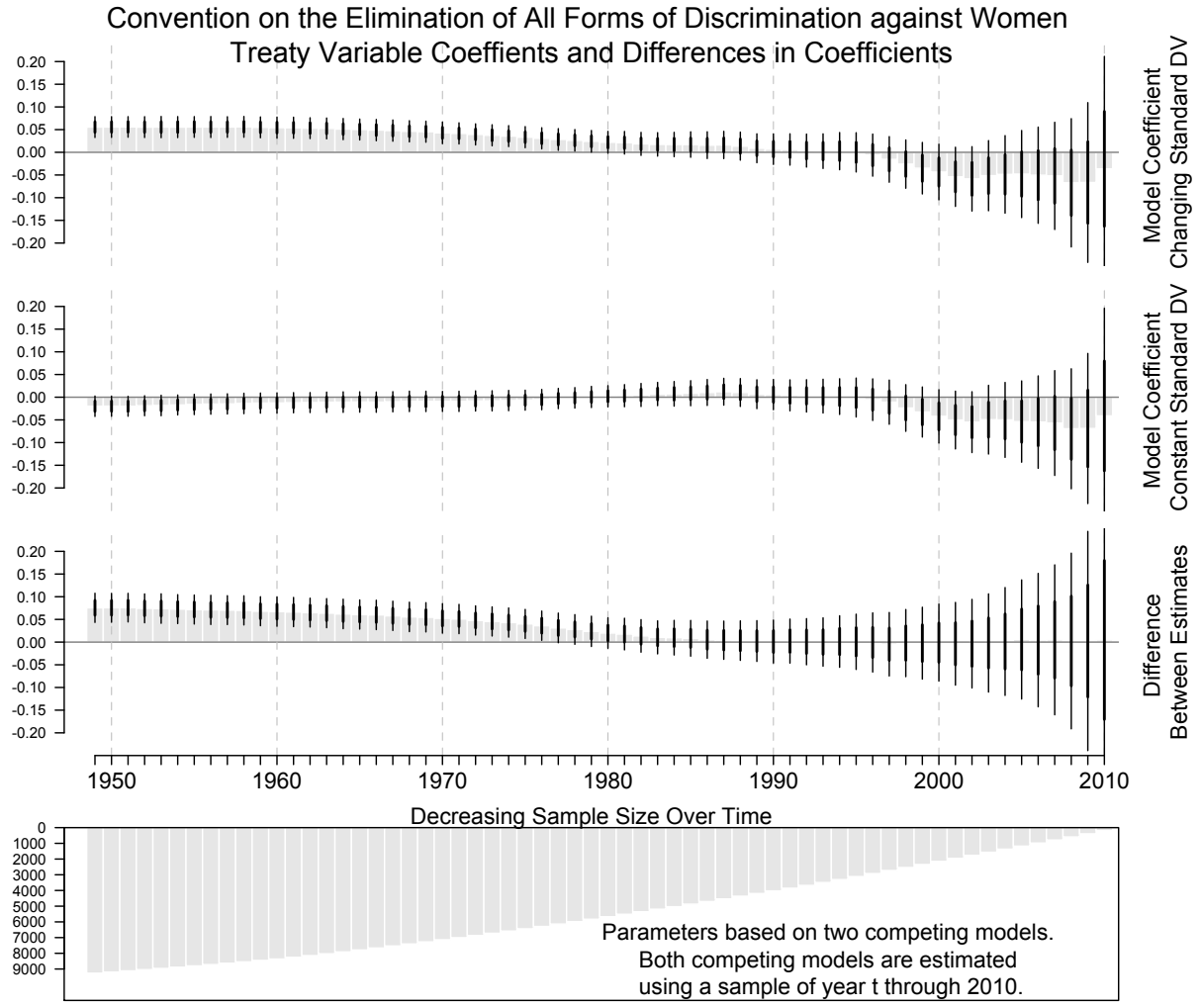

Figure 61: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

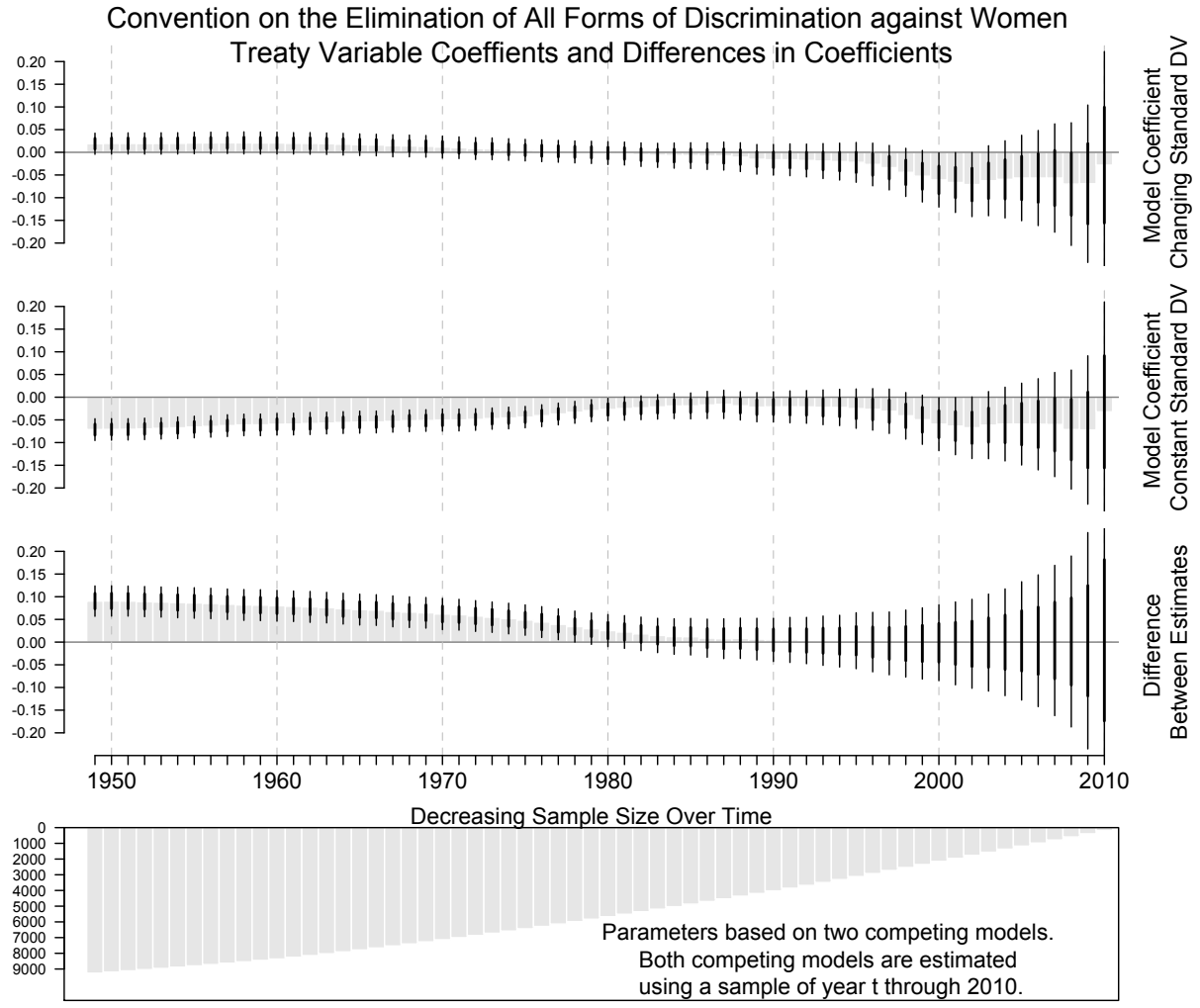

Figure 62: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.9 CERD Treaty Variable Model Graphs

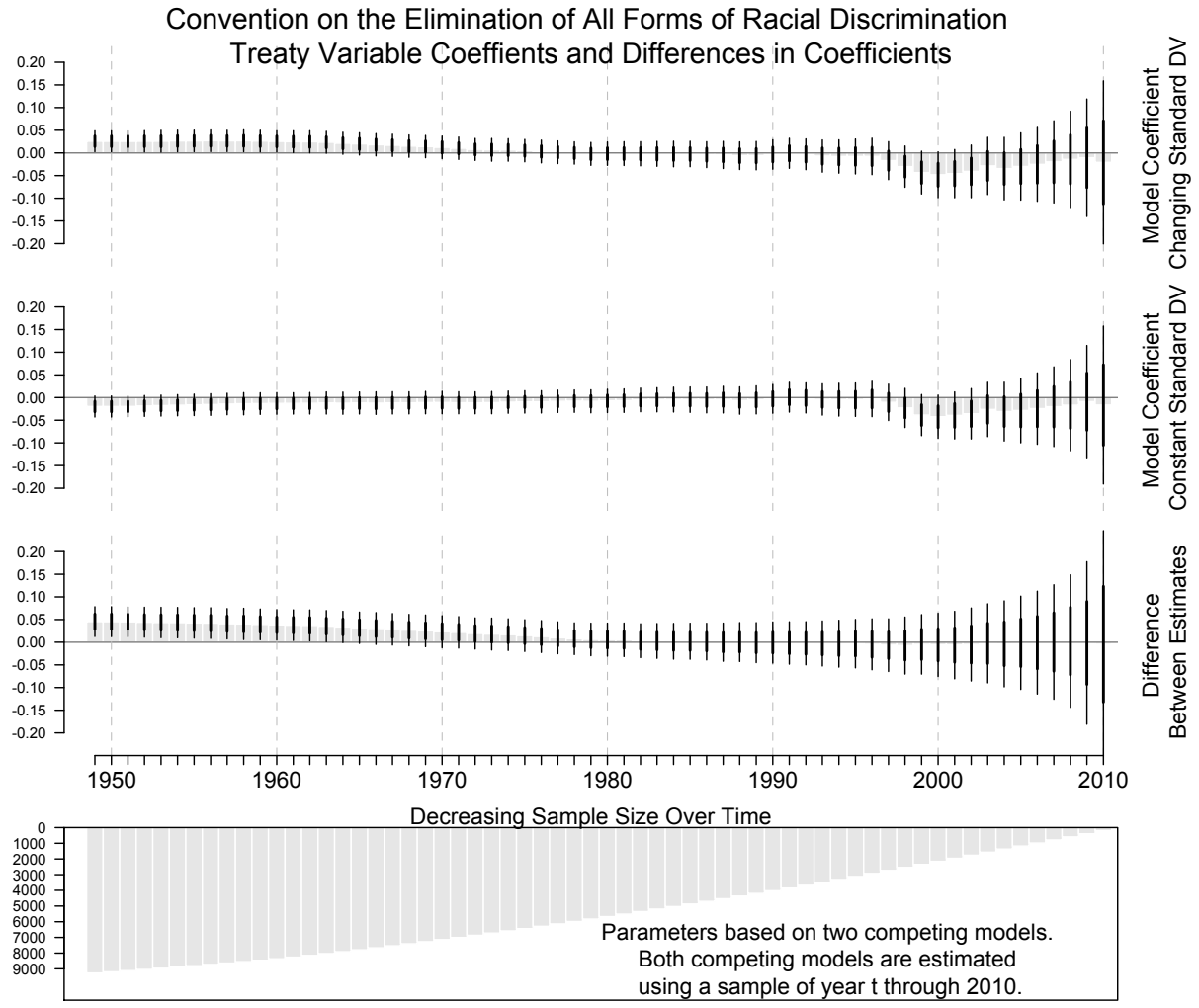

Figure 63: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

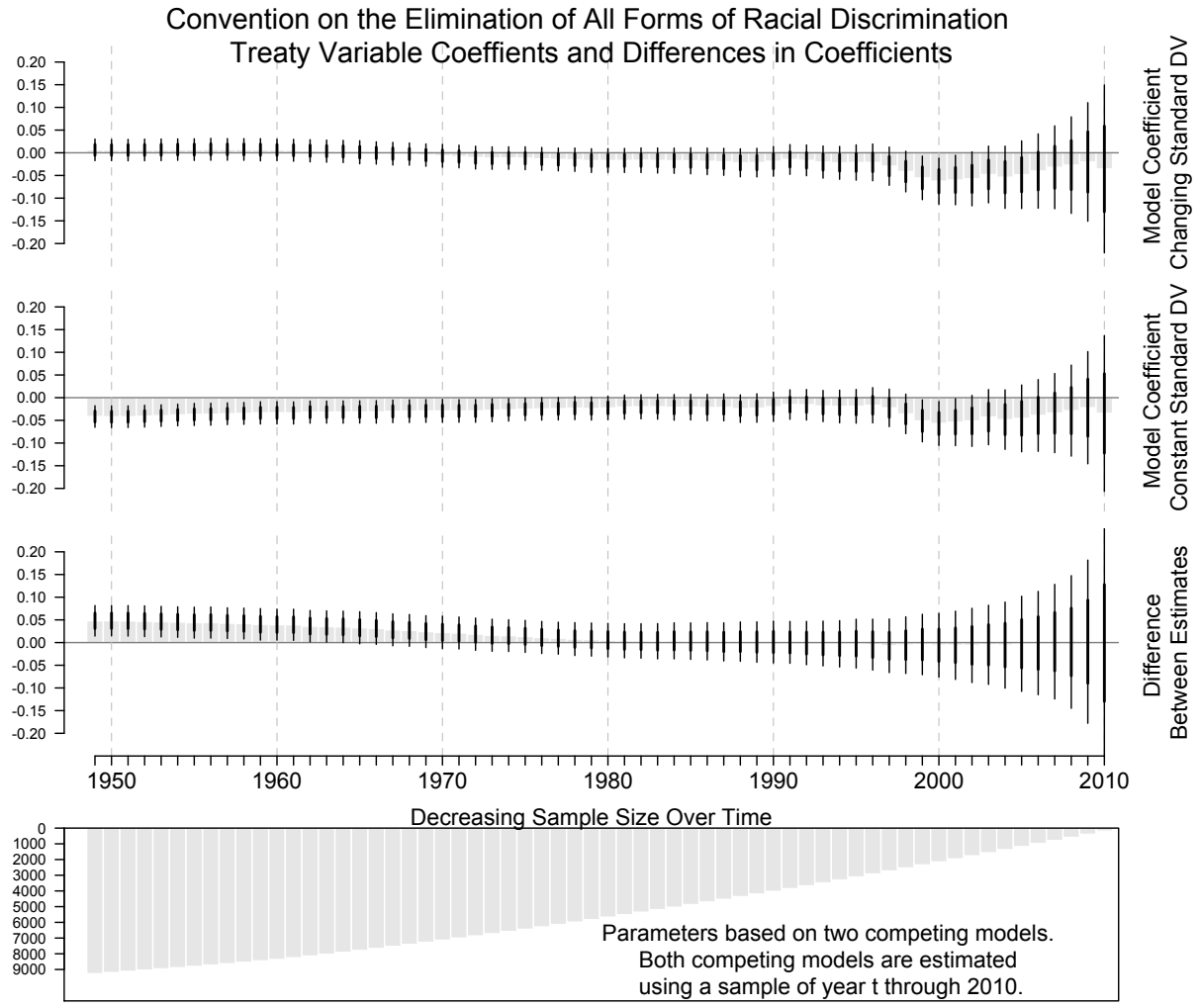

Figure 64: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

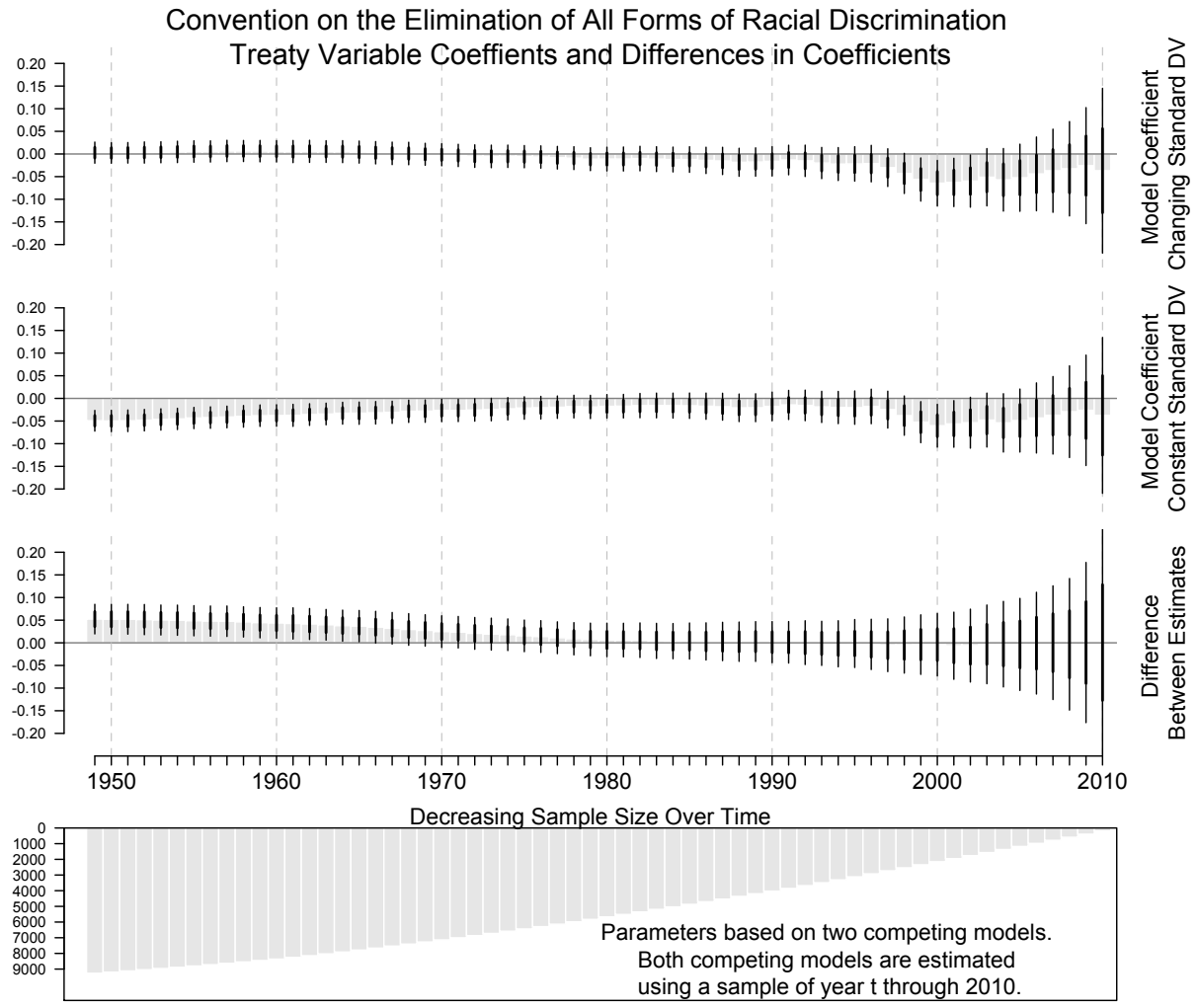

Figure 65: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

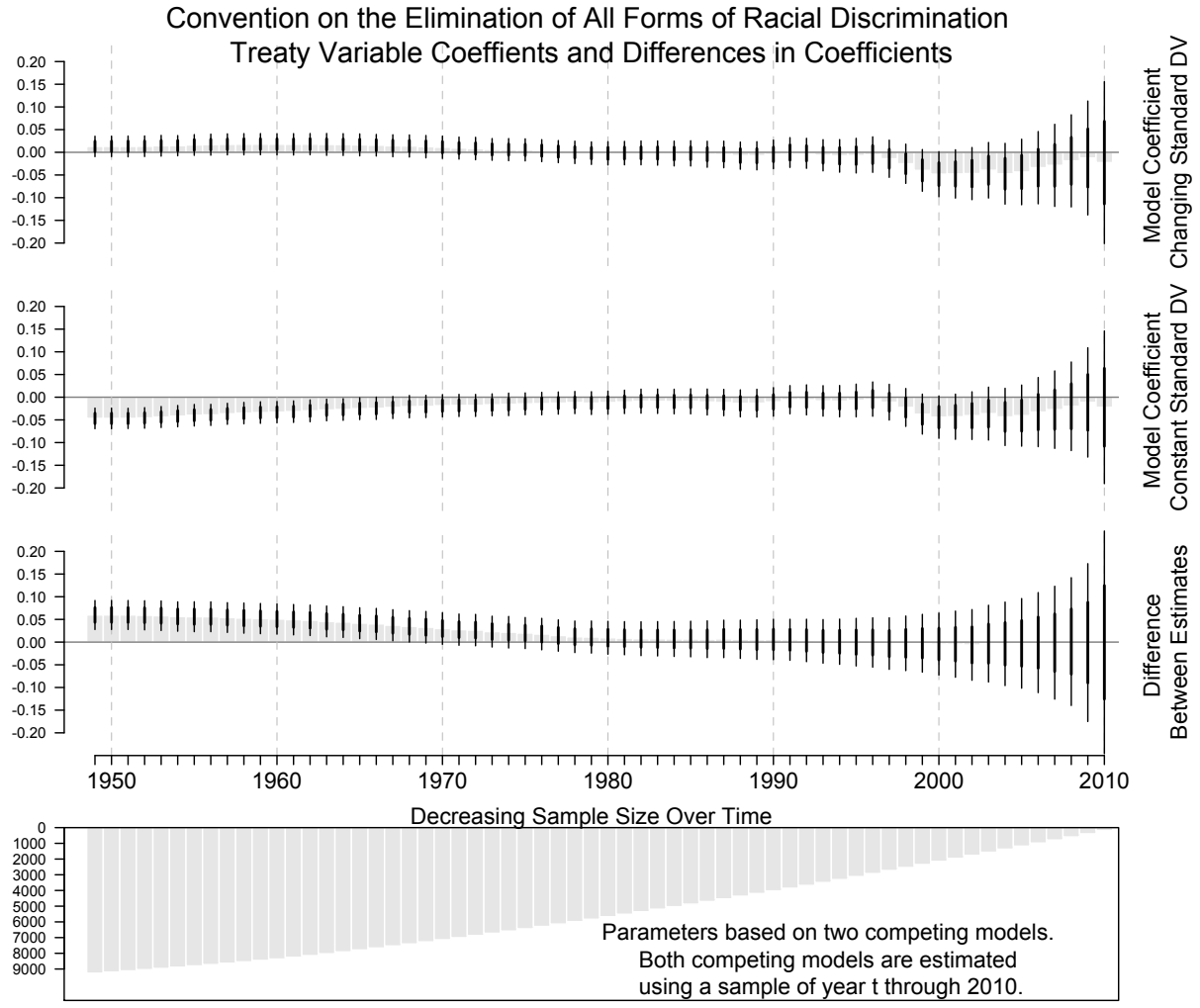

Figure 66: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

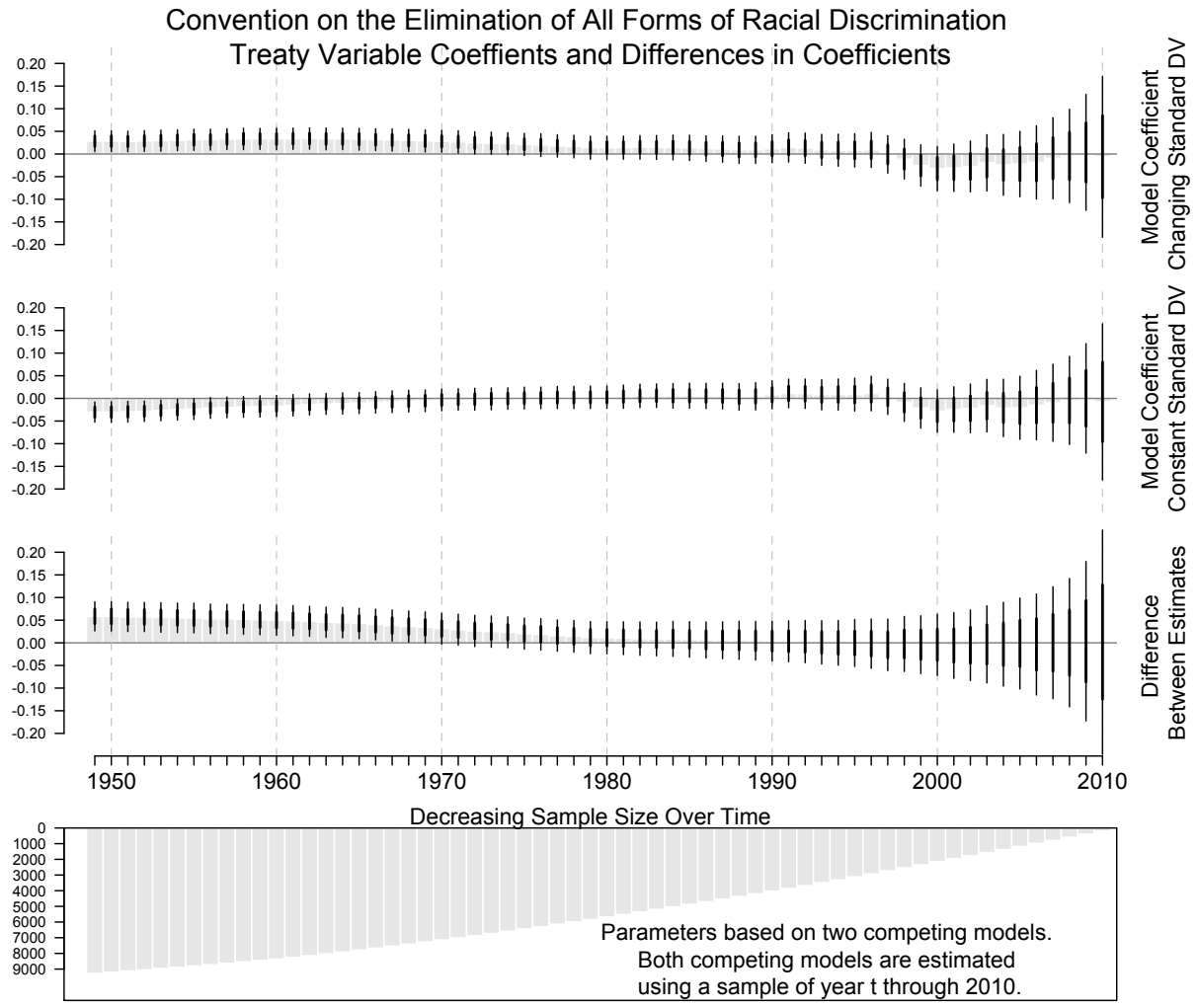

Figure 67: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

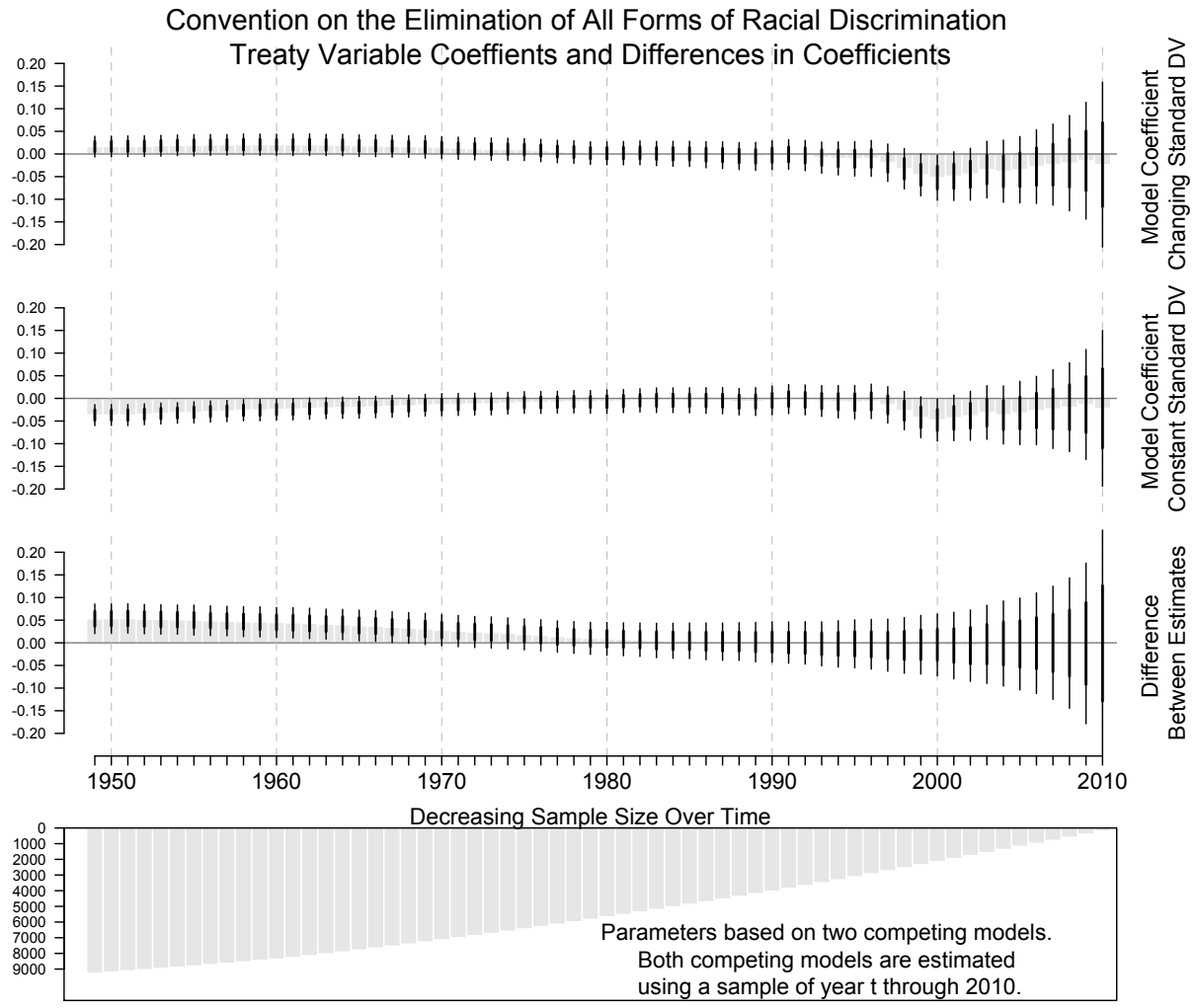

Figure 68: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

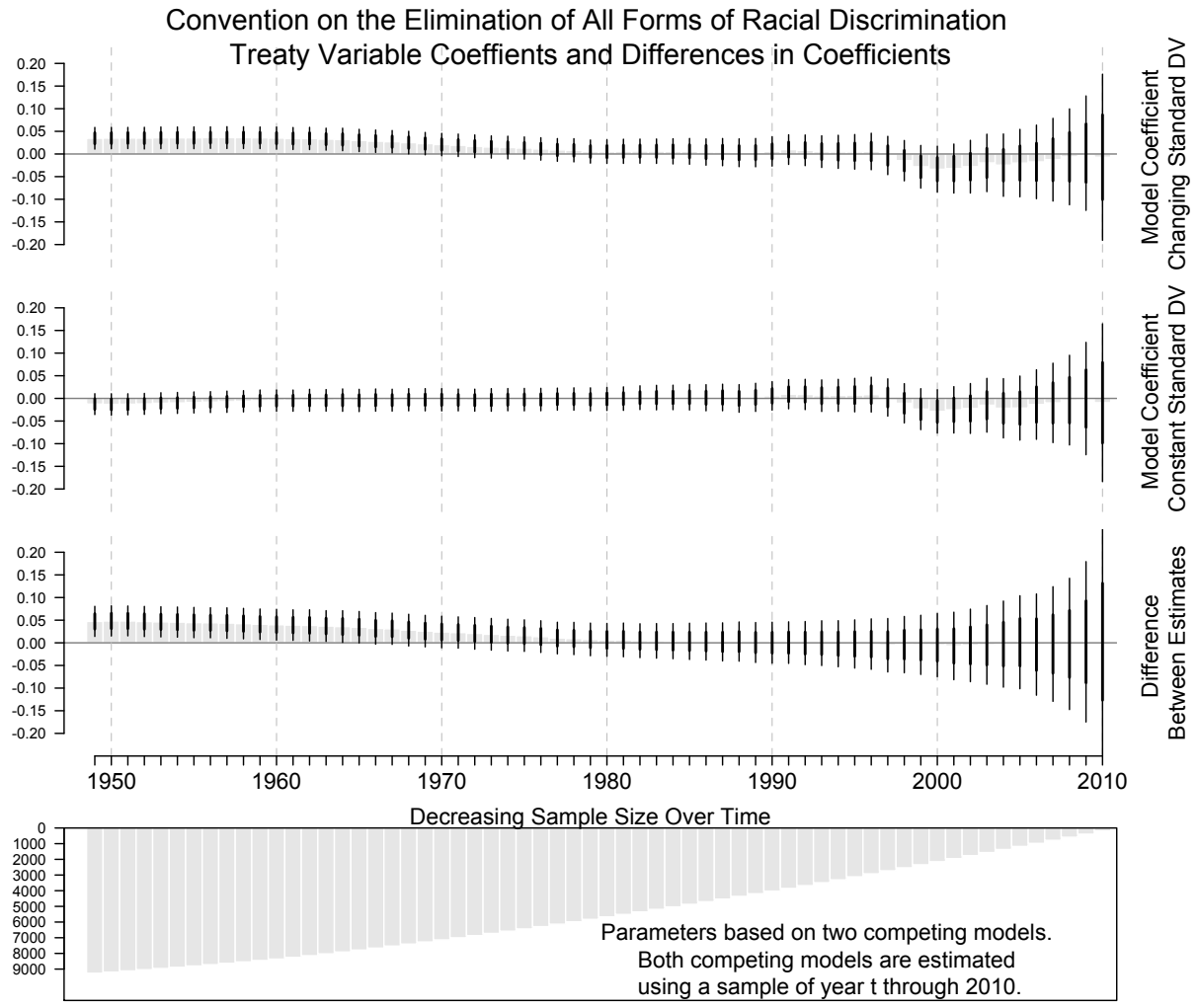

Figure 69: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

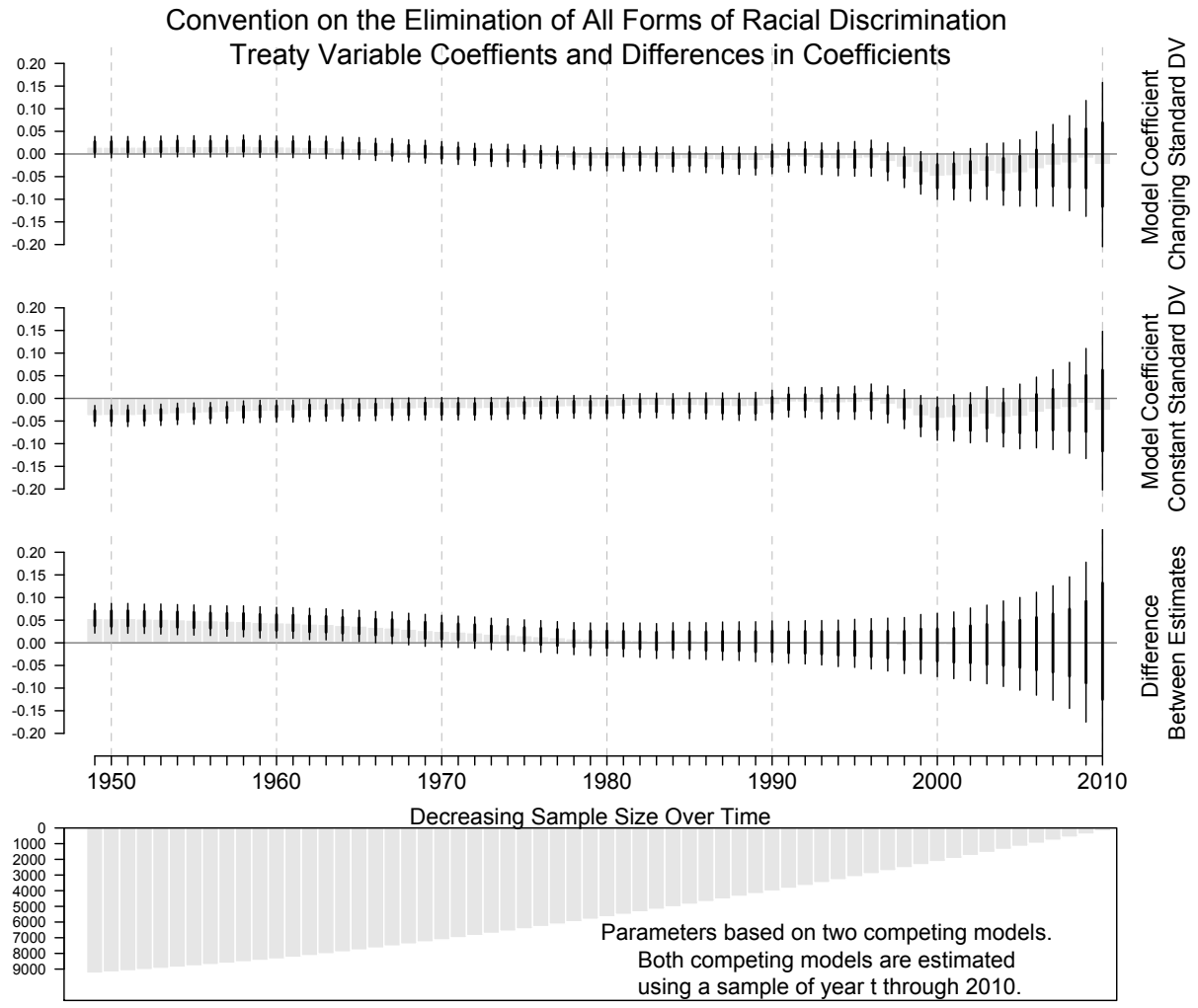

Figure 70: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.10 CESCR Treaty Variable Model Graphs

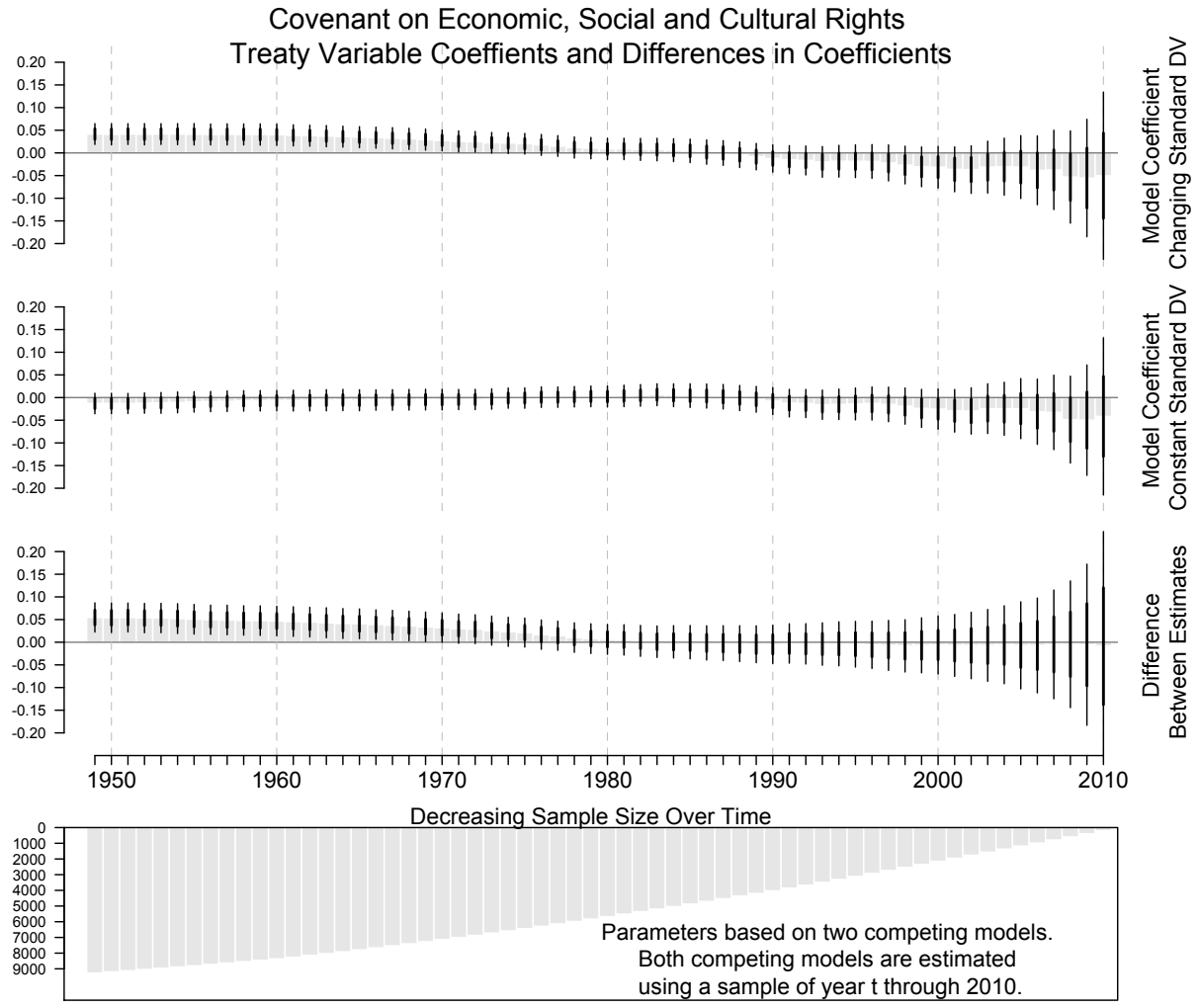

Figure 71: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

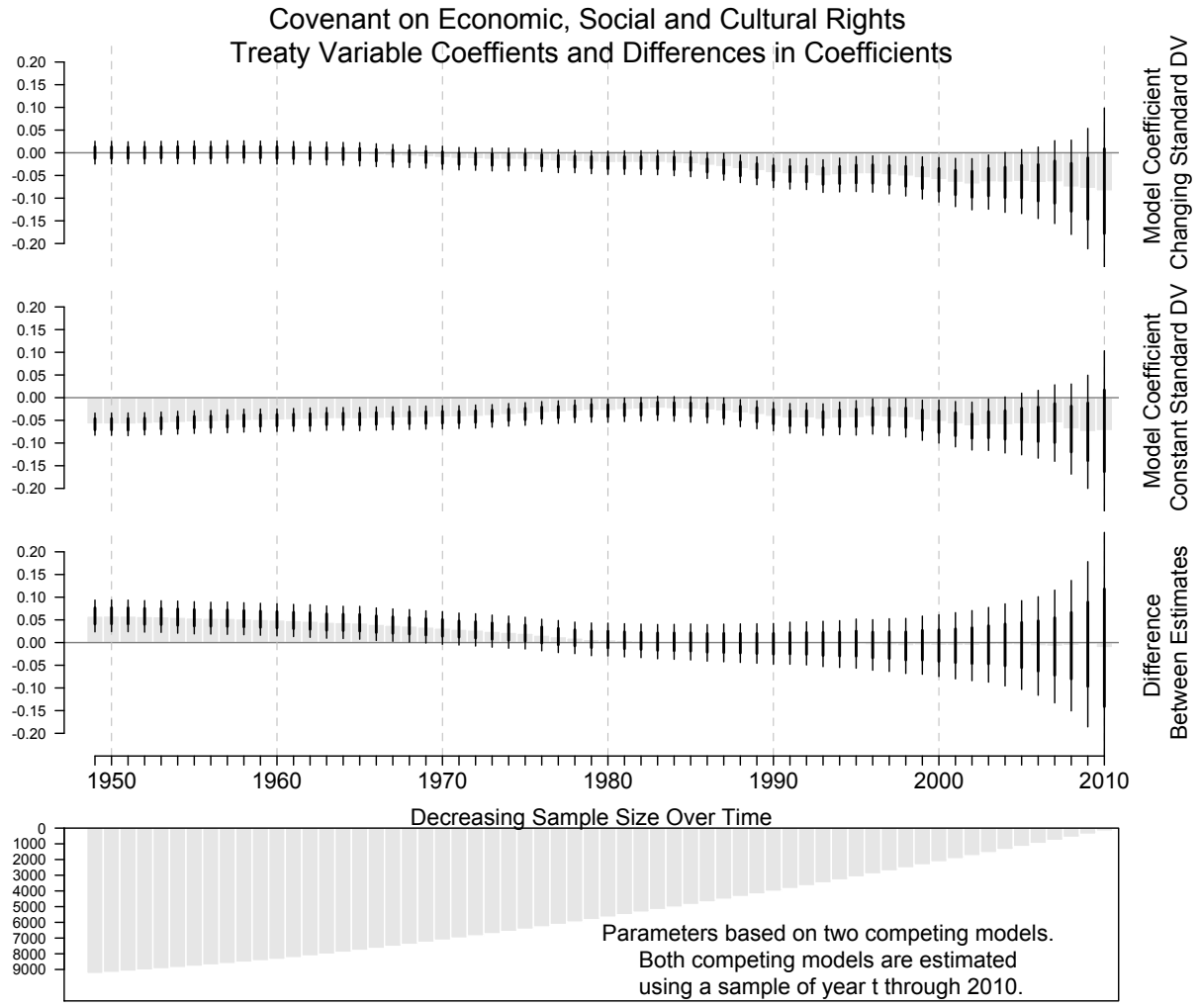

Figure 72: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

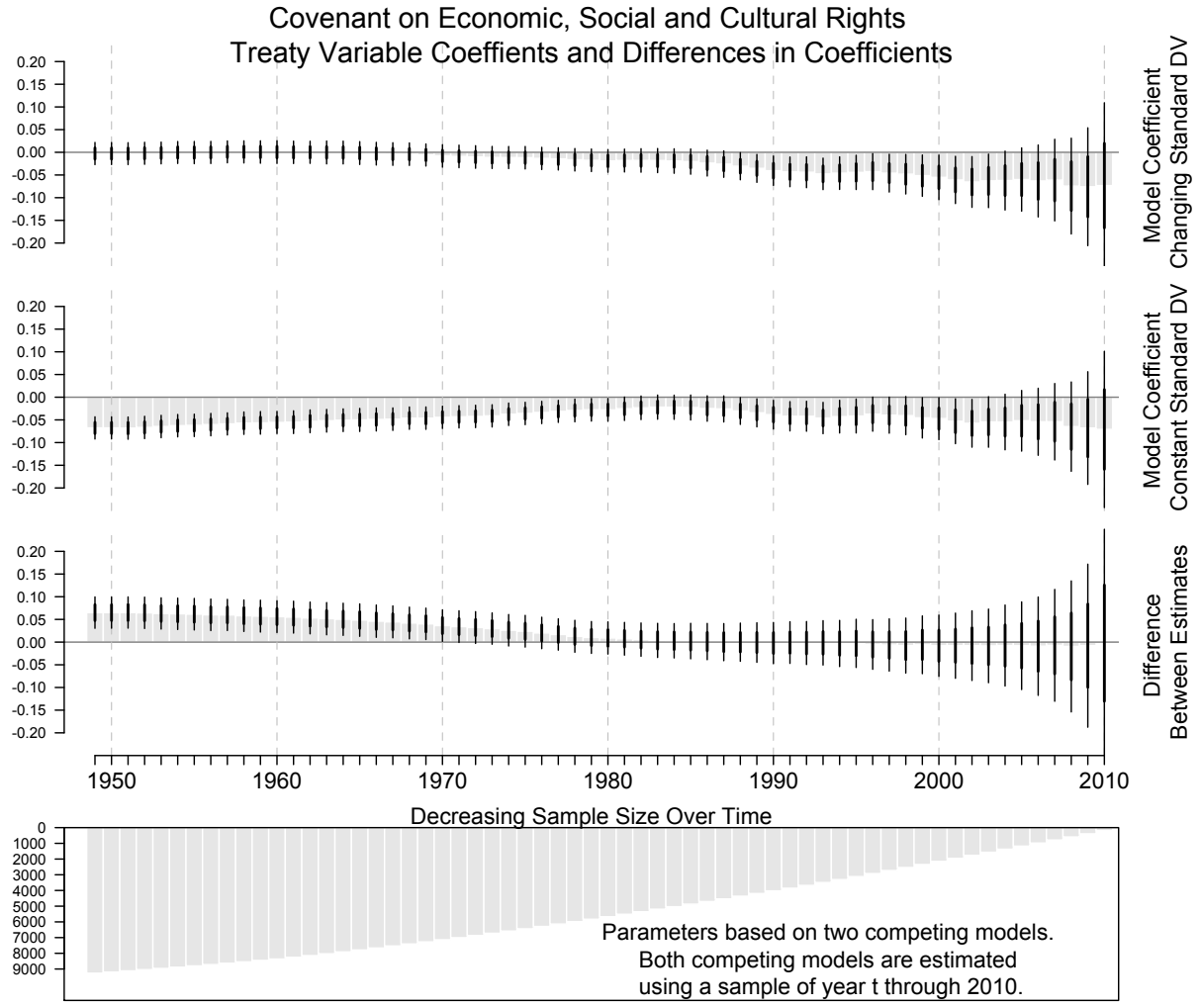

Figure 73: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

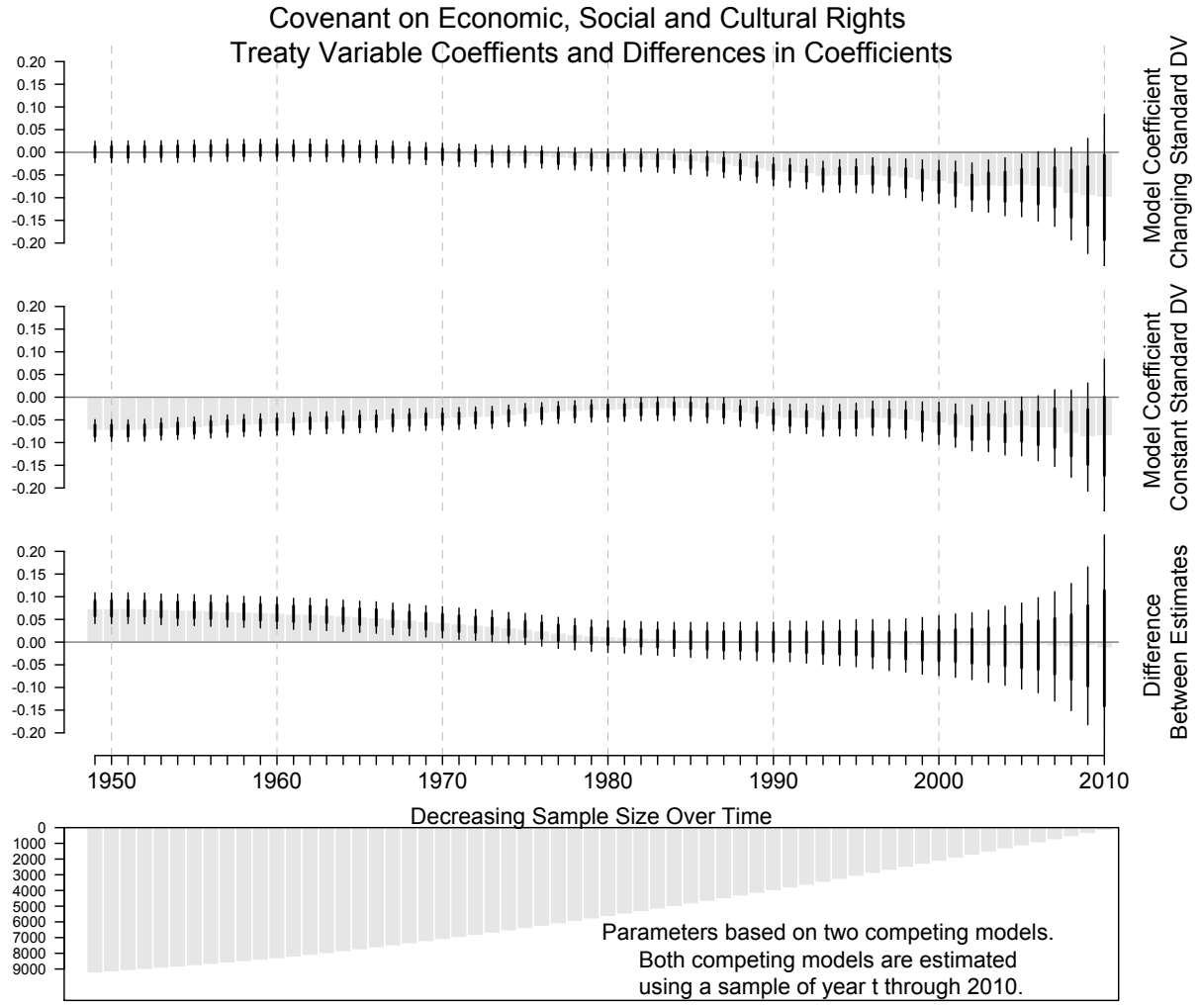

Figure 74: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

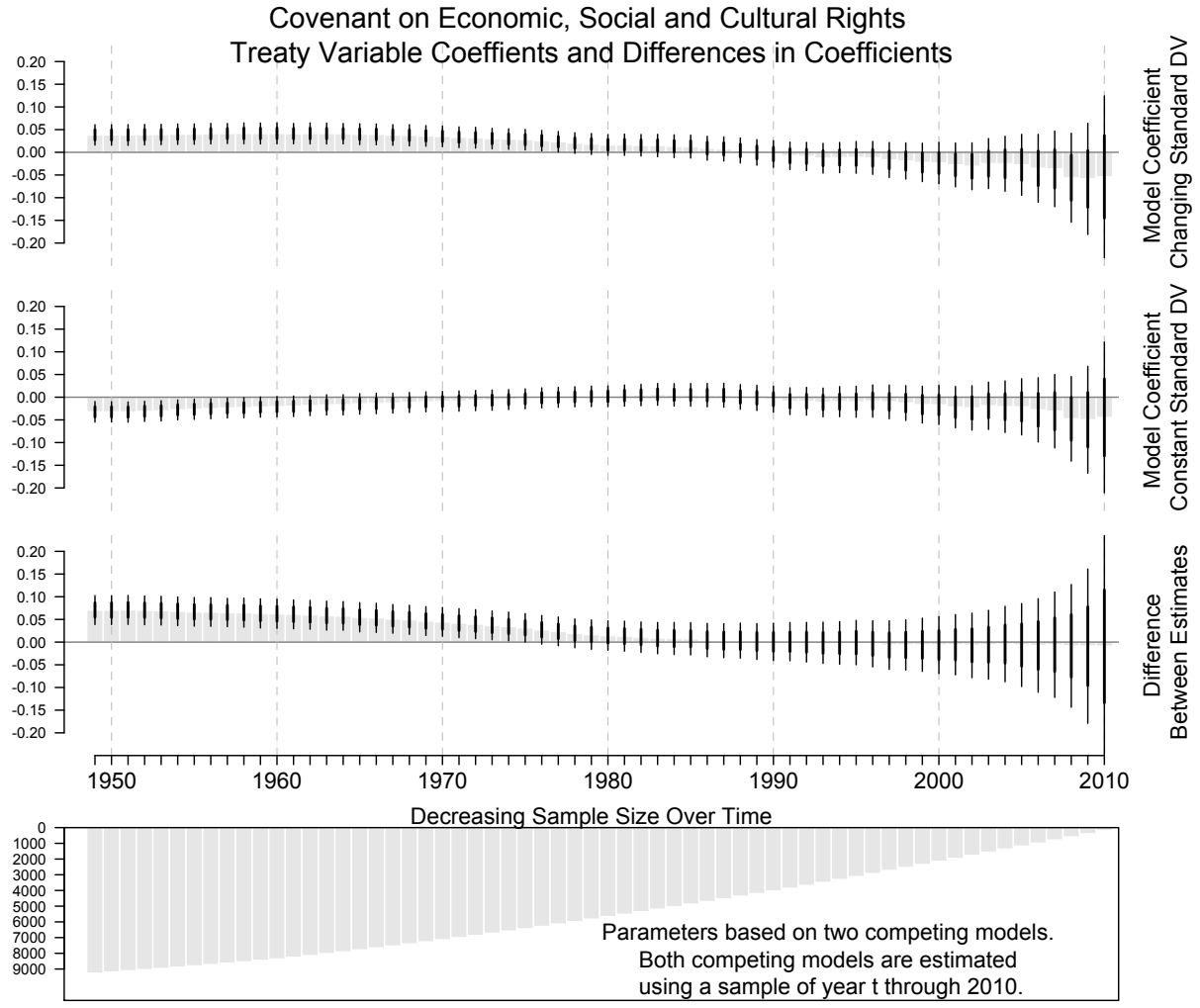

Figure 75: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

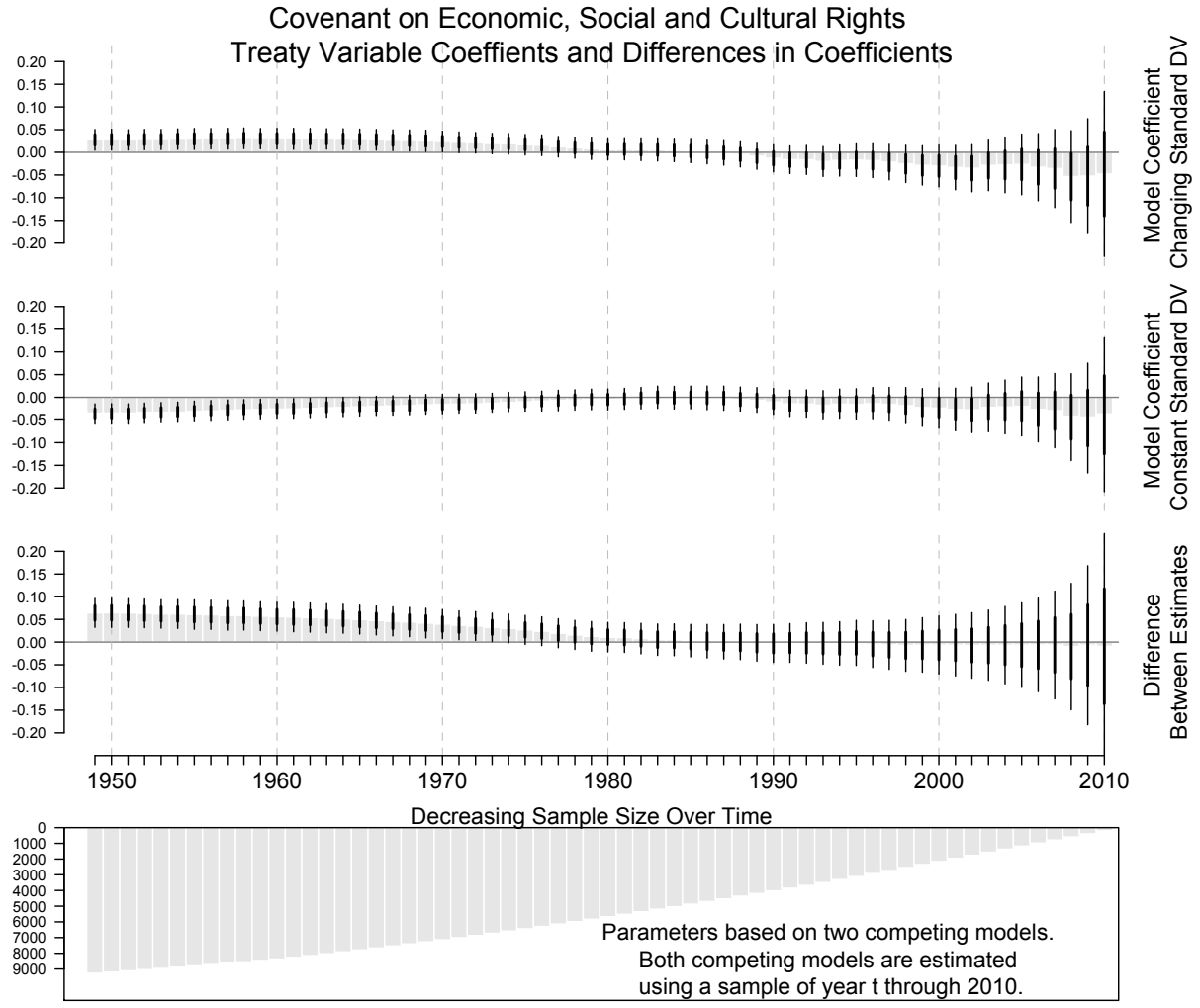

Figure 76: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

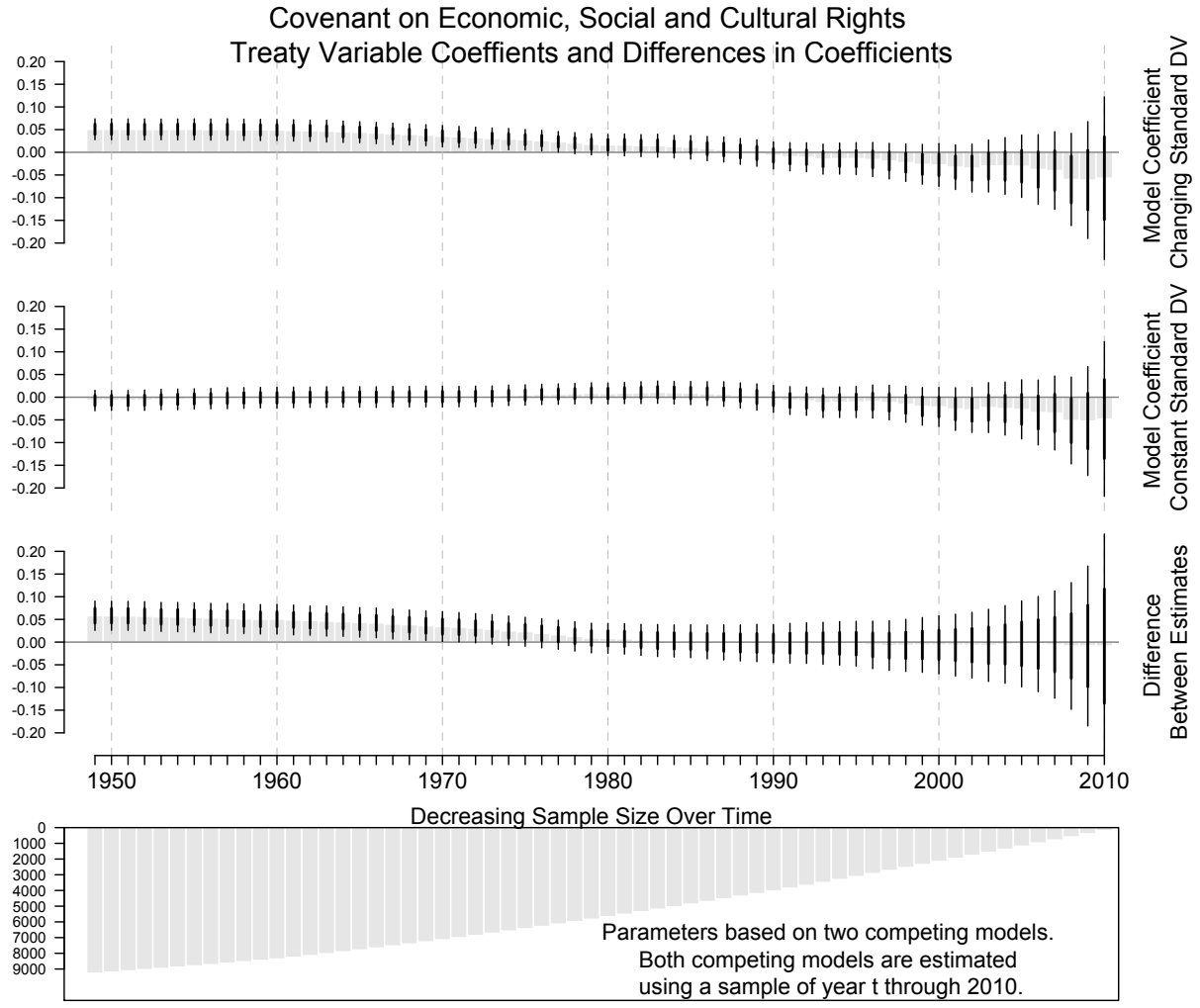

Figure 77: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

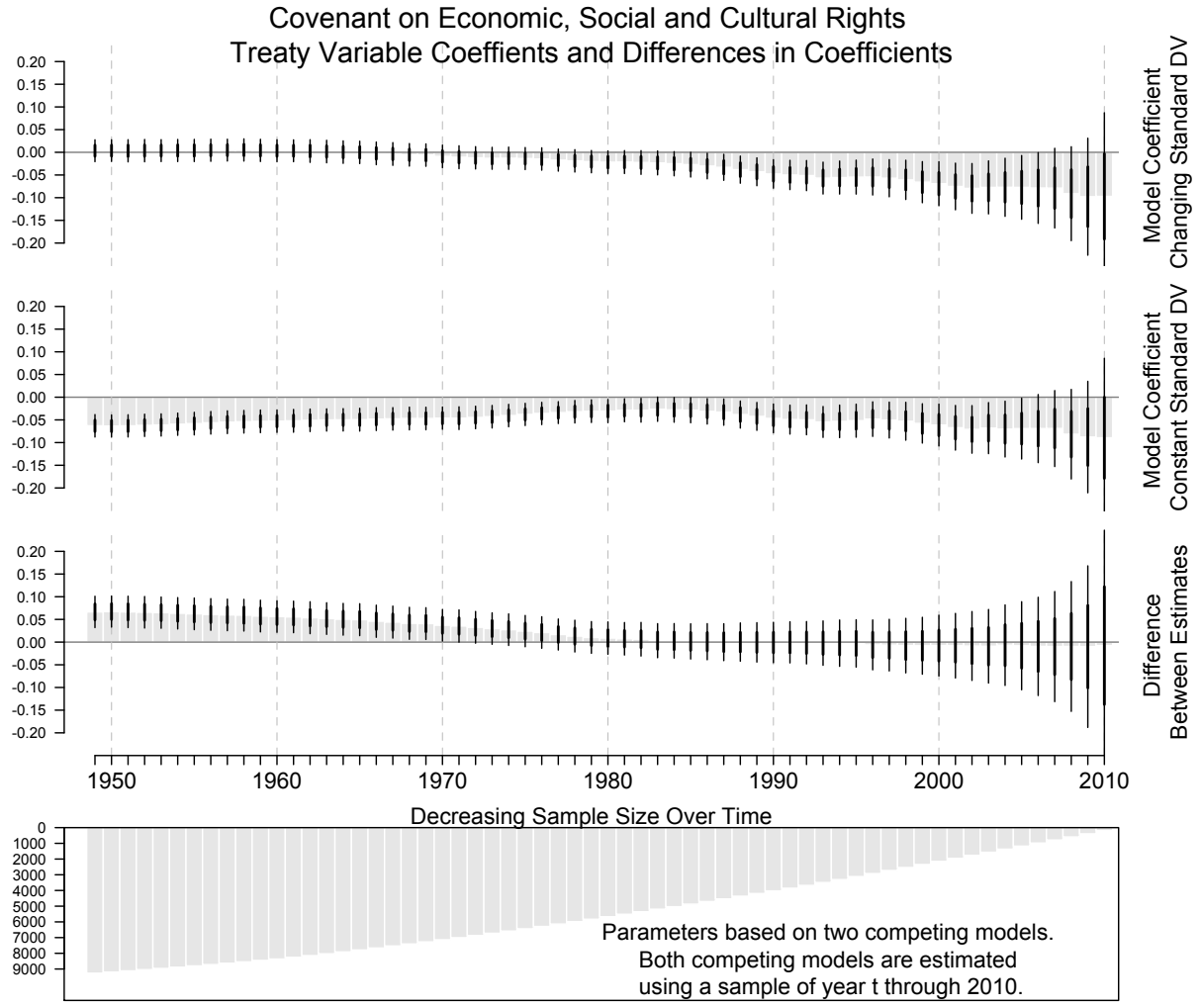

Figure 78: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

C.11 CRC Treaty Variable Model Graphs

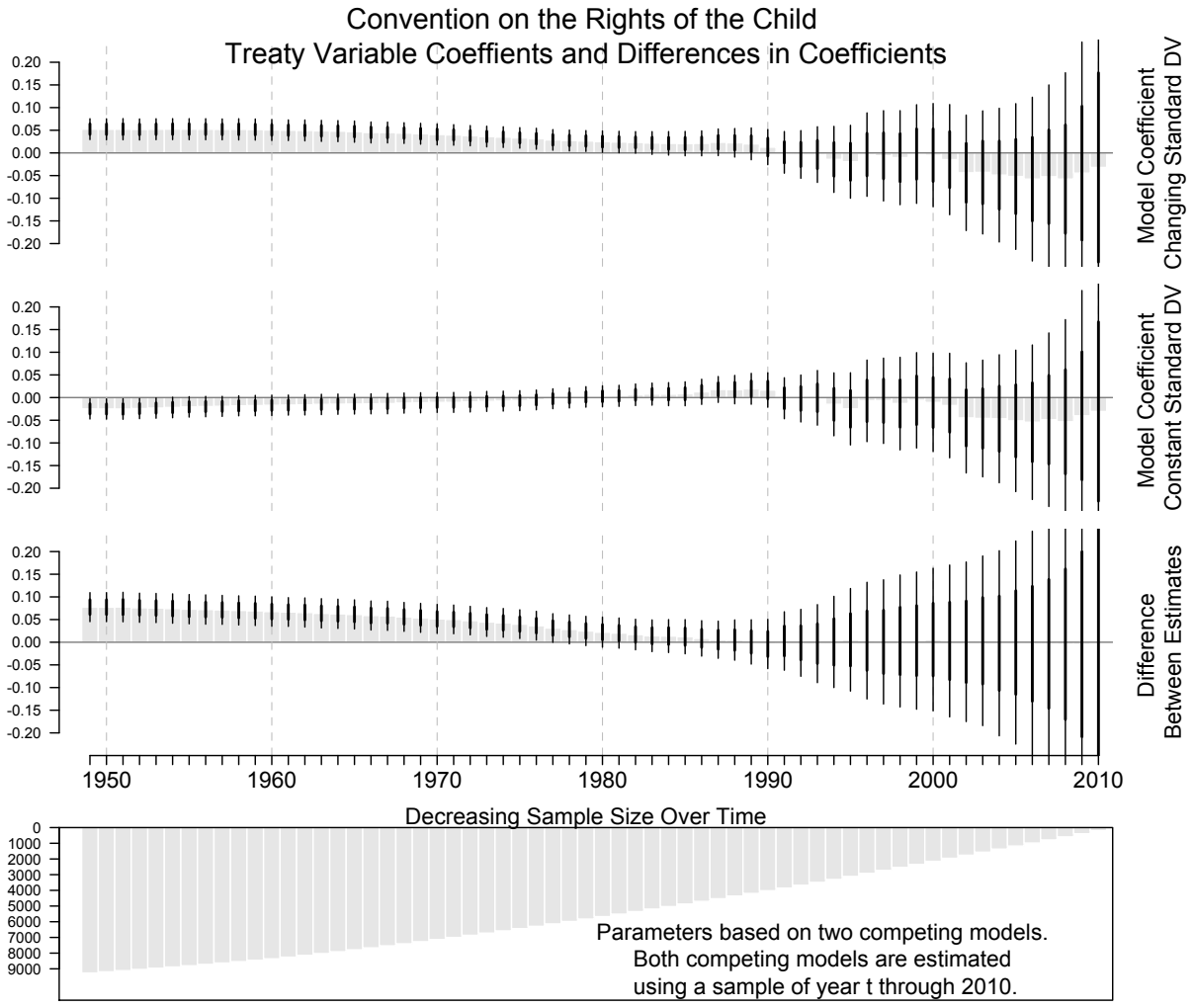

Figure 79: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

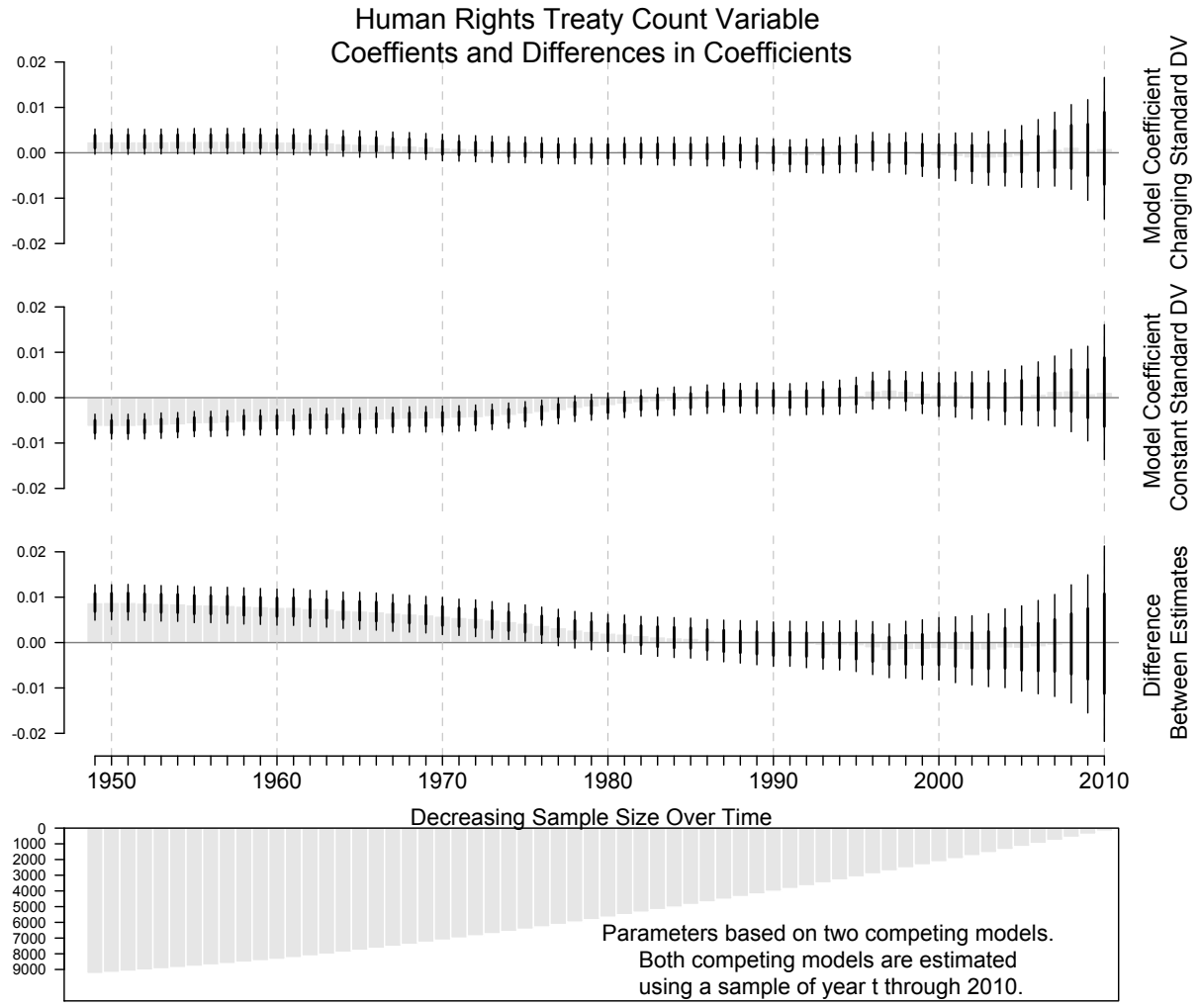

Figure 80: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

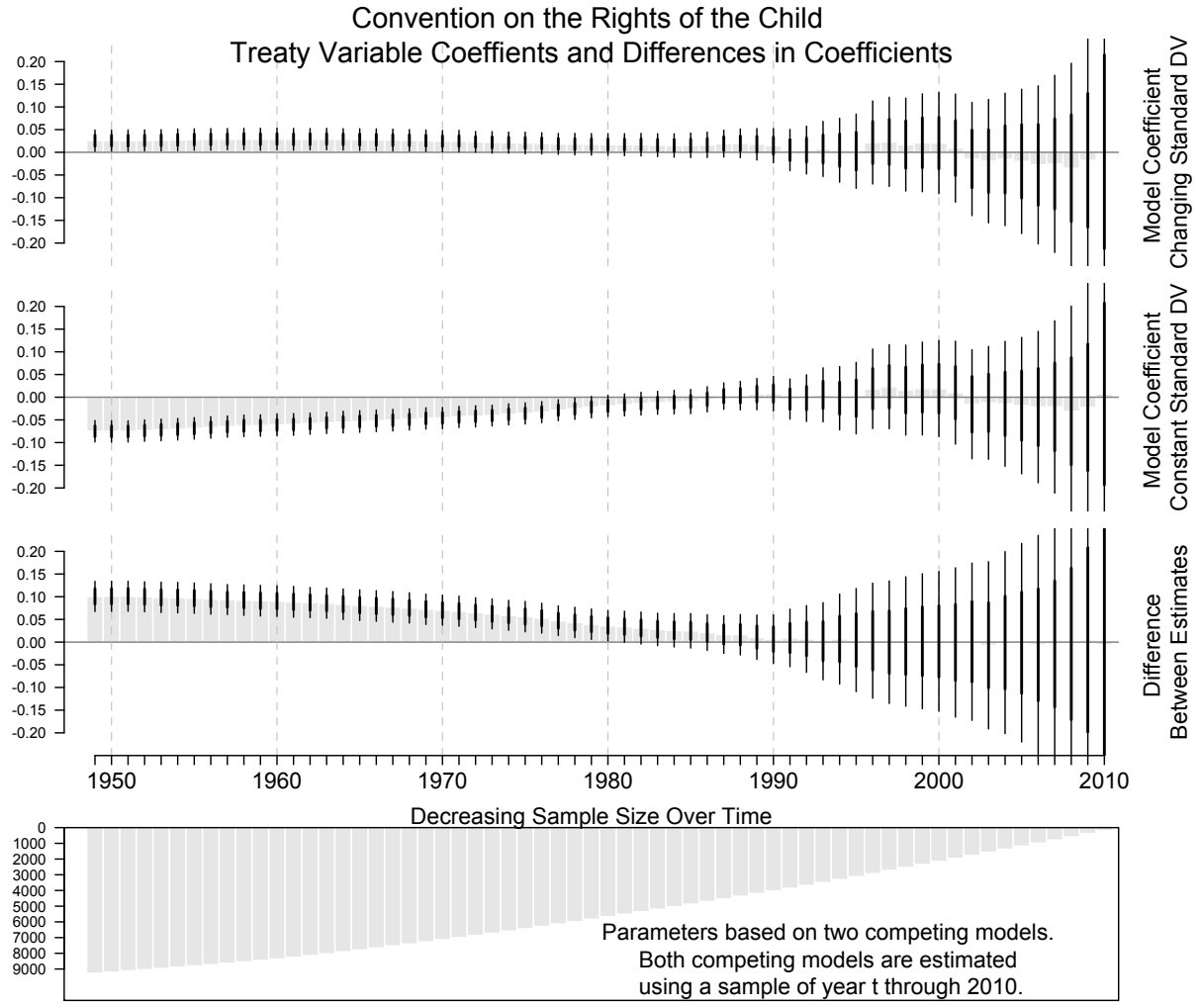

Figure 81: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

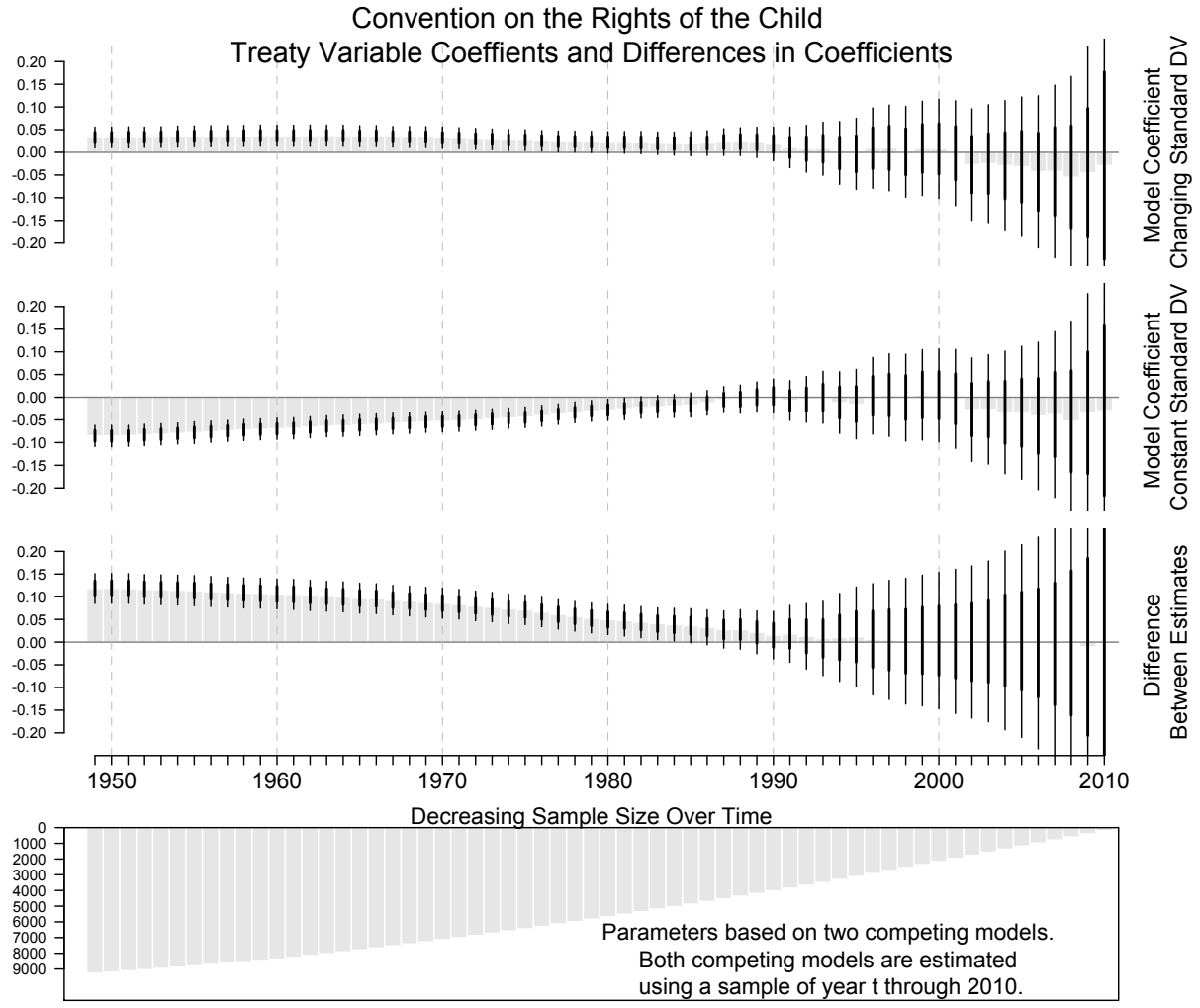

Figure 82: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

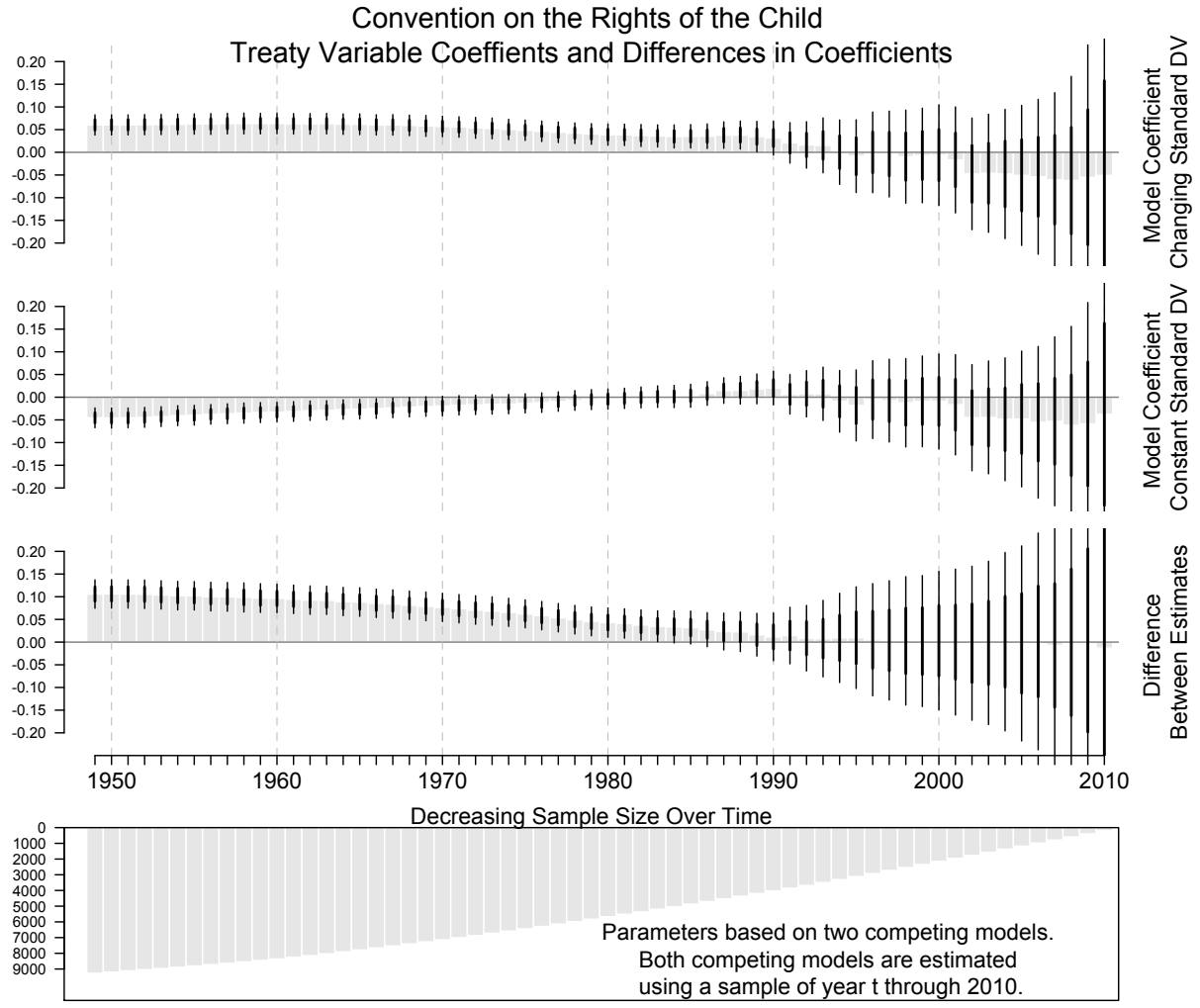

Figure 83: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

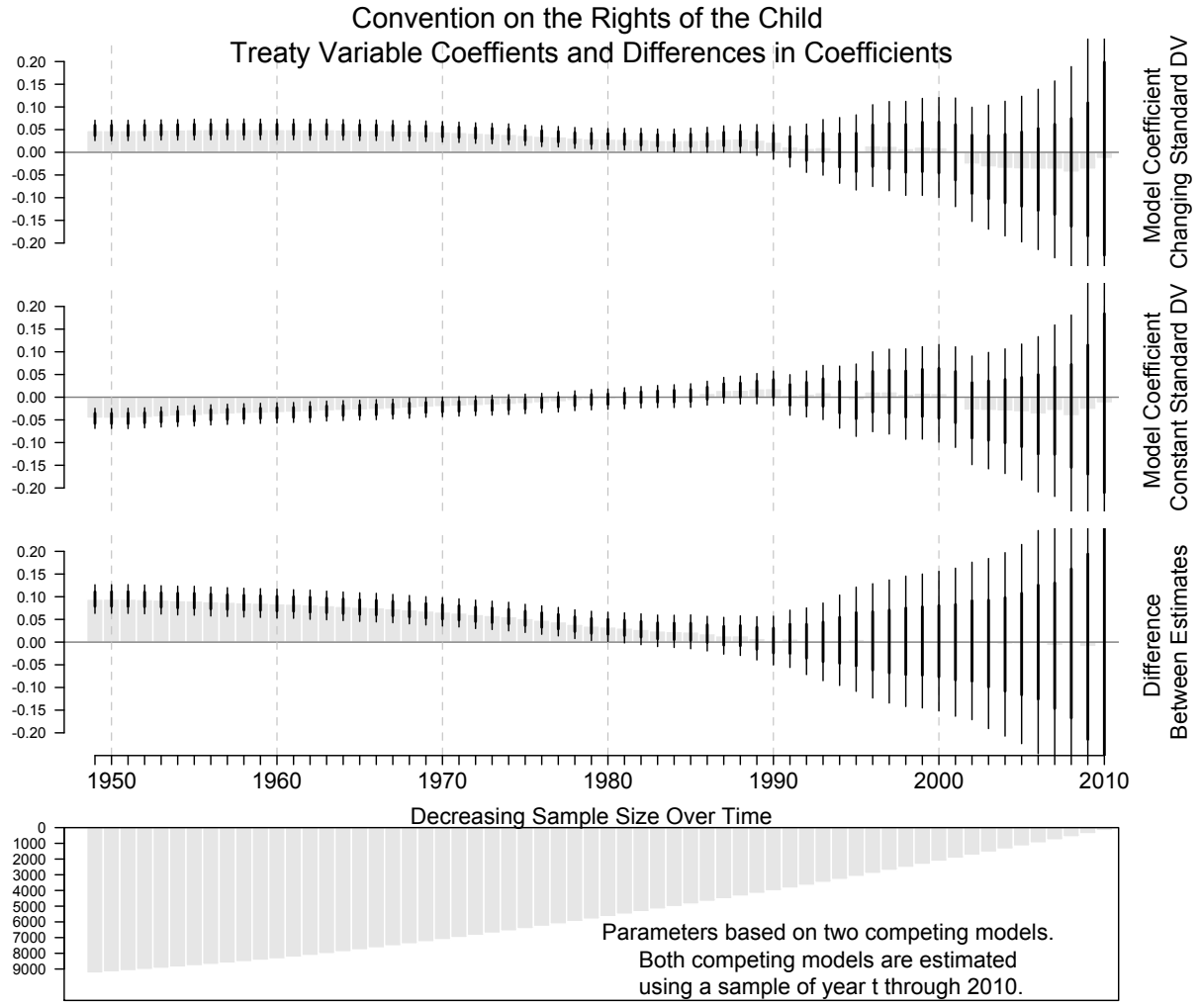

Figure 84: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

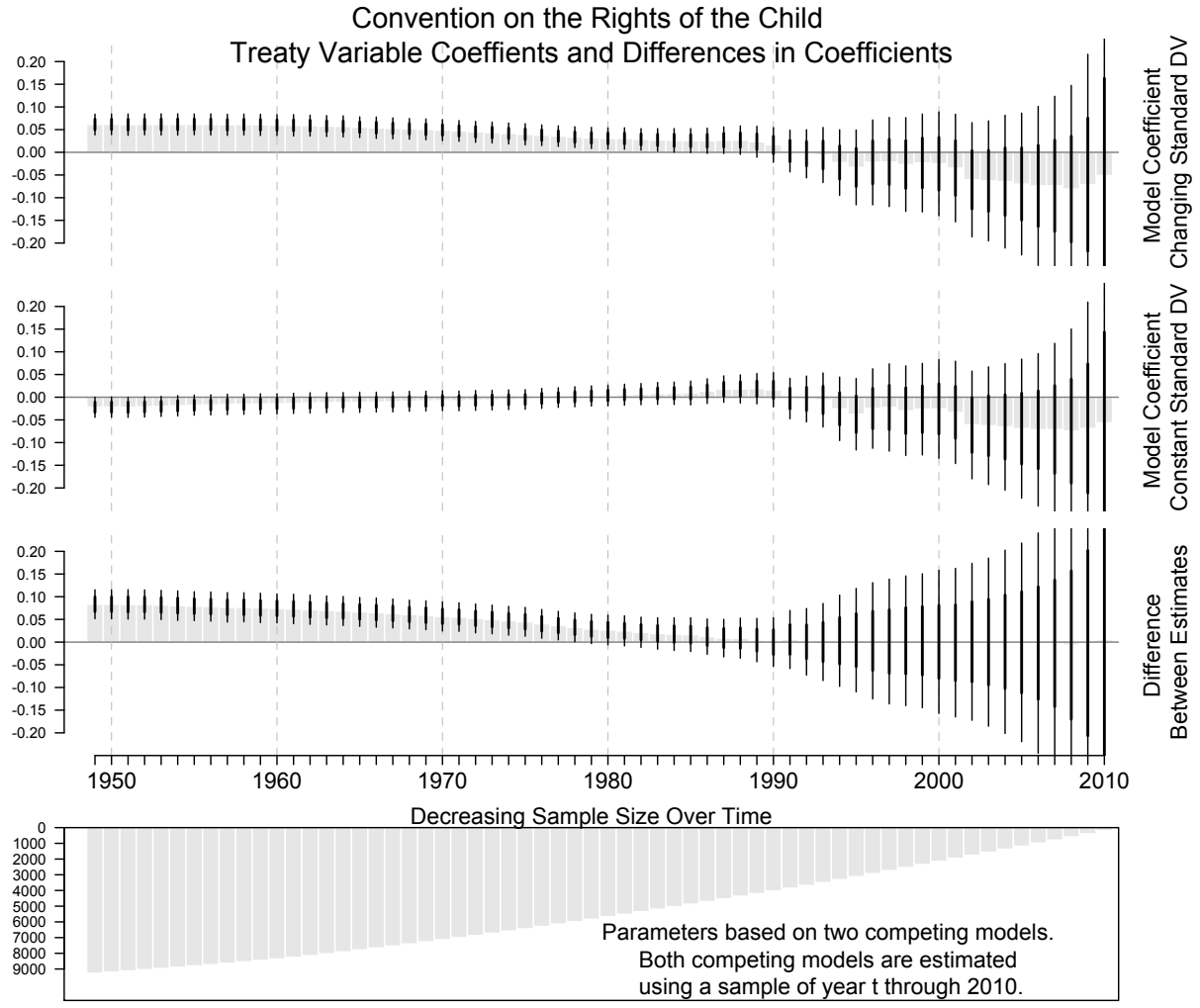

Figure 85: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

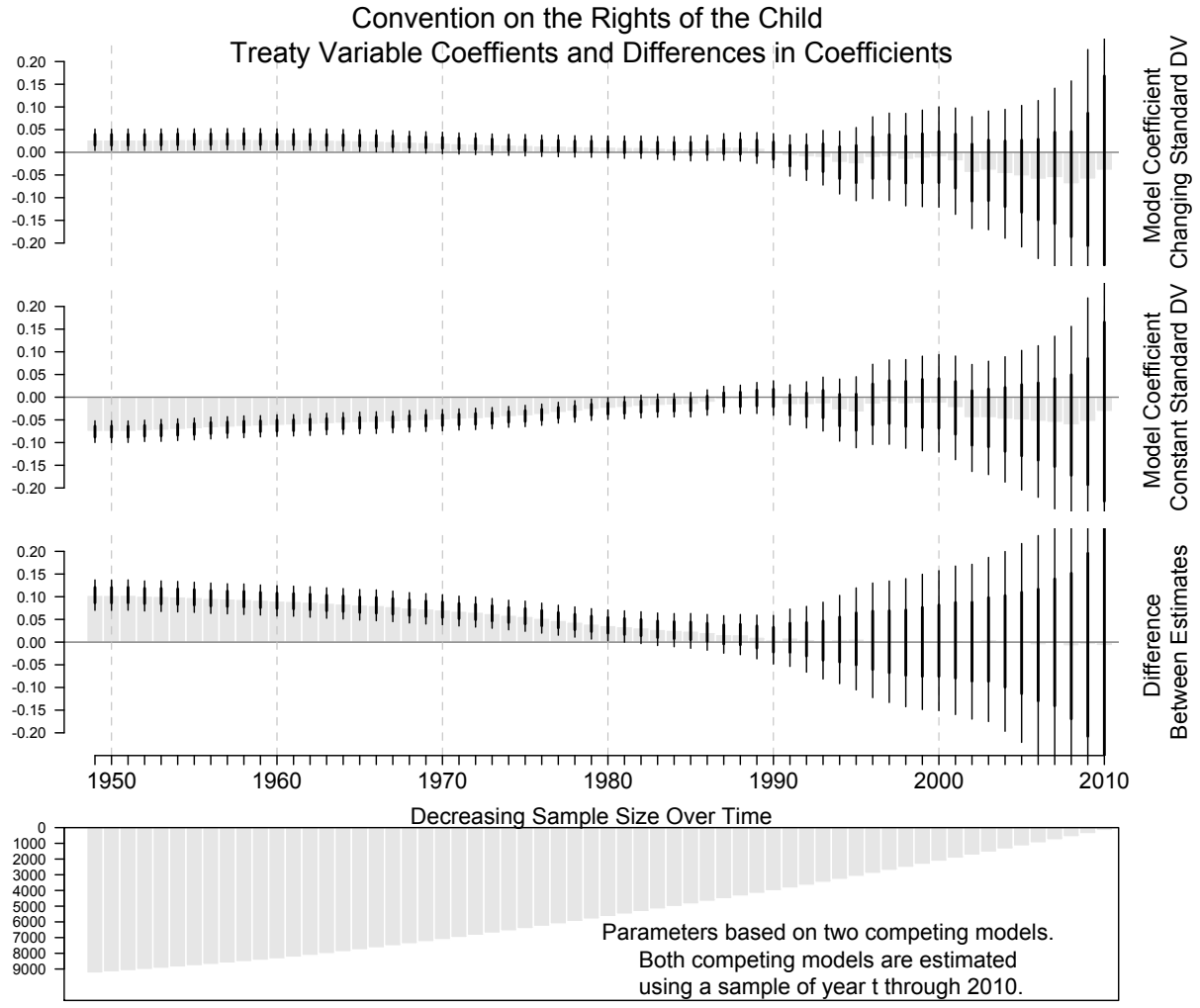

Figure 86: Estimated coefficient from the linear models using the dependent latent physical integrity variables from the constant standard model and the dynamic standard model respectively. The thick lines represent 1 $\pm$ the standard error of the coefficient. The thin lines represent 2 $\pm$ the standard error of the coefficient. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

D VDEM Human Rights Variables

D.1 VDEM Human Rights Variables Over Time

Figure 87 plots the yearly average for the two V-DEM human rights variables from 1949-2013, the same time period available for the updated version of latent human rights variable. What should be clear from this visualization, is a very similar upward trend in human rights respect after the end of Cold War. This upward trend is consistent with the pattern of the latent variable that accounts for the changing standard of accountability in the upper panel of Figure 4. These similar patterns provide evidence of the convergent validity of the latent human rights variable that incorporates the changing standard of accountability. According to the V-DEM human rights data and consistent with previous findings, human rights are improving over time. The Appendix contains these correlation coefficients.

Correlation coefficients between the two V-DEM variables and the two versions of the latent human rights variables support this inference.[5] The correlation coefficients for the V-DEM variables and the latent human rights variable that incorporates the changing standard of accountability are larger than the same statistics estimated using the latent human rights variable with a constant standard of accountability. The correlation coefficient between posterior draws of the V-DEM torture variable and posterior draws of the latent human rights variables are 0.632 [95% *Credible Interval* : 0.624, 0.639] (changing standard of accountability) and 0.568 [95% *Credible Interval* : 0.560, 0.575] (constant standard of accountability) respectively. The difference between these estimates is 0.064 [95% *Credible Interval* : 0.054, 0.075]. The correlation coefficient between posterior draws of the V-DEM killing variable and posterior draws of the latent human rights variables are 0.642 [95% *Credible Interval* : 0.635, 0.650] (changing standard of accountability) and 0.576 [95% *Credible Interval* : 0.569, 0.584] (constant standard of accountability) respectively. The difference between these estimates is 0.066 [95% *Credible Interval* : 0.055, 0.076]. [6]

[5] The correlation coefficients are calculated by taking draws from the country-year posterior distributions for each variable and then calculating the correlation coefficient for each pair of draw.

[6] The correlation coefficients between the point estimates for these latent human rights variables and point estimate of the V-DEM torture variable are 0.697 [95% *Confidence Interval* : 0.686, 0.708] 0.627 [95% *Confidence Interval* : 0.614, 0.640] and the V-DEM killing variable are 0.708 [95% *Confidence Interval* : 0.697, 0.7185] 0.635 [95% *Confidence Interval* : 0.623, 0.6482], which demonstrate the same pattern of increased agreement between the V-DEM variables and the latent human rights variable that incorporates the changing standard of accountability.

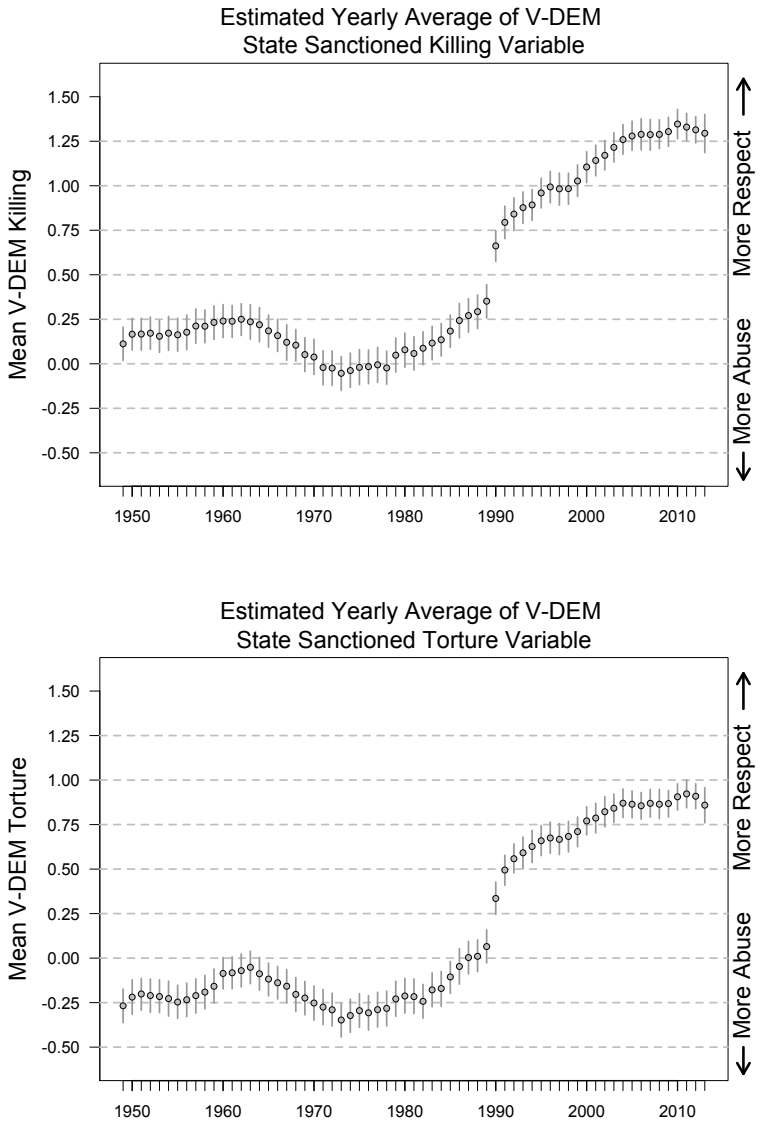

Figure 87: The yearly average for the two expert-coded V-DEM physical integrity variables from 1949-2013 (Coppedge et al., 2014; Pemstein, Tzelgov and ting Wang, 2015), which is the same time period available for the most recent update of latent human rights variable. What should be clear from this visualization, is a very similar upward trend in human rights respect after the end of Cold War. This upward trend is consistent with the pattern of the latent variable that accounts for the changing standard of accountability in the upper panel of Figure 4. These similar patterns provide evidence of the convergent validity of the latent human rights variable that incorporates the changing standard of accountability. According to the V-DEM human rights data and consistent with previous findings (Fariss, 2014), human rights are improving over time.

D.2 Replication Model Specifications

Positive regression coefficients from regression models that regress the two V-DEM human rights variables from Coppedge et al. (2014); Pemstein, Tzelgov and ting Wang (2015) on the latent treaty variable in addition to the control variables described in Fariss (2015). These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. The regression model specification that produces these coefficients contains all of the control variables considered in Fariss (2015). Each of the 8 model specifications for the two new V-DEM human rights variables. For the V-DEM replications, the following models are used for two the two different physical integrity V-DEM human rights variables. The eight linear regression models are specified as follows for each of the the latent treaty variable described in Fariss (2015):

Model 1 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$

Model 2 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$

Model 3 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$

Model 4 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$

Model 5 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$

Model 6 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$

Model 7 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$

Model 8 $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$

The control variables include a measure of democracy (Marshall, Jaggers and Gurr, 2013), the natural log of GDP per capita (Gleditsch, 2002), the natural log of population (Gleditsch, 2002), and the lagged value of the latent human rights variable and finally the lagged value of one of the various different treaty variables. Overall, the choices of variables for these models does not change the difference in the relationship of treaty ratification and respect for human rights. Each model always includes the lagged version of one of the two human rights variables and a lagged treaty variable.

D.3 Latent Treaty Variable Model Graphs

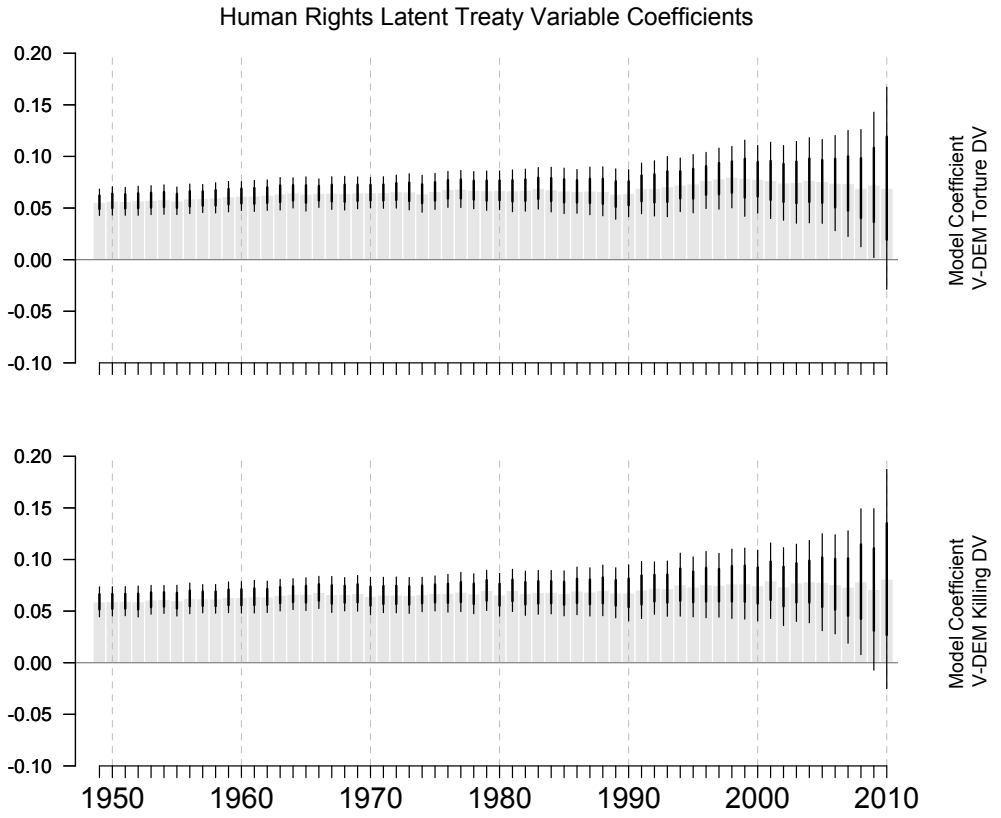

Figure 88: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

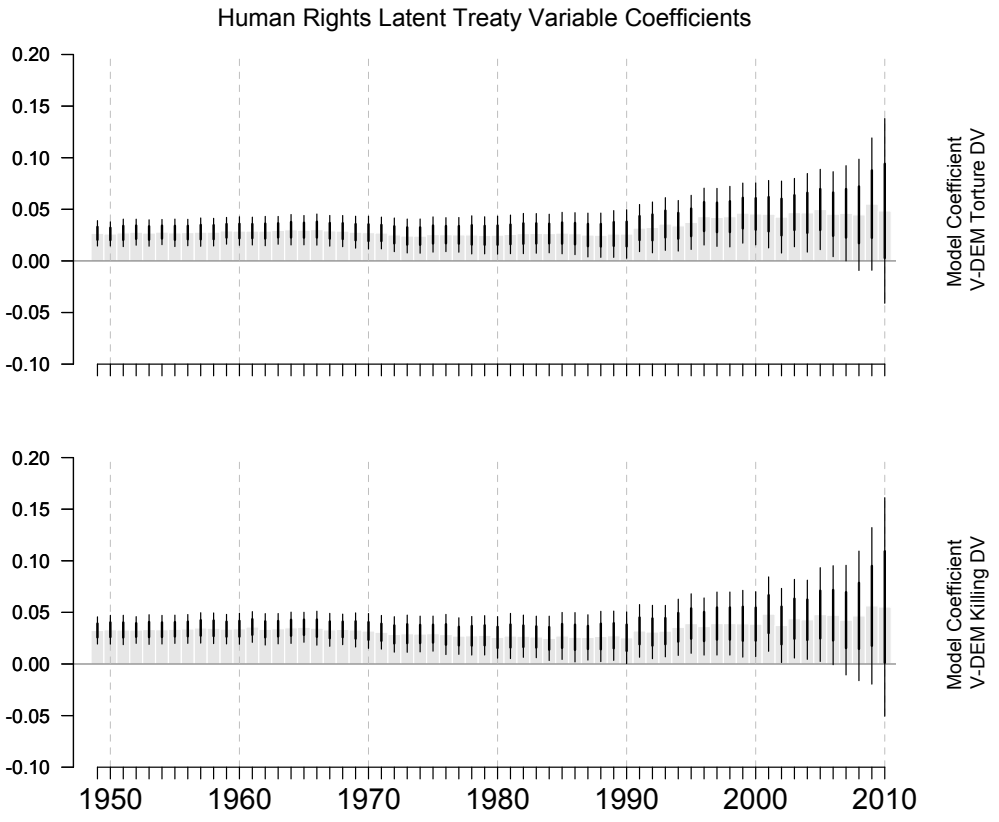

Figure 89: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

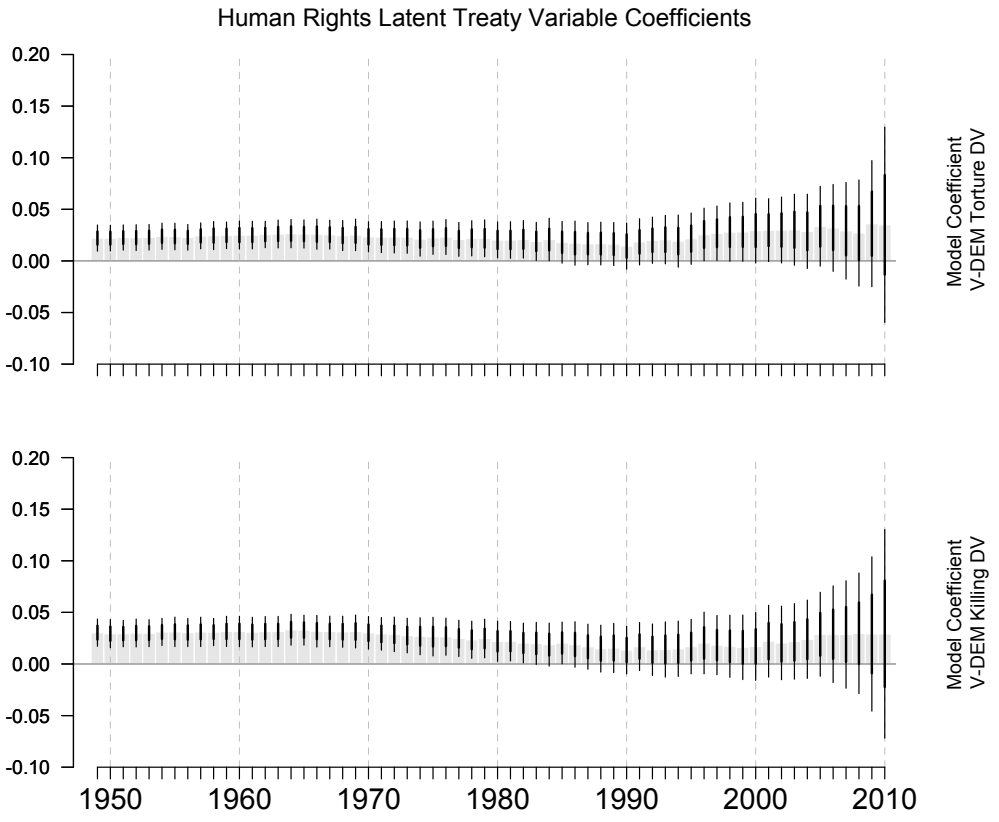

Figure 90: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

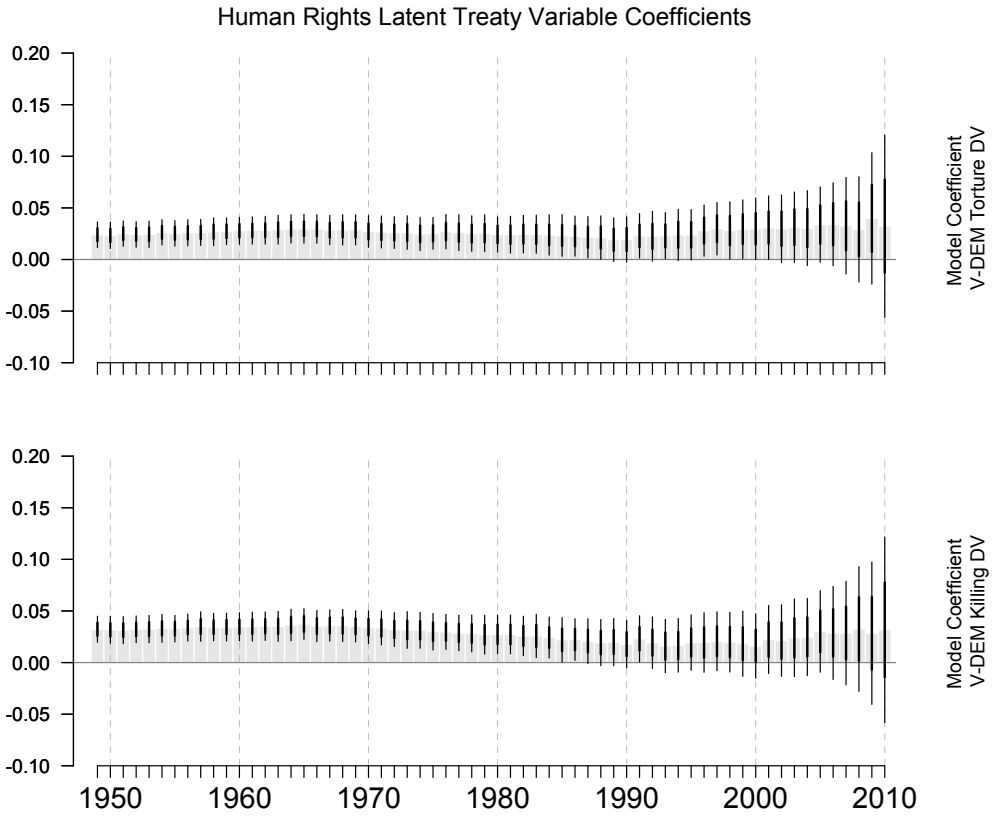

Figure 91: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

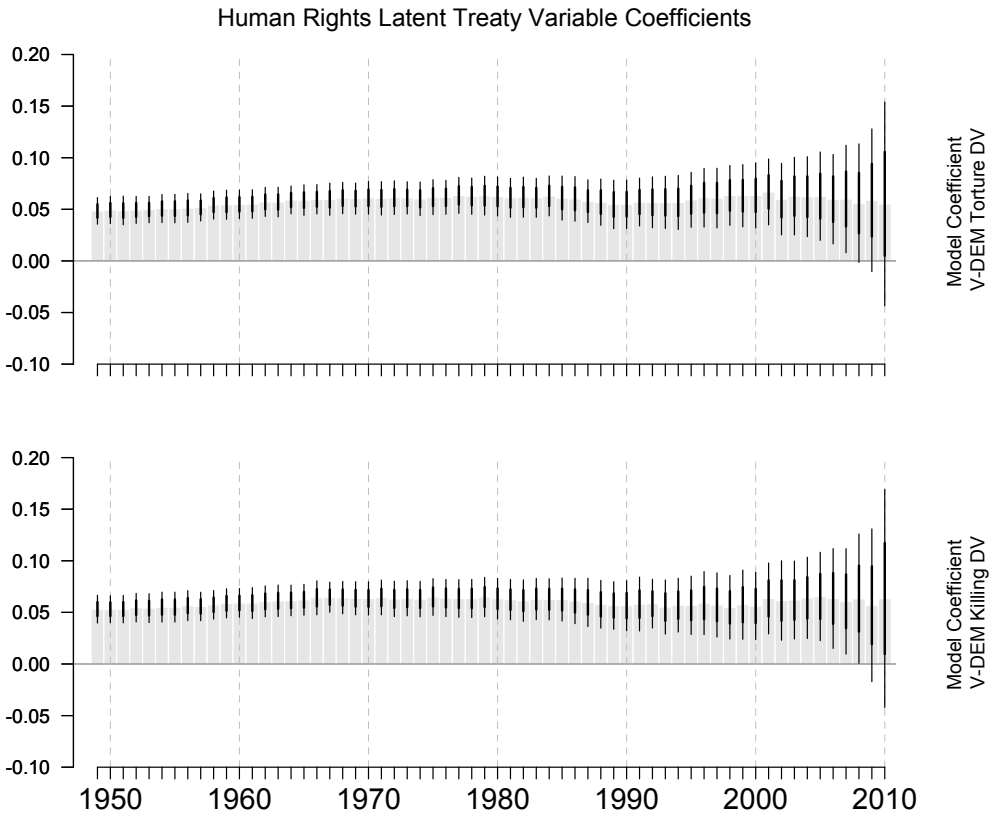

Figure 92: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

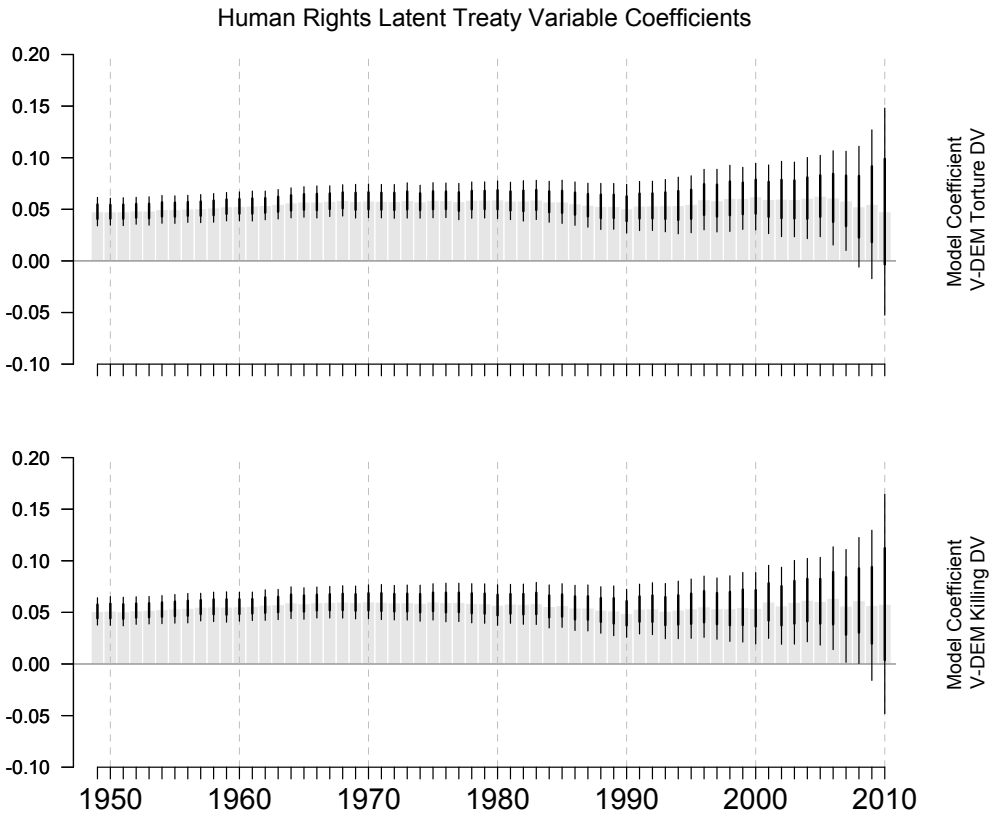

Figure 93: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

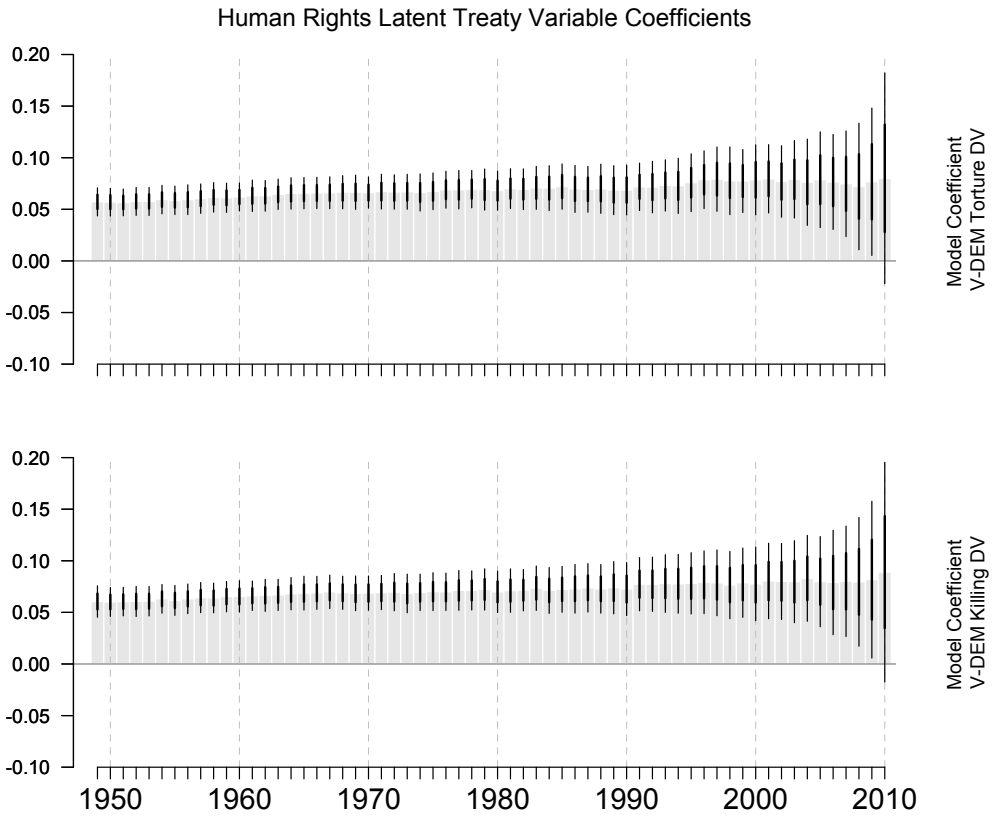

Figure 94: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

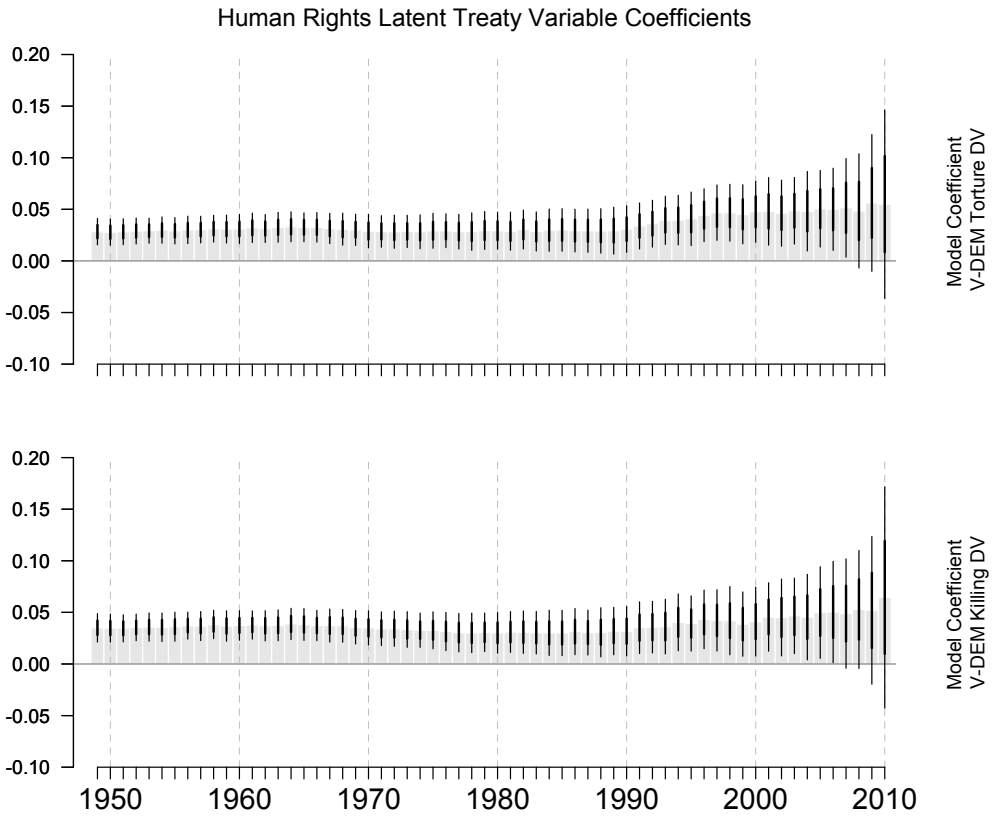

Figure 95: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

D.4 Count (CAT, CCPR, CESCR, CERD, CEDAW, CRC) Treaty Variable Model Graphs

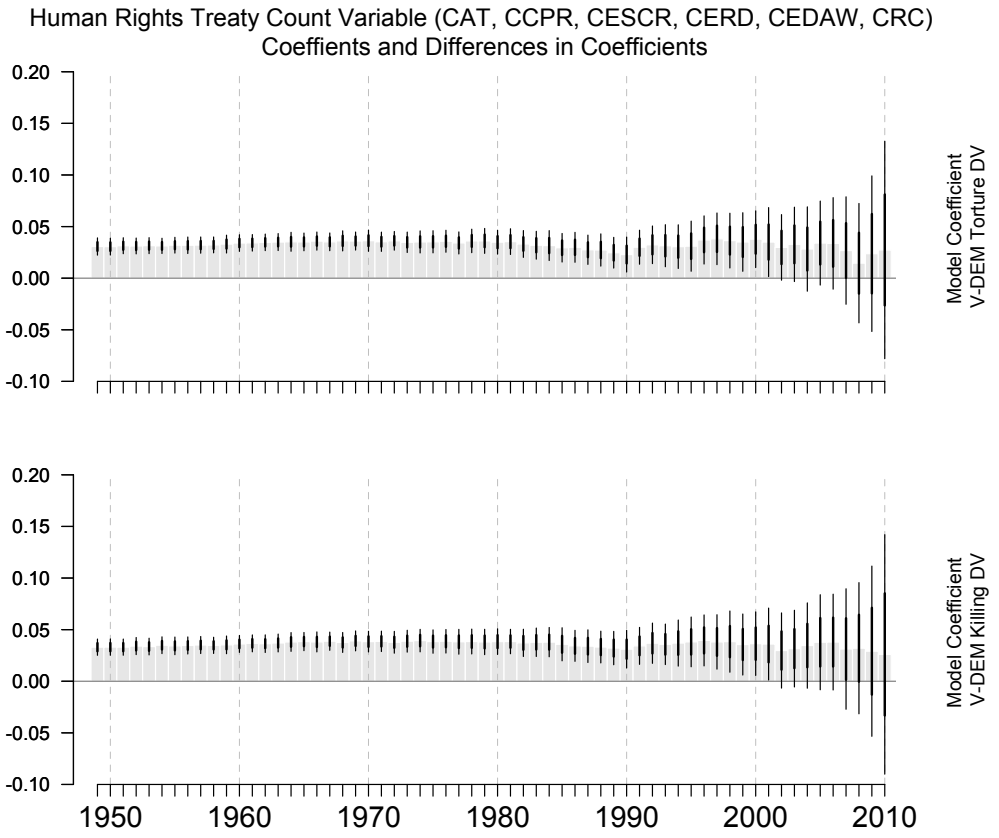

Figure 96: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

Figure 97: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

Figure 98: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

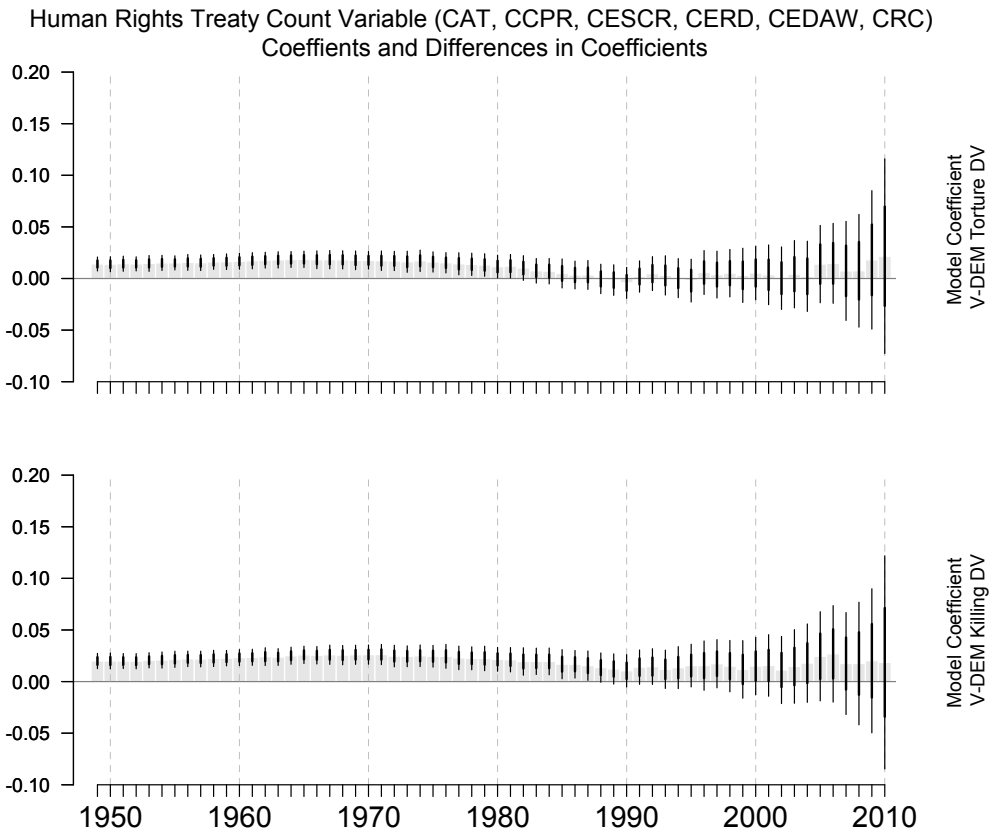

Figure 99: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

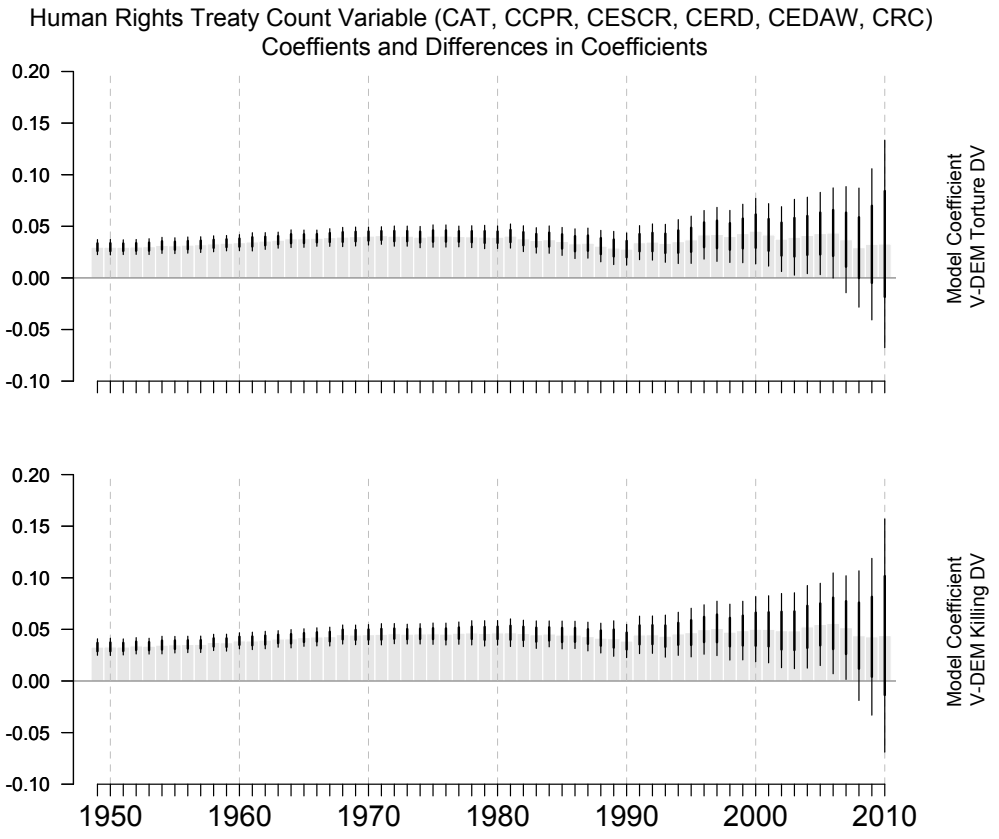

Figure 100: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

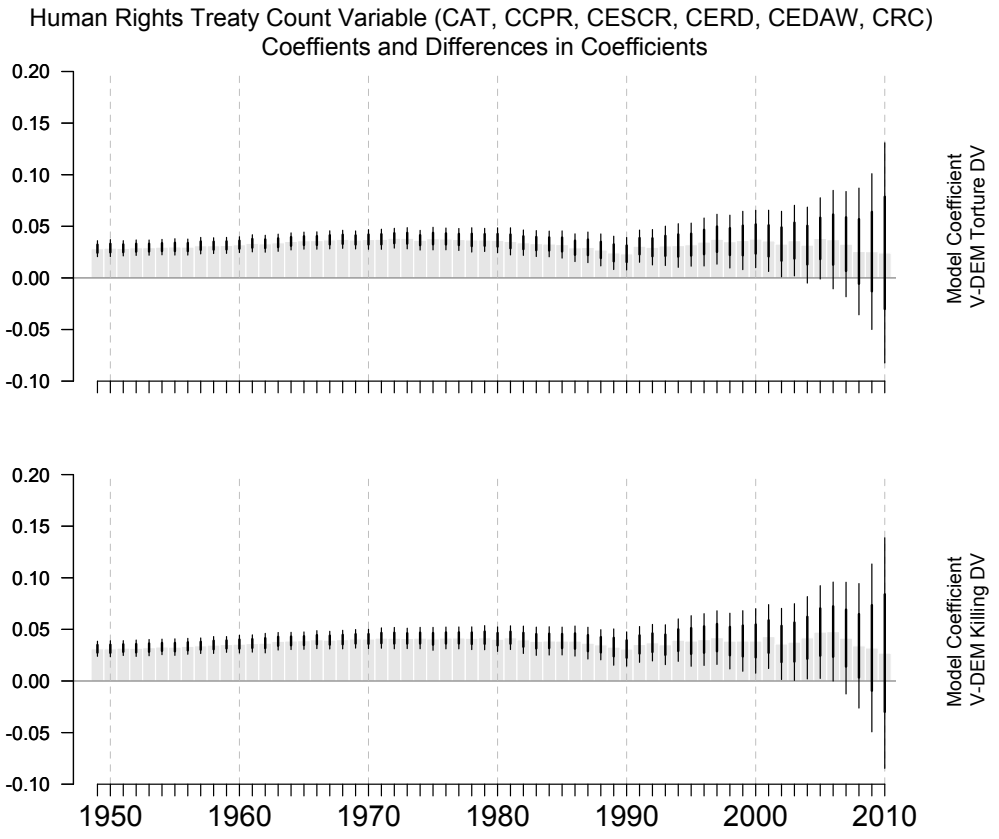

Figure 101: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

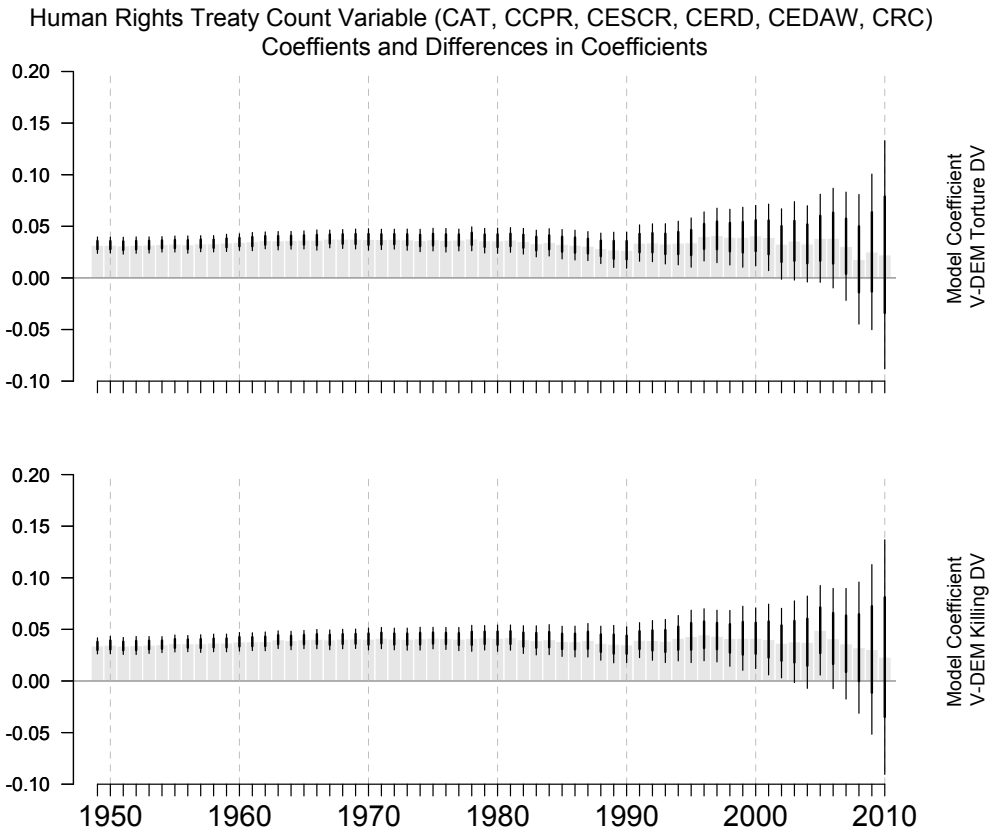

Figure 102: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

Figure 103: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

D.5 Count (ALL) Treaty Variable Model Graphs

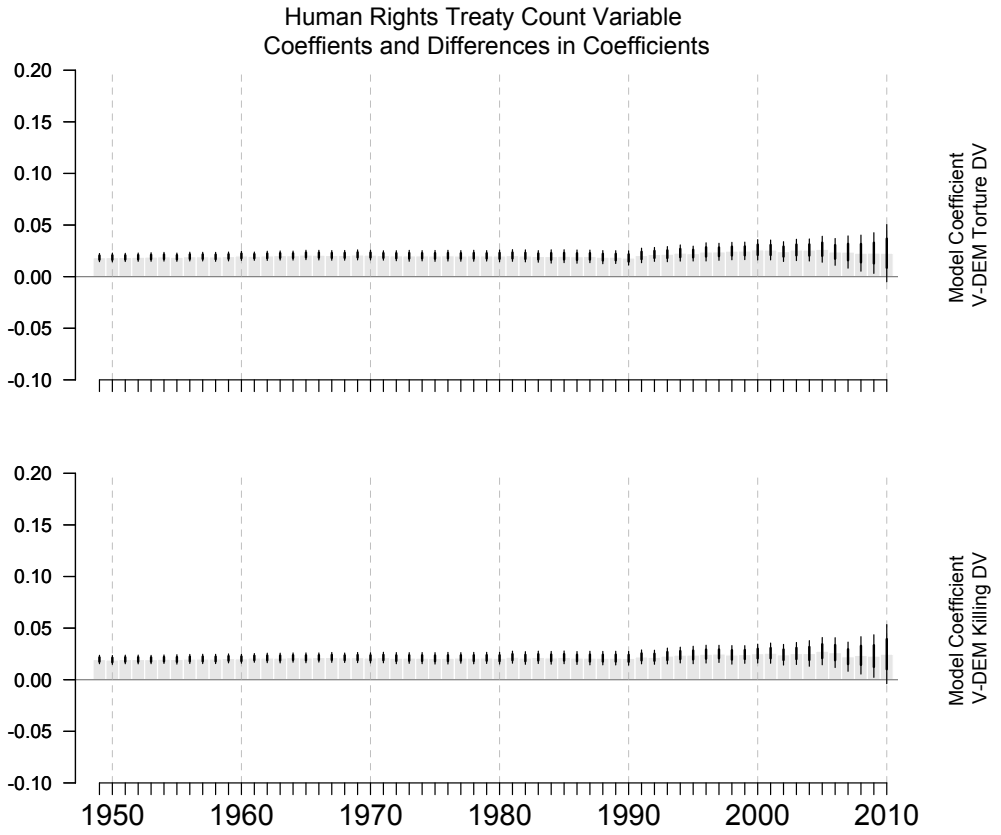

Figure 104: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

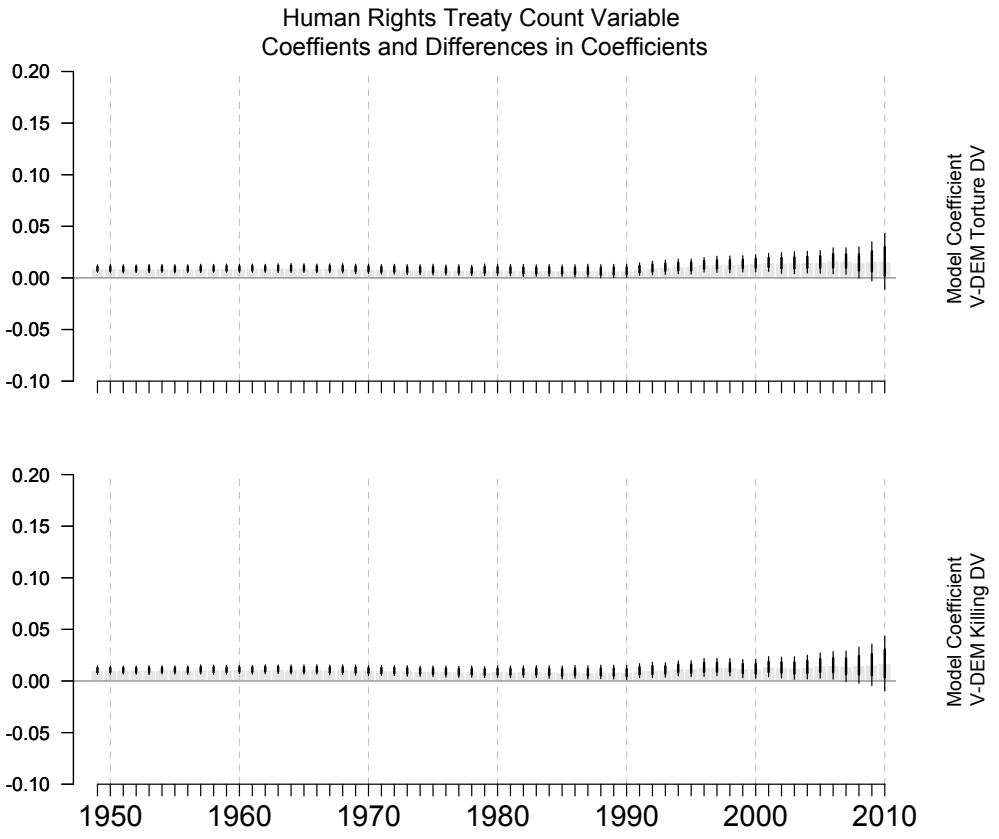

Figure 105: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

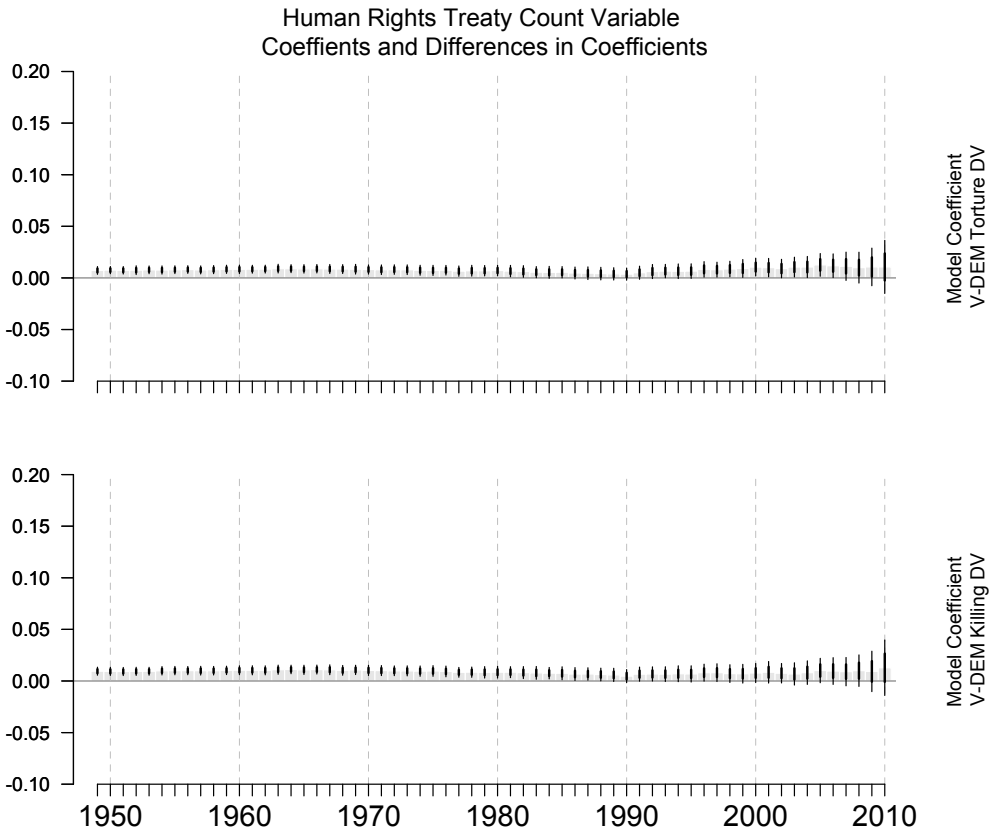

Figure 106: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

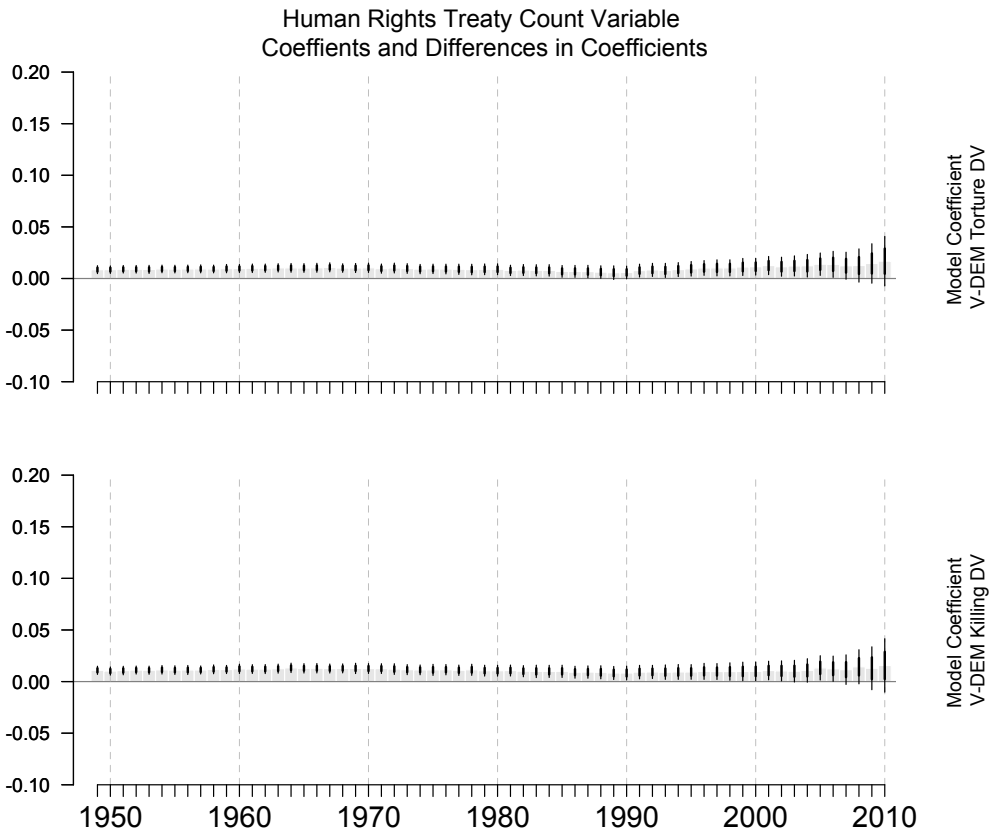

Figure 107: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

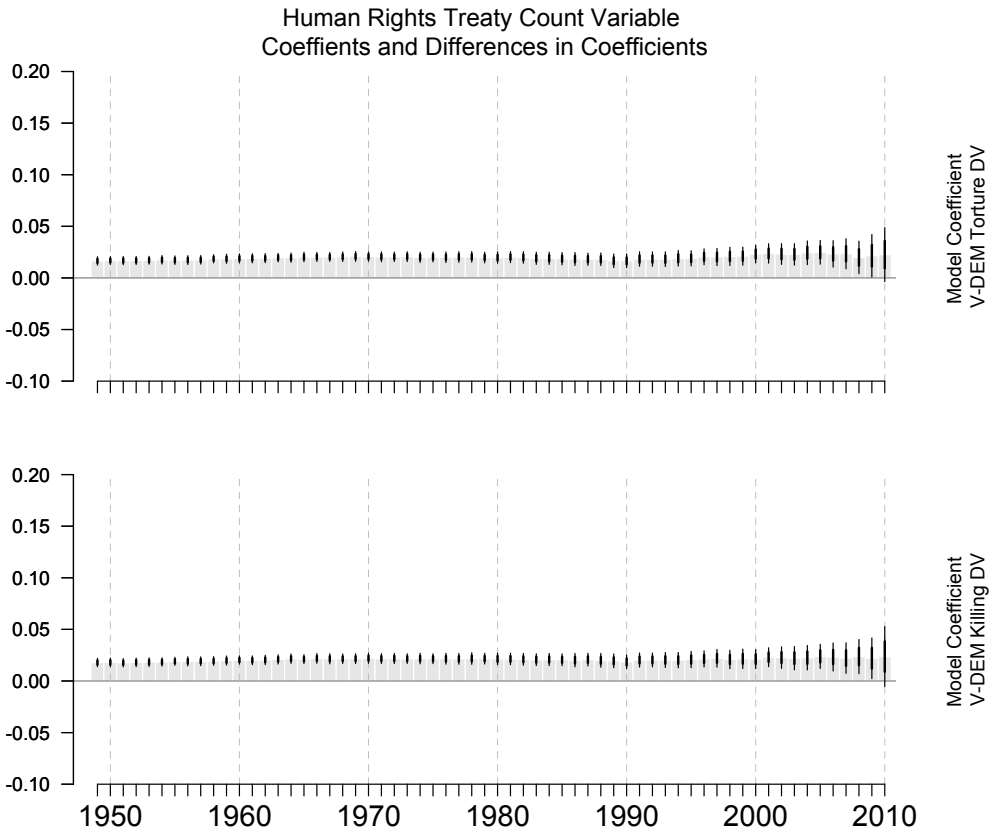

Figure 108: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

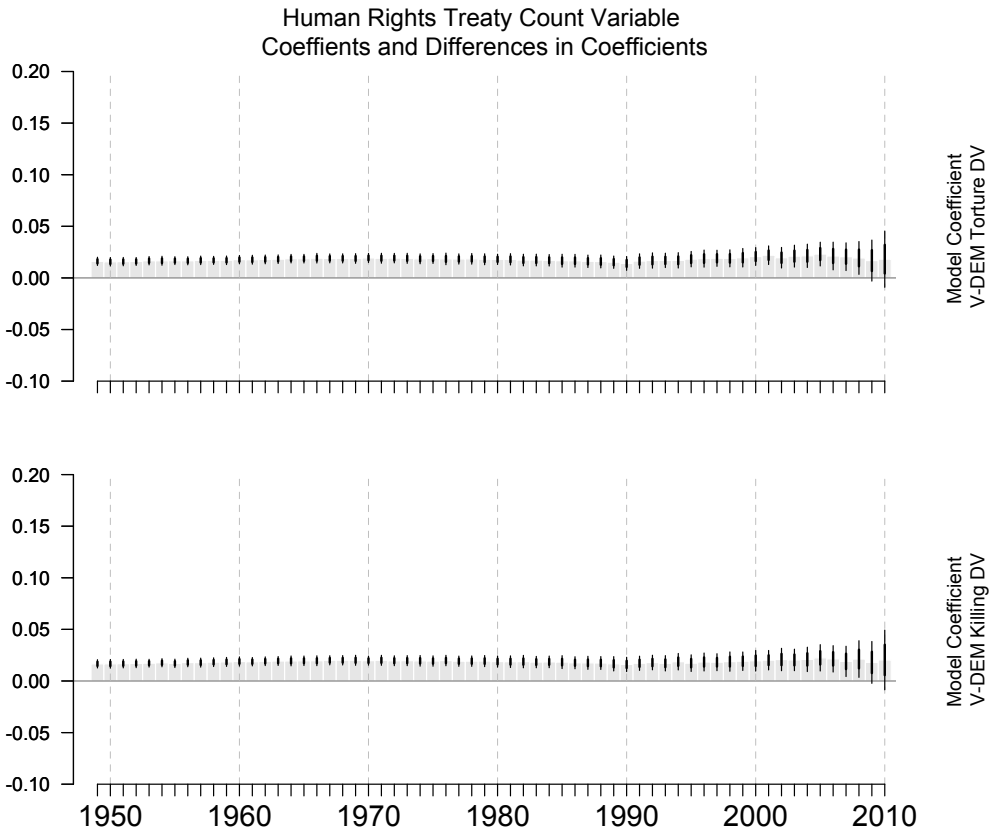

Figure 109: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

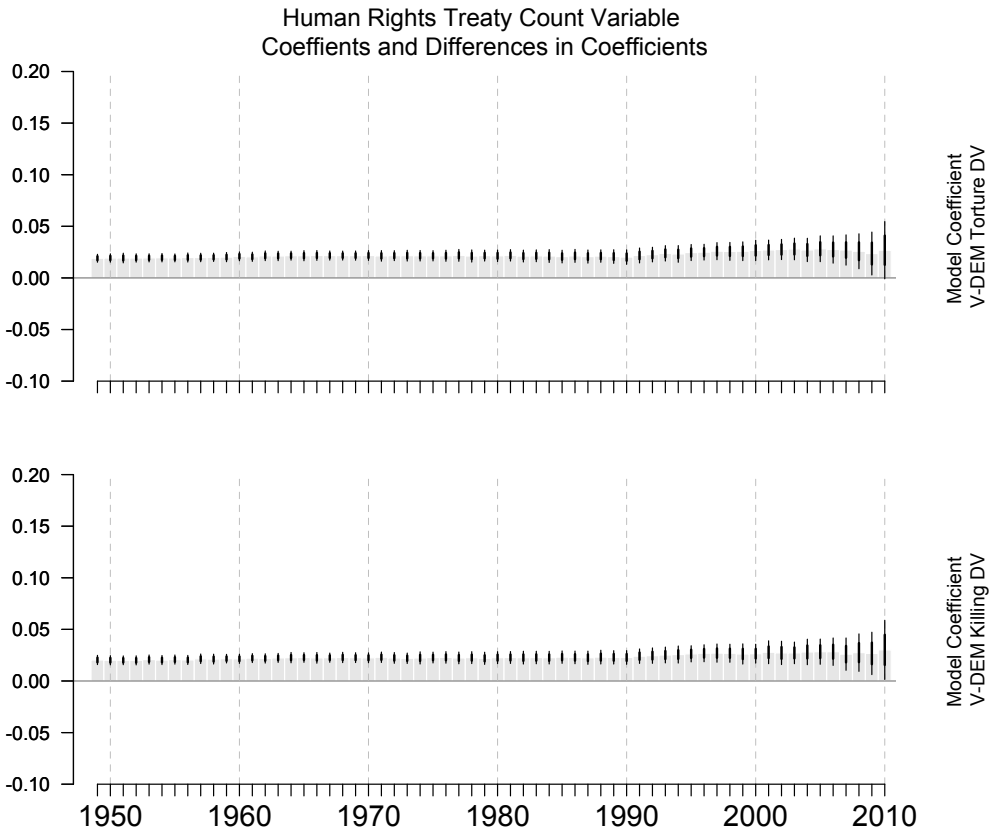

Figure 110: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

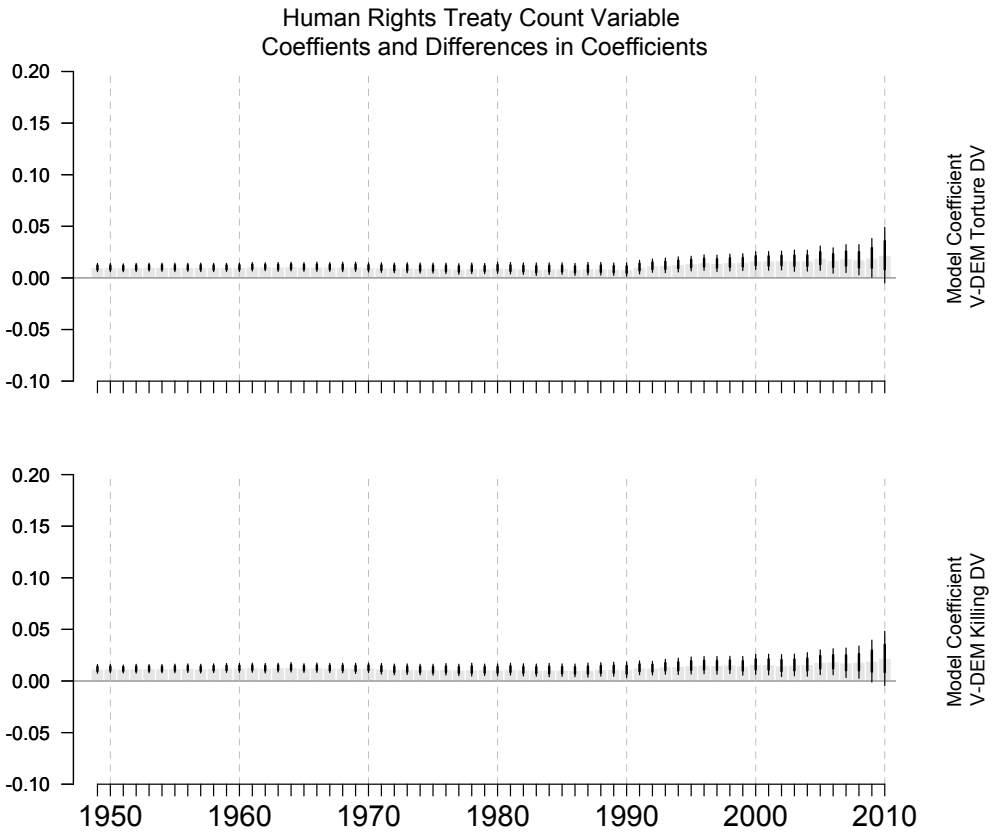

Figure 111: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

D.6 Proportion Treaty Variable Model Graphs

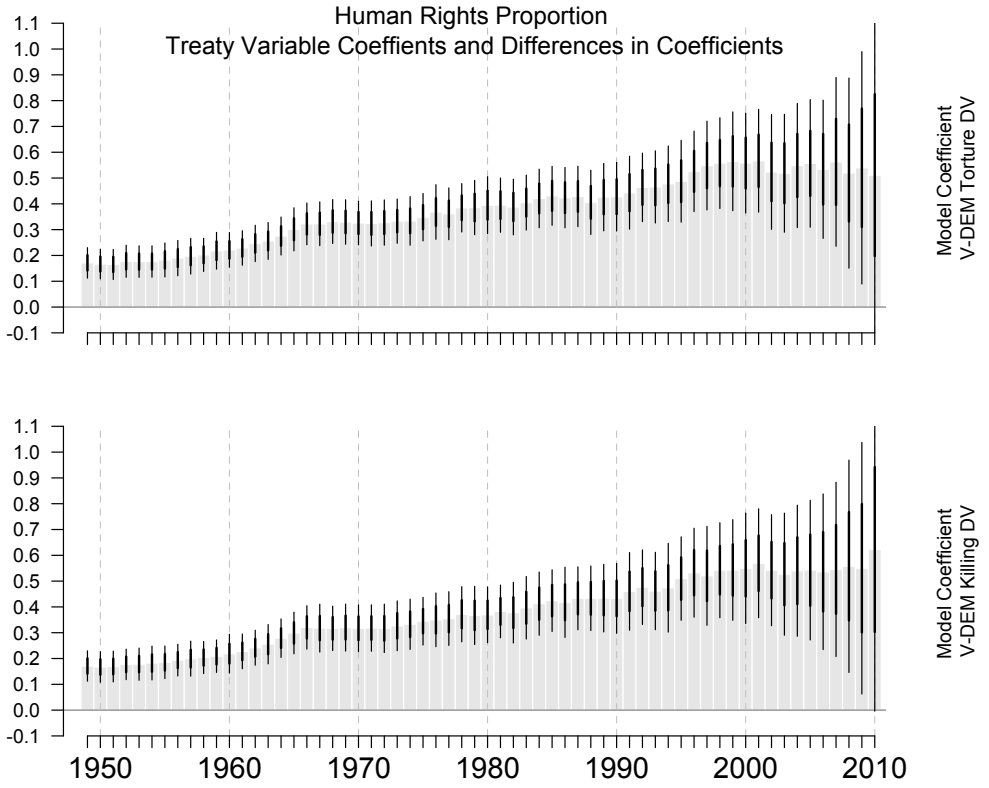

Figure 112: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 1**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1}$.

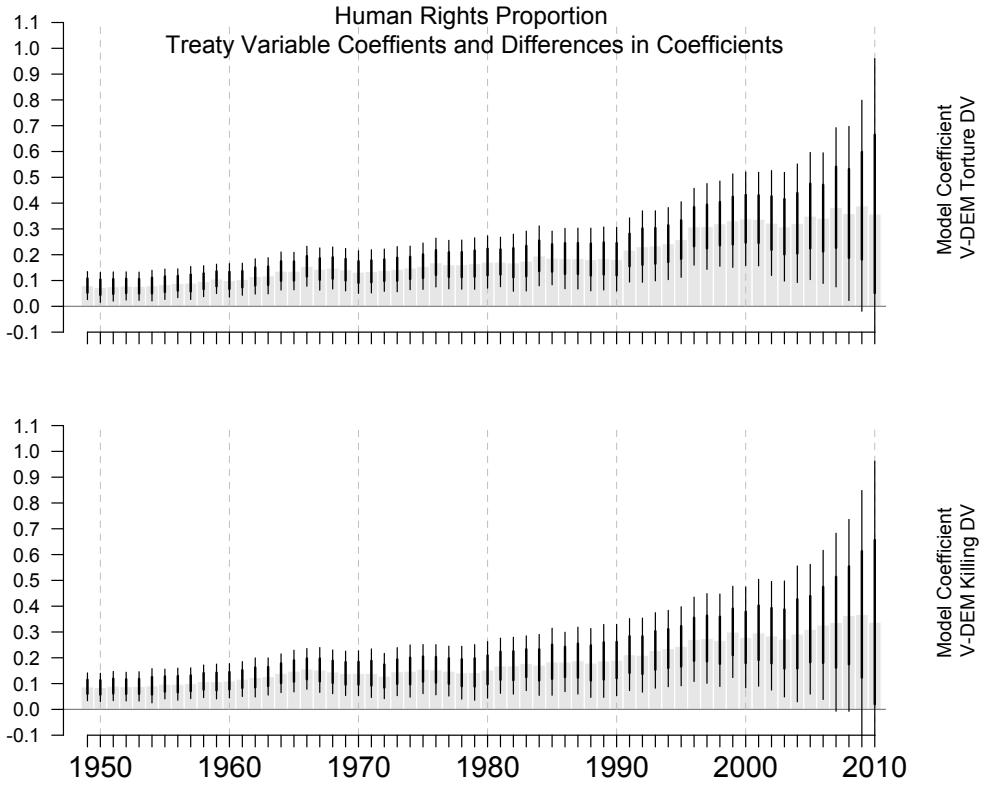

Figure 113: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 2**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1}$.

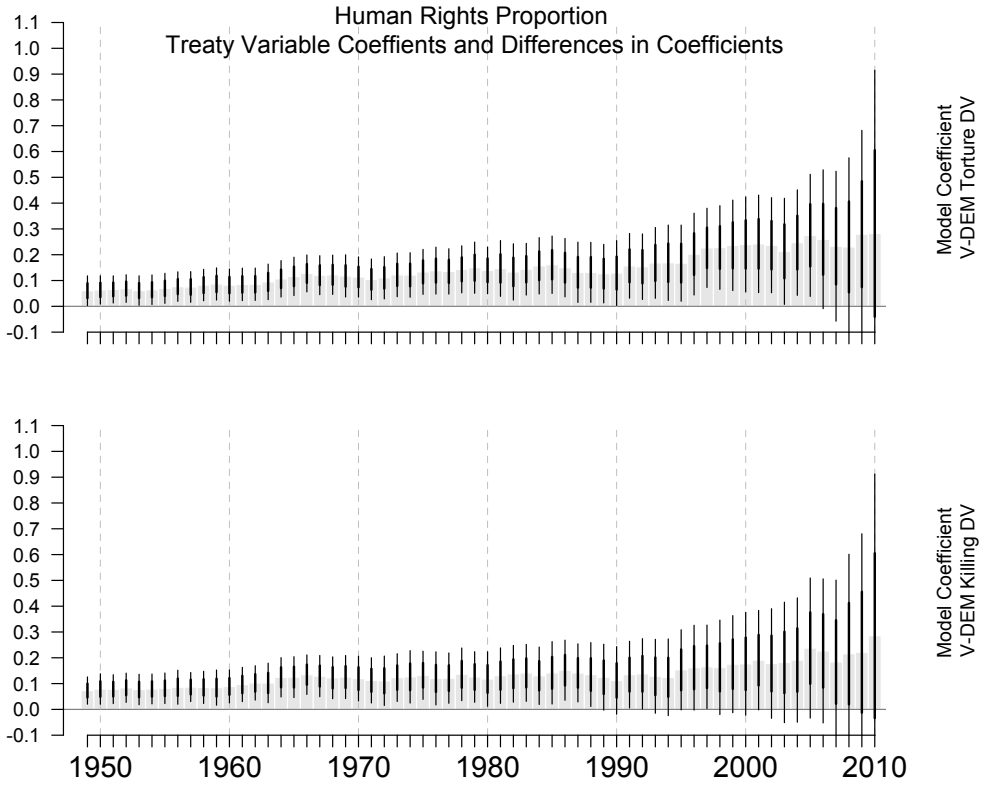

Figure 114: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 3**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

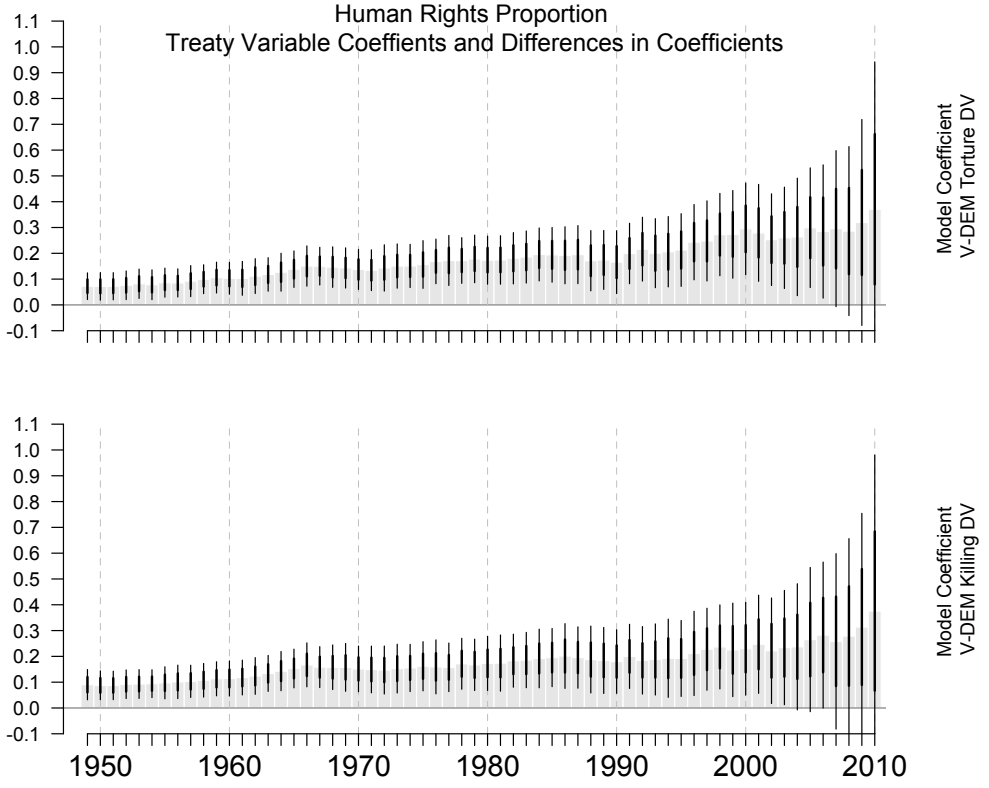

Figure 115: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 4**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

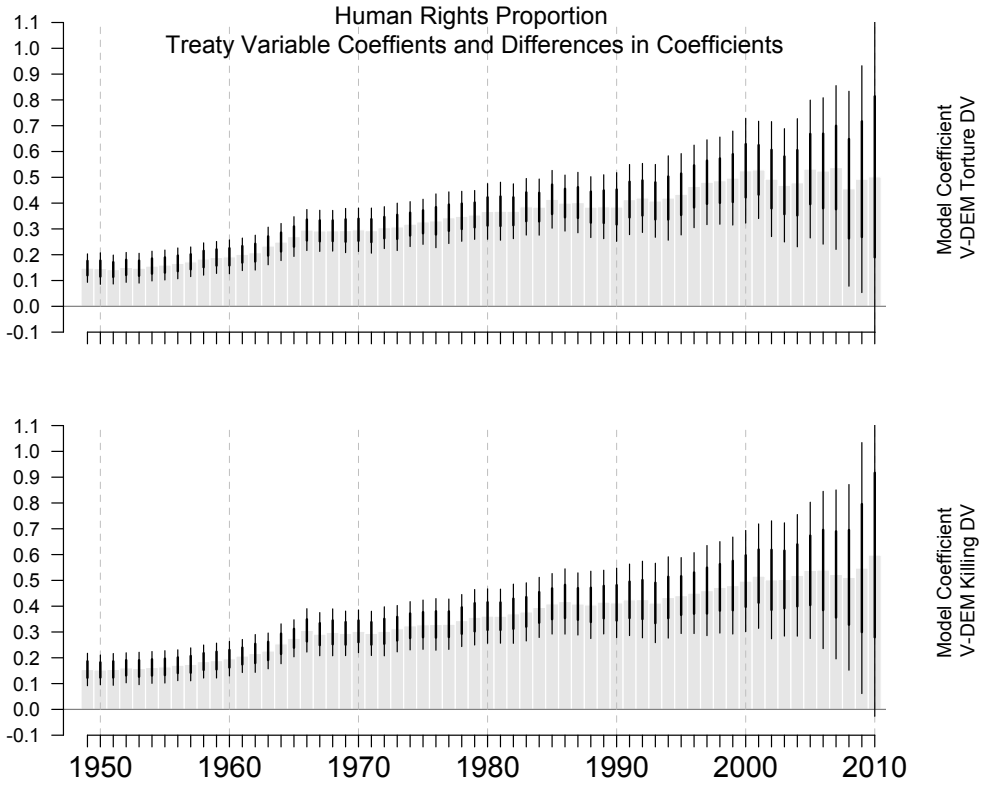

Figure 116: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 5**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1}) + \beta_5 * ln(population_{t-1})$.

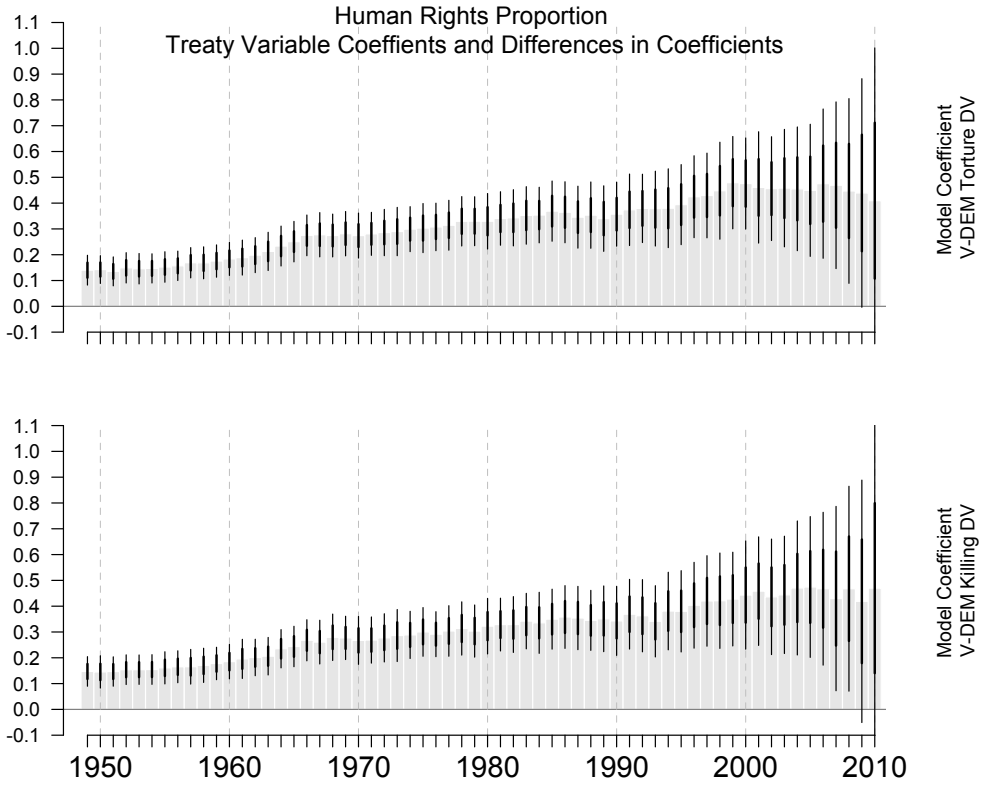

Figure 117: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 6**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_4 * ln(gdppc_{t-1})$.

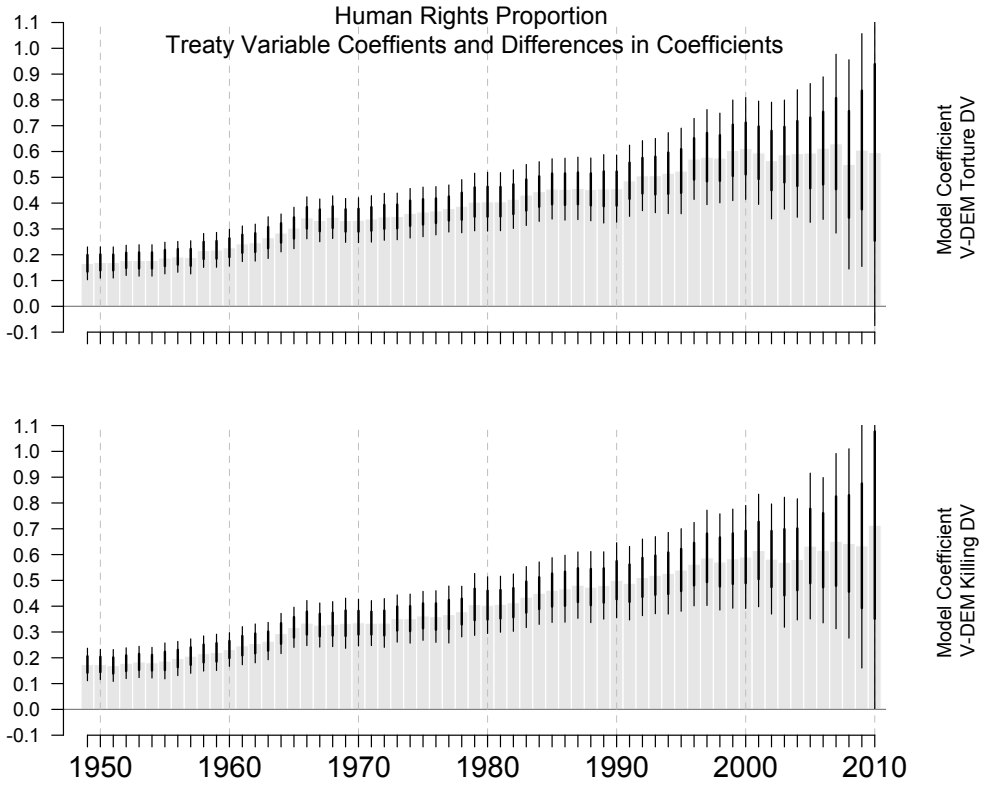

Figure 118: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 7**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_5 * ln(population_{t-1})$.

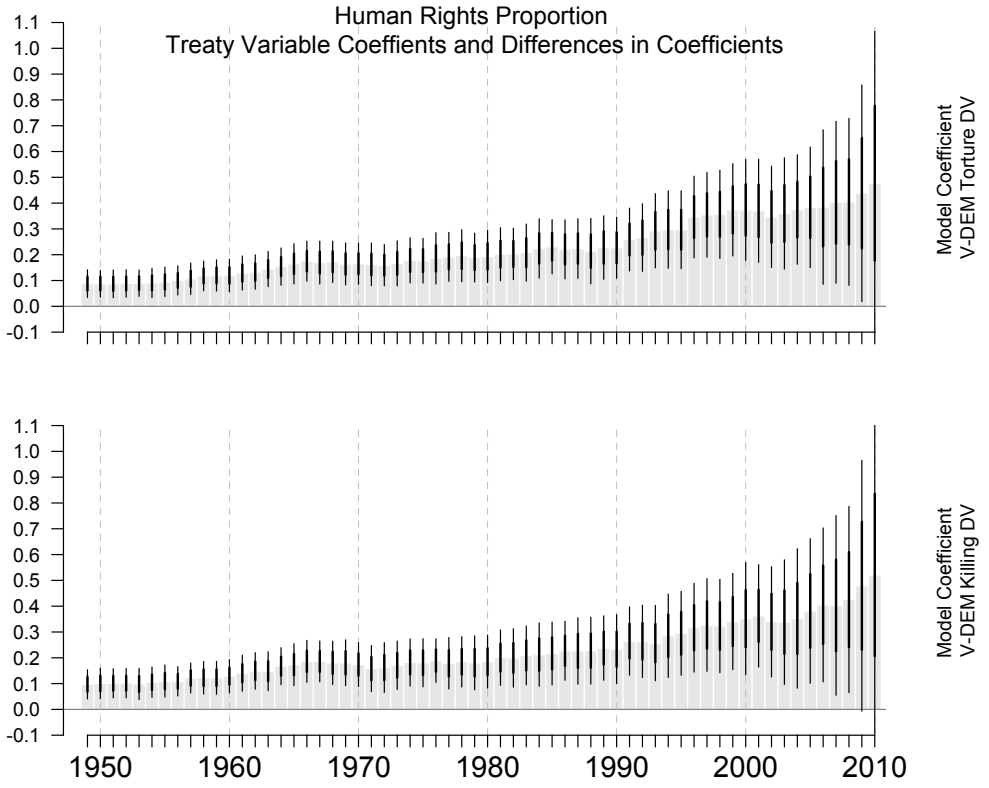

Figure 119: Positive regression coefficients from regression models that regress the two V-DEM human rights variables on the latent treaty variable . These model coefficients corroborate results for a positive correlation between human rights compliance and treaty ratification. Specification in this graph is for **Model 8**: $y_{it} \sim \beta_0 + \beta_1 * y_{i,t-1} + \beta_2 * treaty_{t-1} + \beta_3 * Polity2_{t-1} + \beta_5 * ln(population_{t-1})$.

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