

## **Investigating the allocation of Hill-Burton funding across states (1947–1964)**

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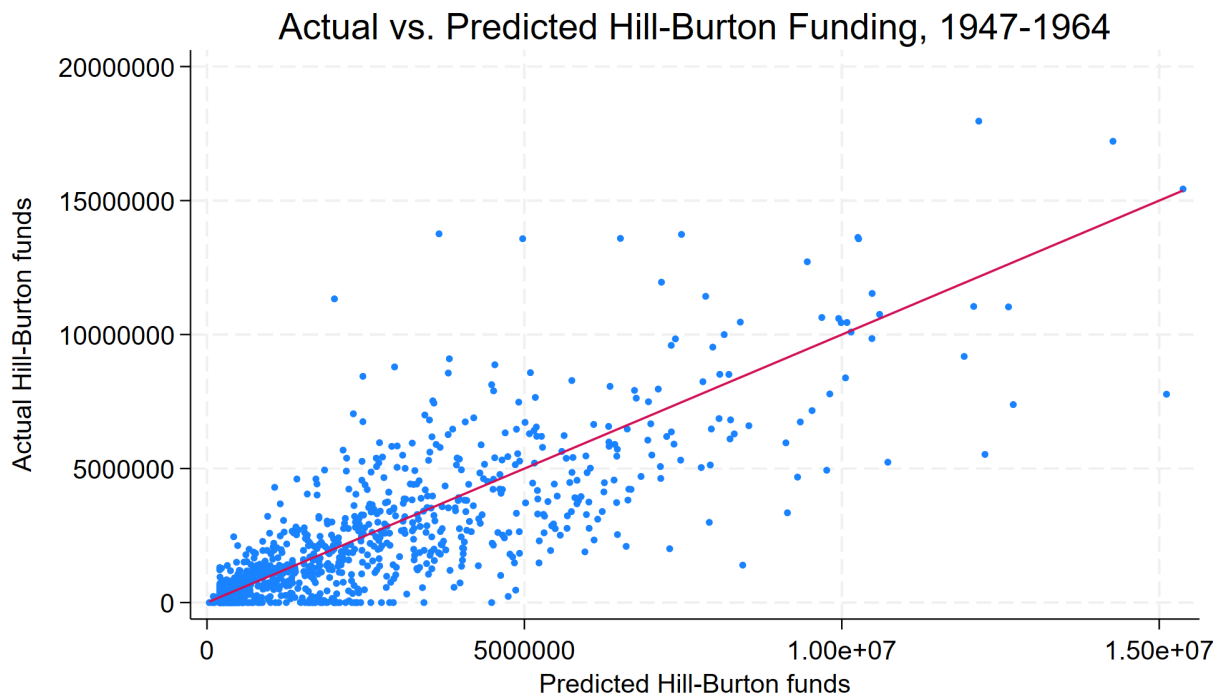
Using Stata, I created a balanced state-year panel for 48 states (excluding Alaska, Hawaii, and Washington DC). The panel contains a prediction of each state's federal Hill-Burton allocation every year from 1947-1964 and the actual Hill-Burton funds for those same years. The code creates this panel by evaluating the predicted allocations at the state-year level based on the allocation formula. These predictions are then merged to the actual funding data, producing summary statistics and graphical diagnostics. To assess predicted vs. actual state allocations, the code computes the correlation and estimates a linear regression, producing a table with the coefficient, R-squared, and standard errors. The code also generates a scatter plot of the predicted vs. actual funding with a fitted regression line to help assess whether the predicted state allocations are a good predictor of actual federal funding allocations.

### **2. Assess whether the minimum and maximum values are empirically relevant in practice**

Although in theory the minimum and maximum allotment percentage values in the state allocation formula could provide a basis for empirical identification, in practice the bounds are rarely empirically relevant. The lower bound of 0.33 binds for 49 state-year observations out of 864 (5.7%) and the upper bound of 0.75 does not bind for any state-year observation. Therefore, the bounds provide limited identifying variation, where almost all variation comes from interior solutions rather than corner solutions.

**3. Present one graph and one table assessing whether the predicted state allocations are a good predictor of actual federal Hill-Burton funding allocations**

Dependent variable	Independent variable (regressor)	Coefficient	Correlation	Intercept	R <sup>2</sup>	N
Actual funds (USD)	Predicted funds (USD)	0.864	0.794	182678	0.630	864



*Figure: Scatter plot of actual vs. predicted Hill-Burton funding (1947-1964) with a linear regression line (red).*

Using a regression-based summary and a scatter plot, it can be seen that predicted state allocations and actual funding allocations have a strong positive relationship, with a correlation of 0.794. The linear regression has a R<sup>2</sup> of 0.63, indicating most of the variation in actual allocations can be explained by the allocation formula alone. The slope-coefficient of 0.864

indicates that states are on average predicted to receive more funding than they actually do, but that the predicted state allocations translate into actual allocations in a roughly proportional way, although not perfectly one-to-one. Overall, the predicted state allocations are a strong predictor of the actual federal Hill-Burton funding allocations.

#### **4. Find a reference documenting the state-level allocation formula**

The following reference documents the allocation formula with a description akin to the one in the instructions of this data task:

“Allotment Formula, Hospital Survey and Construction Act.” *Social Security Bulletin*, vol. 17, no. 5, May 1954, pp. 11. Social Security Administration,  
[www.ssa.gov/policy/docs/ssb/v17n5/v17n5p11.pdf](http://www.ssa.gov/policy/docs/ssb/v17n5/v17n5p11.pdf).