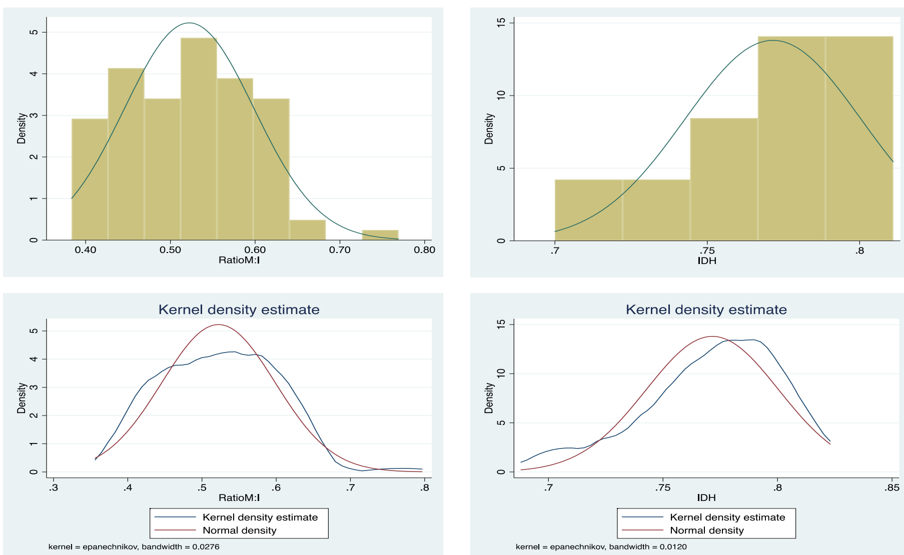
Appendix 1.

Regarding the MIR; the histogram and kernel density diagram showed positive bias. However, the evidence produced, and the corroboration with the bias test and kurtosis (p> 0.05), allow us to conclude that the MIR is approximately normally distributed. For the HDI, the histogram and kernel density graphs showed negative bias; same that was corroborated with bias test and kurtosis (p> 0.05); with which it can be concluded that it is also distributed in an approximate normal way.

Figure 1. Histogram and kernel density diagram of MIR and HDI



Consistently, the values of the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) for this model that included all variables were the lowest. Therefore, this was considered the most parsimonious model and was chosen as the "best" (table 1). Collinearity was also checked using the Variance Inflation Factor (VIF), showing that all VIF values for all model terms were low (table 2).

Table 1. Comparison of all possible models.

Model	(#) Variables	R^2 (p)	MSE (p)	F_p (valor p)	AIC	BIC
1	(1) HDI	0.273	0.025	0.002	-141.95	-139.02
2	(2) HDI, total health expenditure per capita	0.303	0.025	0.005	-141.30	-136.91
3	(2)HDI, school dropout.	0.358	0.024	0.002	-143.93	-139.53
4	(2) HDI, ratio of medical personnel in	0.458	0.022	0.000	-149.37	-144.97

	direct contact with the patient per 1000 inhabitants.					
5	(3) HDI, total health expenditure per capita, school dropout.	0.408	0.024	0.002	-144.49	-138.63
6	(3) HDI, total health expenditure per capita, ratio of medical personnel in direct contact with the patient per 1000 inhabitants.	0.499	0.022	0.000	-149.88	-144.01
7	(3) HDI, school dropout, ratio of medical personnel in direct contact with the patient per 1000 inhabitants.	0.530	0.021	0.000	-151.92	-146.06
8	(4)) HDI, total health expenditure per capita, school dropout, ratio of medical personnel in direct contact with the patient per 1000 inhabitants.	0.570	0.020	0.000	-154.34	-147.01

Table 2. VIF for variables included in the final model.

Variable	VIF
Human Development Index	1.23
Total Health Expenditure per capita.	1.18
School dropout	1.03
Ratio of medical personnel in direct contact with the patient per 1000 inhabitants.	1.06

The fit of the model appears strong with most of the points close to the prediction line (Figure 2). The distribution of the standardized residuals seems to conform to the assumptions, and there appears to be a random pattern when they are compared against the predicted values, which indicates that the equality of variance is fulfilled (Figure 3). This finding was confirmed using the Breusch-Pagan / Cook Weisberg heteroscedasticity test ($p = 0.171$).

Figure 2. Mortality-Incidence Ratio: Observed vs Predicted Values

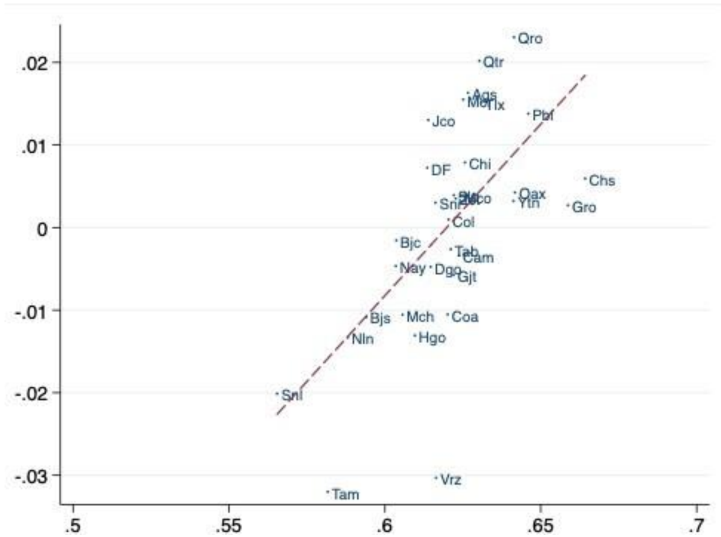
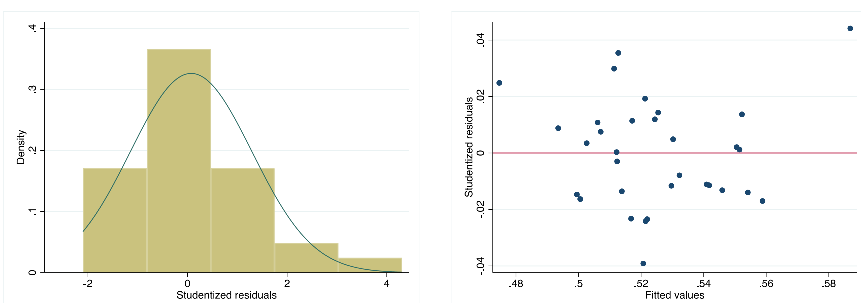


Figure 3. Standardized residuals: histogram (left) and residuals vs. predicted (right).



We observed no major violations to our model. However, one point of influence (3.1%) was identified in the sample using Cook's distance and leverage we did observe one outlier (Mexico City). Sensitivity analyzes were carried out by removing this point from the final regression model, the greatest changes were in Health expenditure per capita, but it did not drastically alter our coefficients.

Based on the findings in heteroscedasticity and specification of the model (Ramsey's Reset test, p = 0.244), it was decided not to run robust estimators.

Figure 4. Evaluation of the influence points using Cook's D (left) and leverage (right)

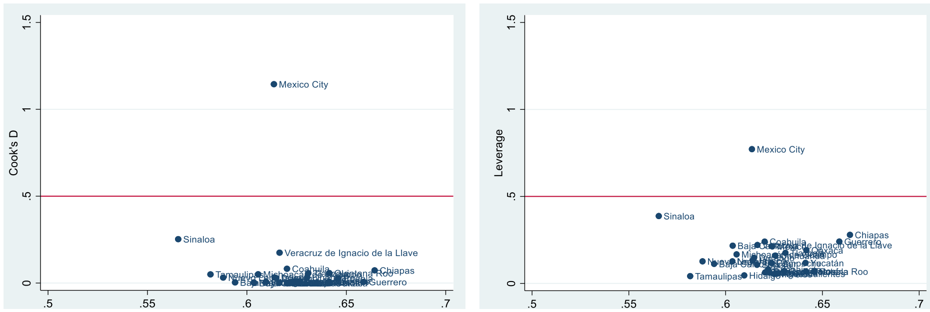


Table 3. Regression coefficients with and without influence point.

Model with	r^2: 0.5701 (adj: r^2: 0.5064)	Prob > F: 0.0001
Model without	r^2: 0.5958 (adj: r^2: 0.5336)	Prob > F: 0.0001

Variable	β (95% CI) with	β (95% CI) without
Human Development Index	-0.778 (-1.159, -0.396)	-0.831 (-1.217, -0.444)
Total Health Expenditure per capita.	0.000 (7.945, 0.000)	0.000 (3.430, 0.000)
School dropout	-0.001 (-0.003, 0.001)	-0.001 (-0.004, 0.000)
Ratio of medical personnel in direct contact with the patient per 1000 inhabitants.	-0.032 (-0.067. 0.002)	-0.342 (-0.068, 0.000)