

# Replicación de Global inequality remotely sensed

Ignacio Sarmiento-Barbieri

2024-06-12

## Introduction

Over the past decades, there has been a transition from theoretical to data-driven inequality research (1). However, progress is limited by a lack of data on economic prosperity at the household level (2) as well as the absence of consensus on ways of measuring economic inequality (3, 4). Practical constraints include limited coverage, incomparability at population subscales, dependence on misreported income surveys, and low-quality data collection in developing economies (5–7).

## Cargamos los datos

```
load(here("../02_analysis/01_input", 'pnas_light_ineq.RData'))
```

## Replicar Tabla 1

Esto sí es Markdown, porque podemos poner **negrilla**, *cursiva*, y ~~tachar~~.

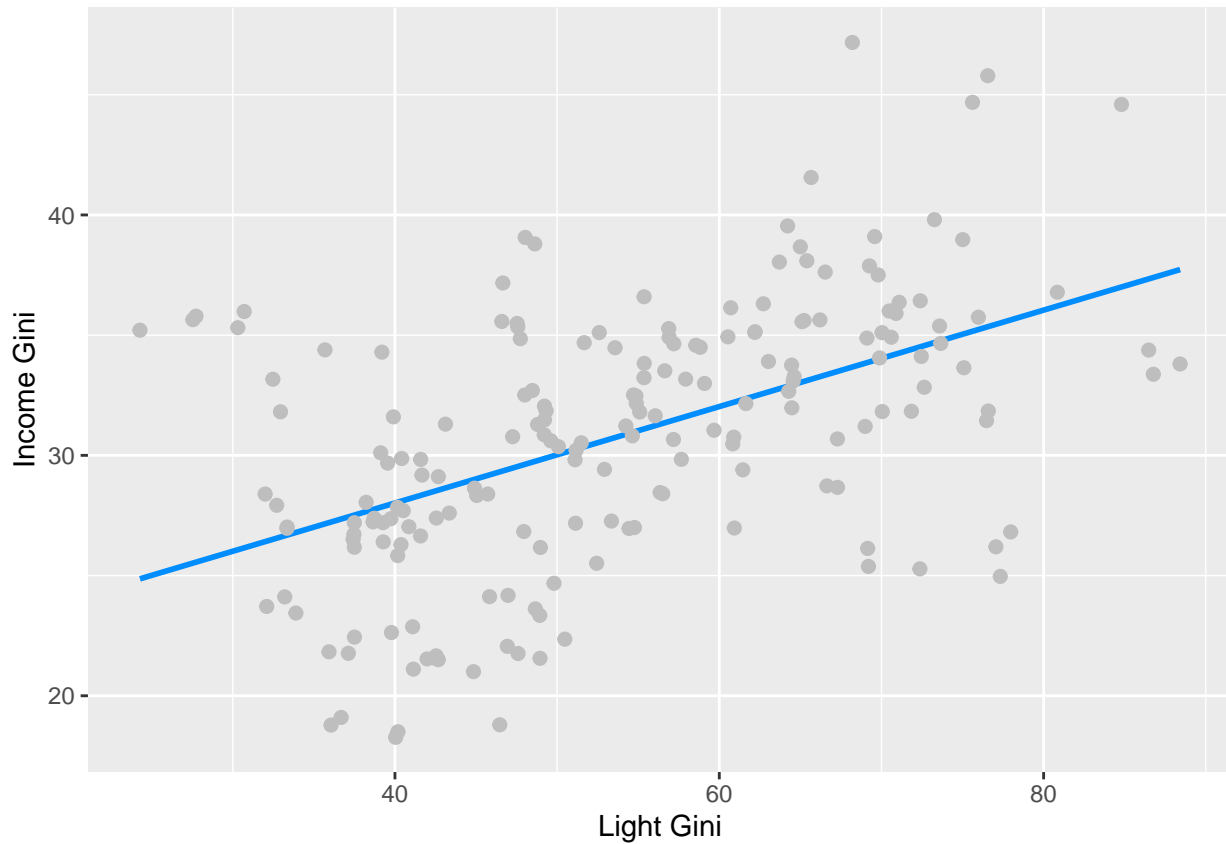
$$\ln(wage) = \alpha + \beta_1 age + \beta_2 age^2$$

```
modelsummary(list(mod_1, mod_2, mod_3, mod_4), output="latex")
```

## Replicar Figura 1

```
#Fig 1
visreg(mod_3, 'Light_Gini', gg = T, overlay = T, band = F) +
  geom_point(size = 2, colour = 'grey') + labs(x = 'Light Gini', y = 'Income Gini')
```

	(1)	(2)	(3)	(4)
(Intercept)	15.657 (2.657)	-7.817 (5.956)	63.156 (5.853)	66.889 (6.108)
Light_Gini	0.334 (0.041)	0.290 (0.041)	0.201 (0.027)	0.171 (0.028)
log(POP)		1.561 (0.358)	6.648 (0.389)	6.830 (0.415)
log(GDP)			-5.704 (0.352)	-5.884 (0.374)
SD (Intercept Year)	2.853	2.859	2.222	
SD (Observations)	7.828	7.474	4.815	
Num.Obs.	191	191	191	191
R2				0.690
R2 Adj.				0.685
R2 Marg.	0.240	0.301	0.678	
R2 Cond.	0.329	0.390	0.734	
AIC	1345.0	1329.0	1166.3	1174.4
BIC	1358.0	1345.3	1185.8	1190.7
ICC	0.1	0.1	0.2	
Log.Lik.				-582.224
F				138.709
RMSE	7.72	7.35	4.72	5.10



#los ordenes estan invertidos

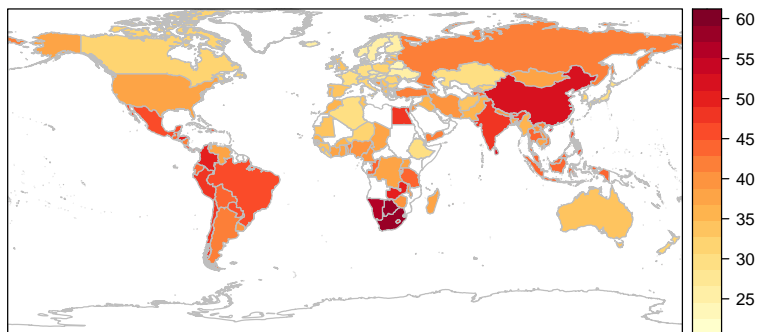


Figure 1: A nice image.

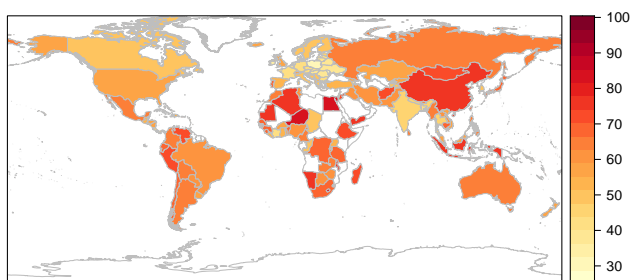


Figure 2: A nice image.

## Replicar Figura 2

```
ggplot(data = swiid_df, aes(income_cat, light_gini_lpp)) +
  geom_boxplot(colour = 'darkblue', fill = 'lightblue', size = 1) +
  labs(x = 'Income Group', y = 'Light Gini') +
  theme_minimal(base_size = 20) + xlim(c('High Income', 'Low Income', 'Middle Income'))
```

## Warning: Removed 13 rows containing missing values (`stat\_boxplot()`).



Figure 3: Pie de foto

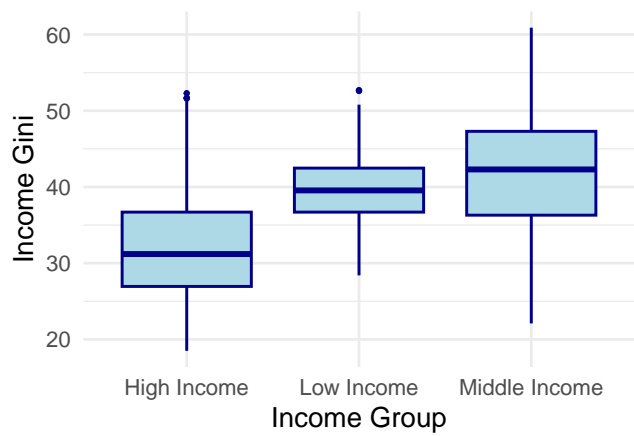


Figure 4: Pie de foto

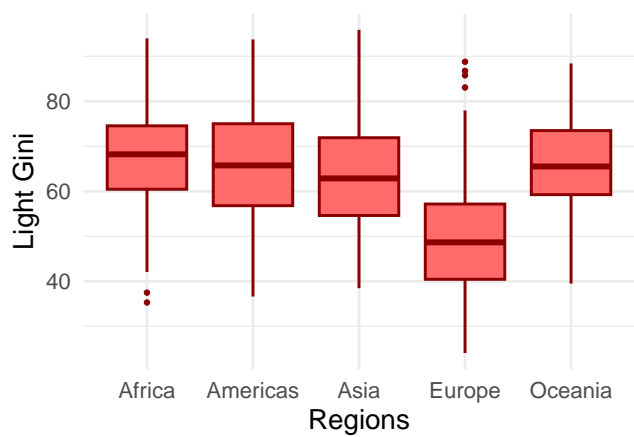


Figure 5: Pie de foto

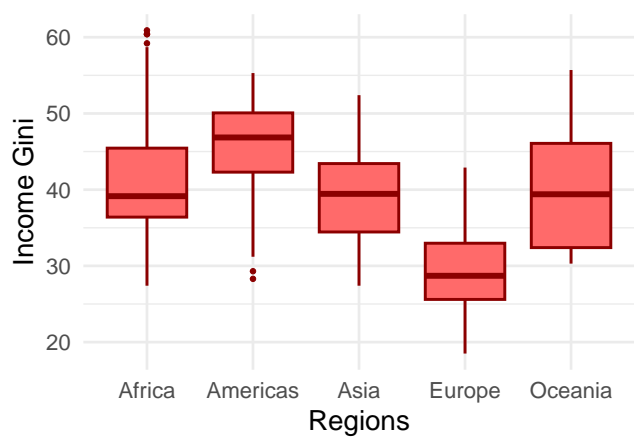
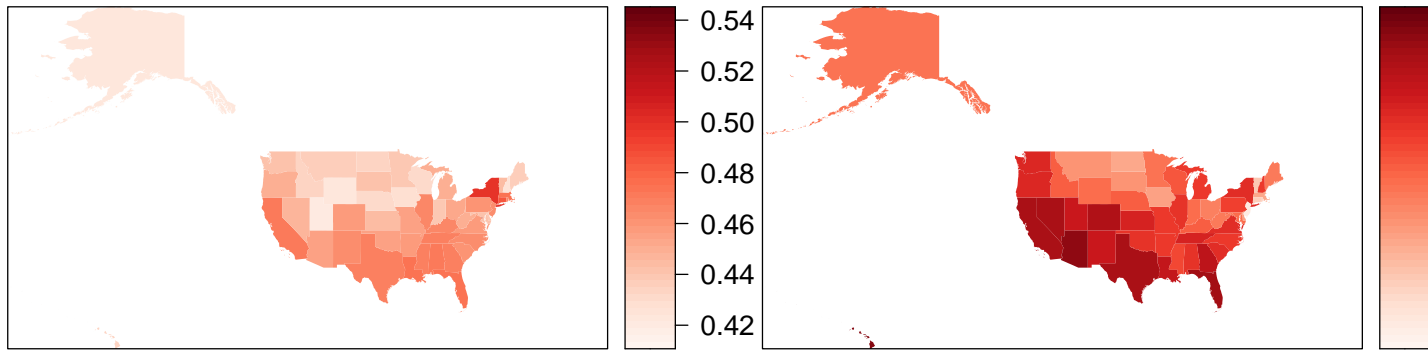


Figure 6: Pie de foto

### Replicar Figura 3



```
##  
## Pearson's product-moment correlation  
##  
## data: light_gini and Gini  
## t = 9.2618, df = 253, p-value < 2.2e-16  
## alternative hypothesis: true correlation is not equal to 0  
## 95 percent confidence interval:  
## 0.4054128 0.5895929  
## sample estimates:  
## cor  
## 0.5031953  
  
## `geom_smooth()` using formula = 'y ~ x'
```

