

Nowcasting Global Poverty

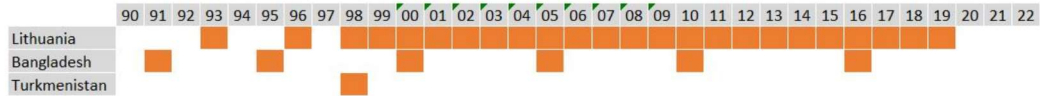
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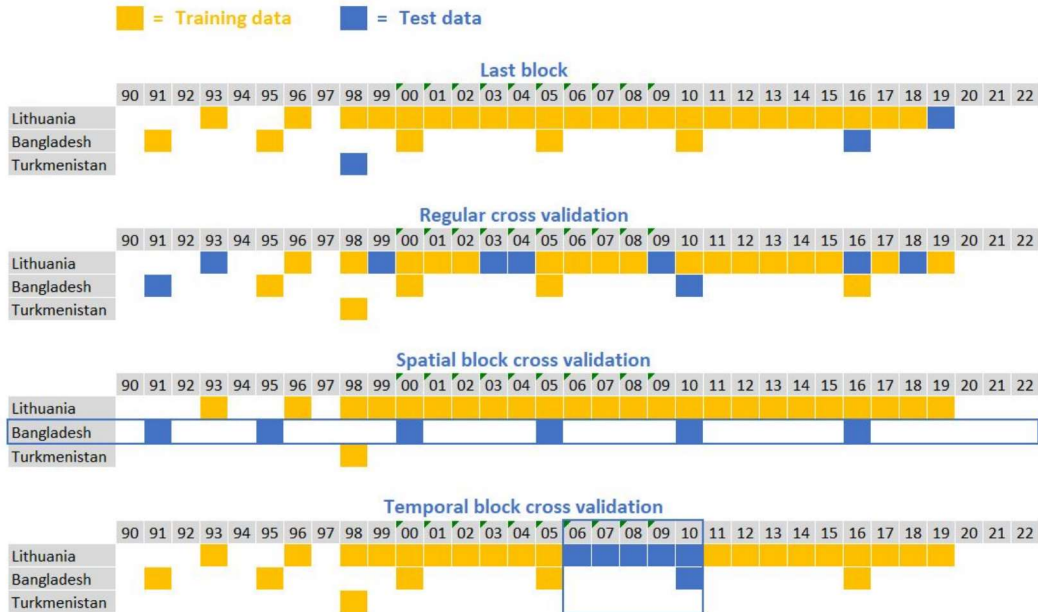
Outline

- Three central methodological questions
 1. How do we create out-of-sample predictions?
 2. How do we measure the accuracy of the predictions?
 3. Is accuracy all we should care about?
- Findings on nowcasting poverty

1. How do we create out-of-sample predictions?



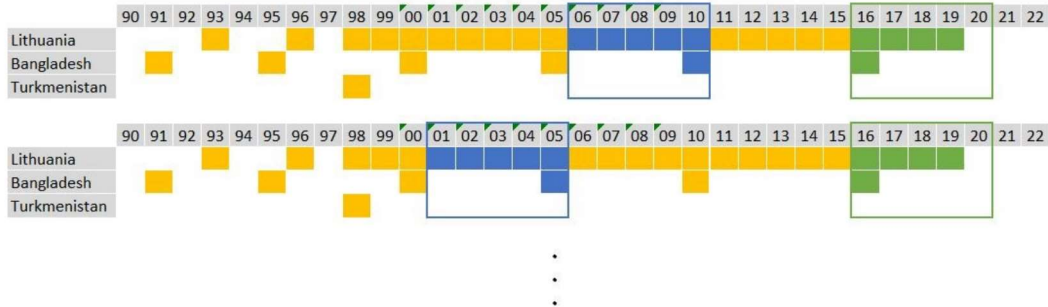
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■ = Training data ■ = Test data ■ = Validation data

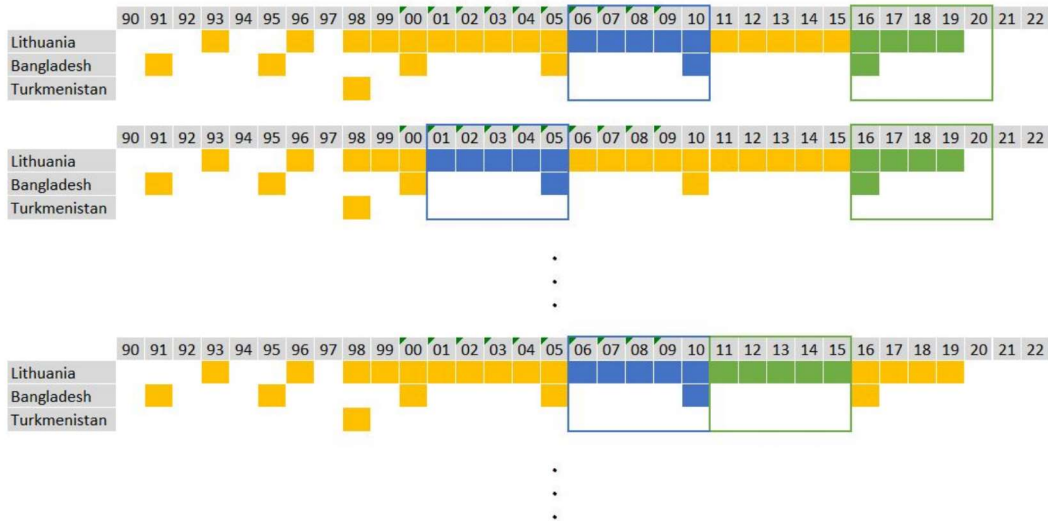
Nested temporal block cross validation



1. How do we create out-of-sample predictions?

■ = Training data ■ = Test data ■ = Validation data

Nested temporal block cross validation



How do we measure the accuracy of the predictions?

	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Lithuania		0		0.3	0.3	0.2	0.6	0.5	0.2	1.4	1.8	1.5	1.3	0.8	2.2	1.5	0.7	0.9	0.7	1.3	0.7	1.3	1	0.9	0.5			
Bangladesh		35				34					25					19						14						
Turkmenistan				50																								

Loss function: Mean absolute deviation in pct. points

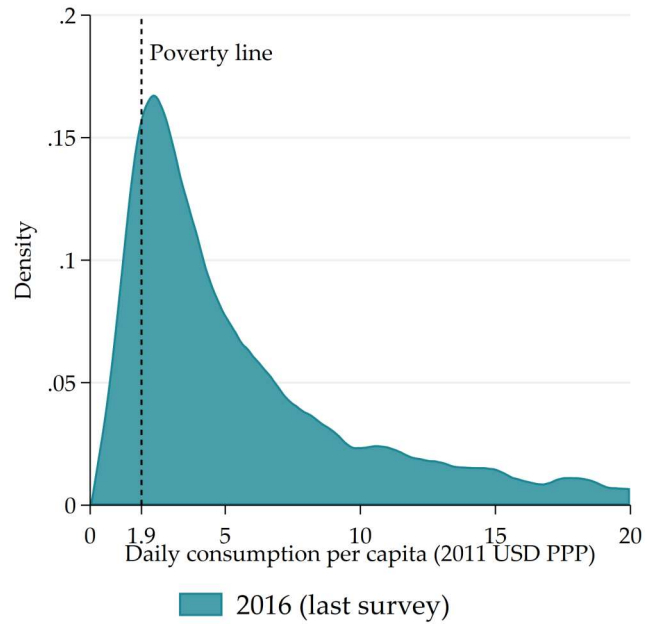
$$Loss = \sum^C w_{country} * |poverty_{country,time}^{true} - \hat{poverty}_{country,time}|$$

Is accuracy all we should care about?

Criteria for evaluating different methods

1. Accuracy
2. Simplicity
3. Credibility
4. Ease of implementation
5. Stability

How may nowcasting poverty be different?



Findings on nowcasting poverty

- Nowcasts are more accurate if we utilize the past distribution -- even when it is old
- A model which simply scales the past distribution by growth in real GDP per capita performs nearly as well as machine learning models using 1000+ variables
- What works on average does not work in all context

