The Joy Portfolio

Amelie, Arian, Rithvik, Sid

What factors affect a country's happiness?

Our Idea

World Happiness Index

Global Expenditures

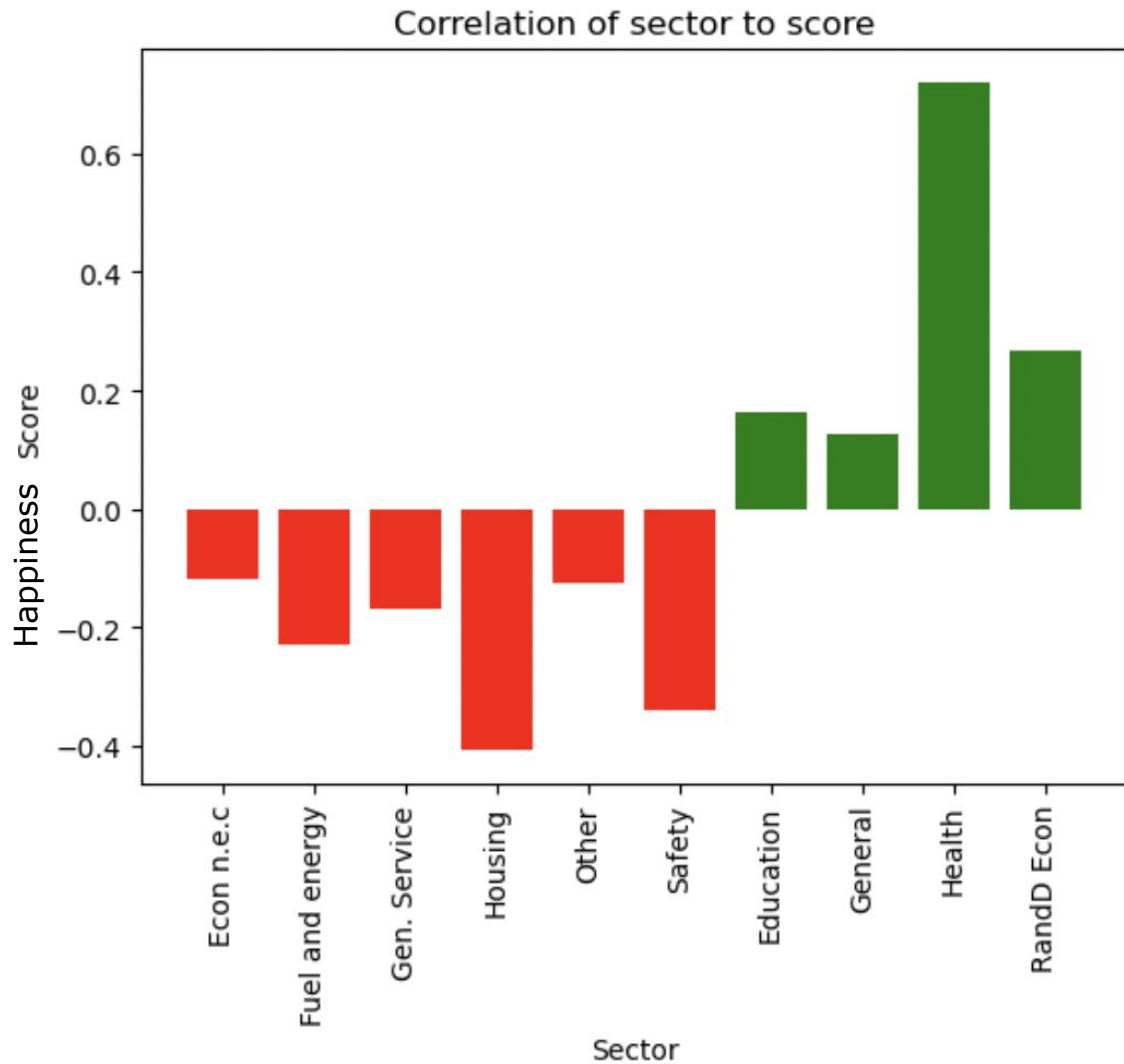Factors and expenditures most contributive to a country's happiness

Exploratory Data Analysis

Country	Econ n.e.c	Education	Energy	General Public Services	Health	Housing	Public order	Happiness Score
Canada	1	13	1	15	23	1	5	7
Paraguay	0	17	0	8	17	2	13	6

Exploratory Data Analysis

Correlation of sector to score
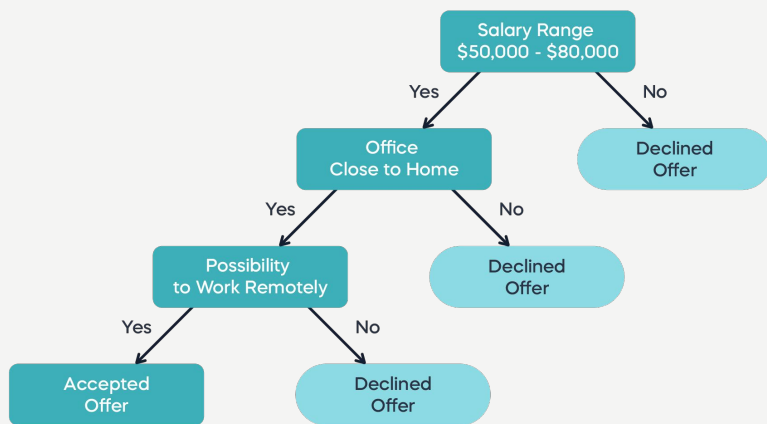
Why Regression?

- Sort and visualize complicated messy data
- Possible regressors (XGBoost, Decision Tree, Lasso)
- Accuracy vs Analysis

Decision tree

Linear Regression (Lasso)

Sectors of expenditure that affect happiness
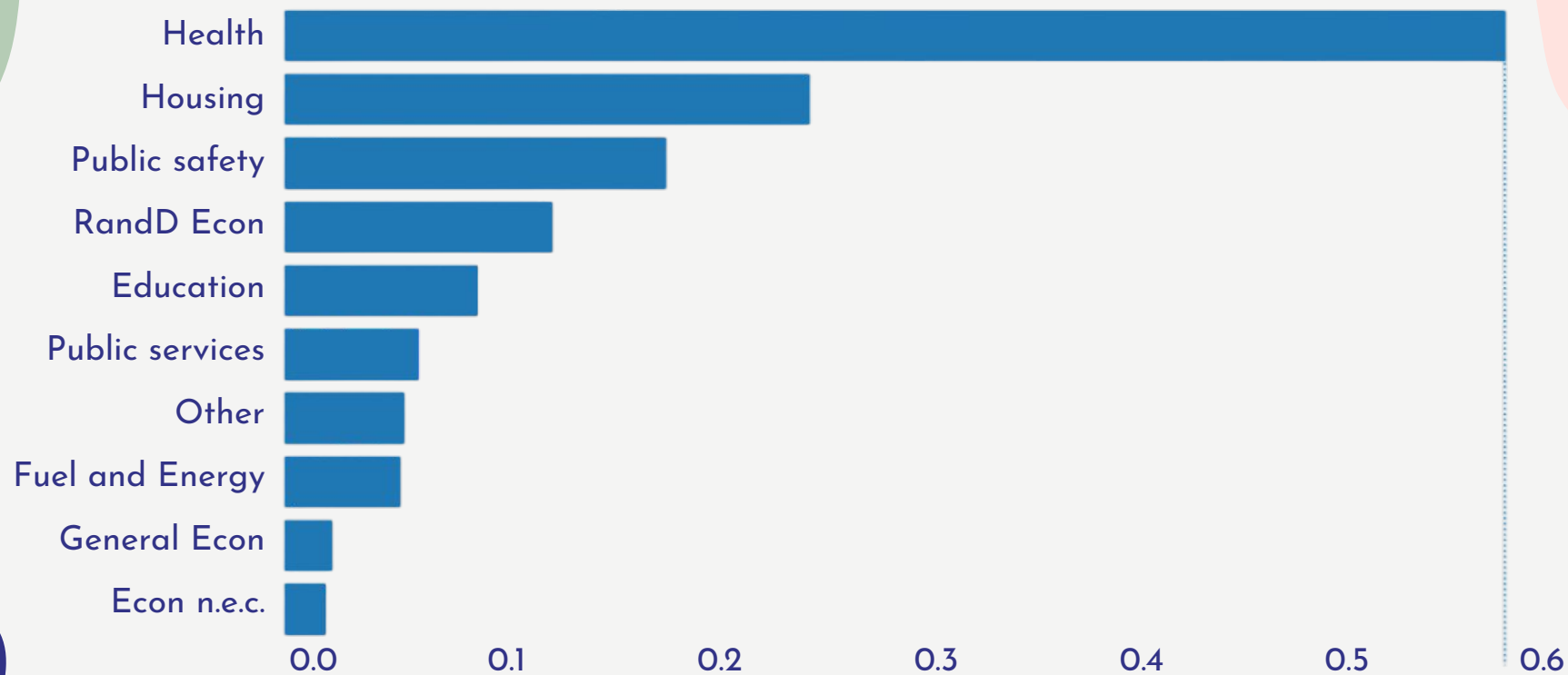
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \varepsilon$$

RandD Economic Affairs	+0.37
Health	+0.25
General Economic Commercial and Labour Affairs	+0.11
Education	+0.10
General Public Services	+0.07
Fuel and Energy	+0.05
Other Industries	+0.03
Public Order and Safety	+0.02
Housing and Community Amenities	-0.05

Model Evaluation
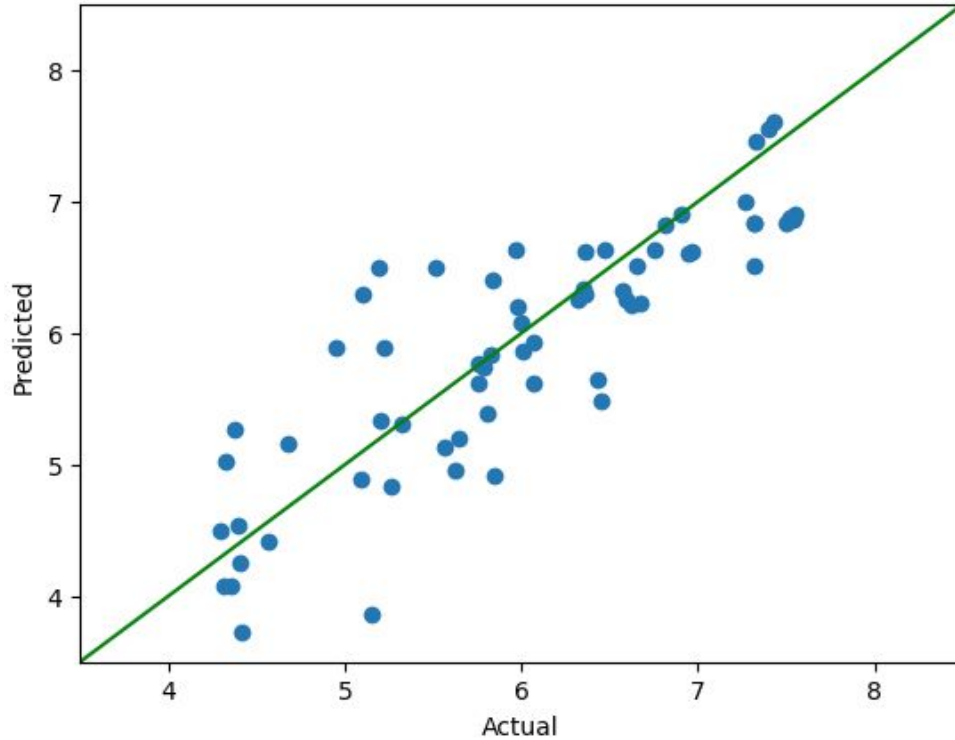
R = 0.862

R^2 = 0.742

Why?

Policy Evaluation

Governments can evaluate policies to allocate resources effectively, and understand what to prioritize.

Economic Planning

Governments can plan for sustainable economic development, that's aligned with factors that increase happiness.

Happiness Benefits

Happy societies are more cohesive and less prone to unrest, including crime. They host motivated citizens who are physically and mentally healthier.

What can we do about it?

Thank You!