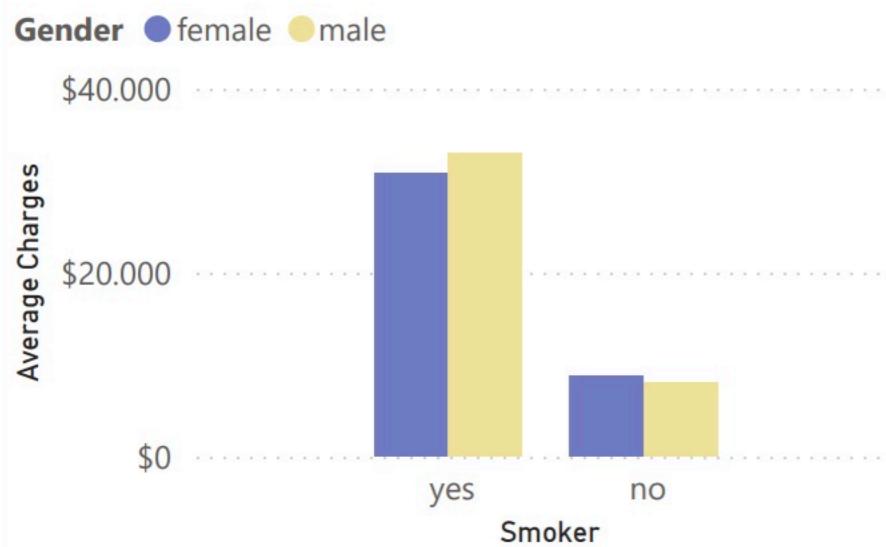
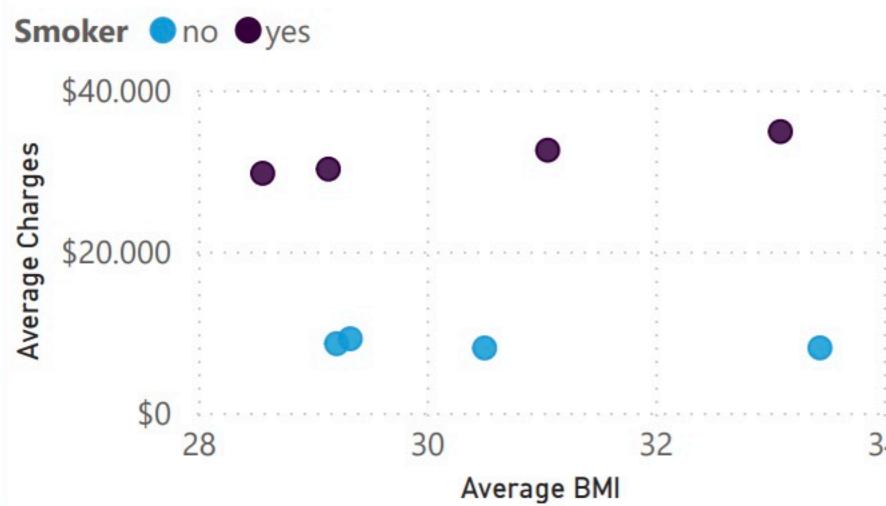


Insurance Pricing: Drivers, Distribution & Estimator

Average Charges: Smoker vs Non-Smoker
(by Gender)



BMI vs Charges (by Smoking Status & Region)



Total Policies

1338

Average Charges

\$13.268

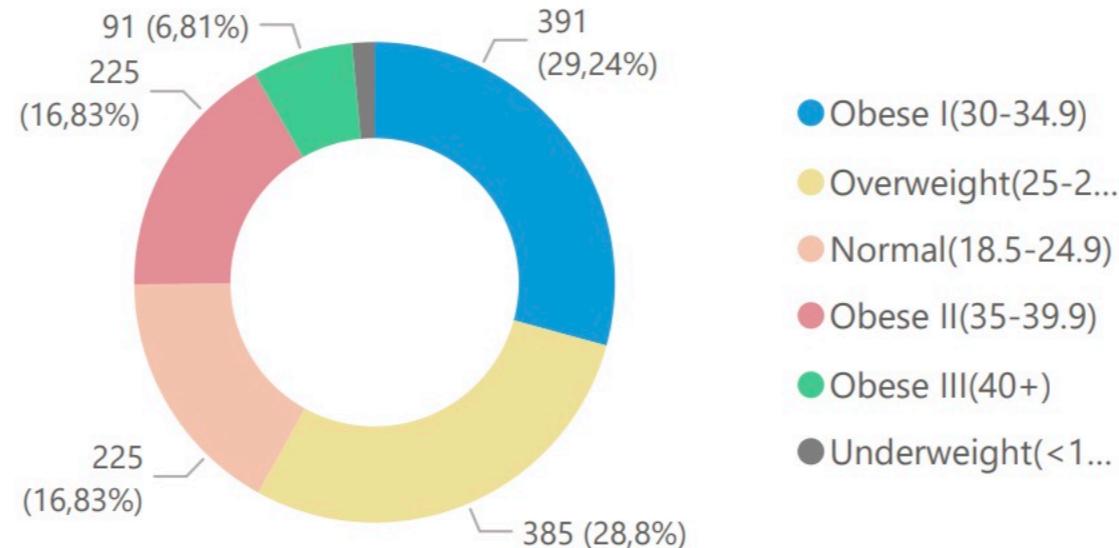
Average BMI

30,7

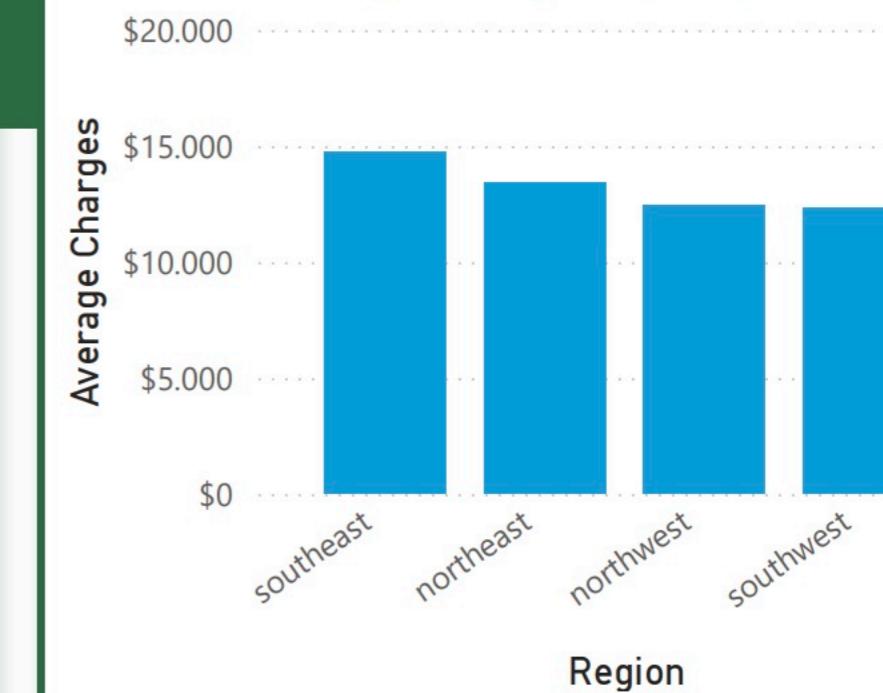
Smoker Rate

%20,4

BMI Category Distribution



Average Charges by Region



Average Charges by Age Group and BMI Category

Age Band	Normal(18.5-24.9)	Obese I(30-34.9)	Obese II(35-39.9)	Obese III(40+)	Overweight(25-29.9)	Underweight(<18.5)	Totals
18-25		6118	11264	10611	15713	6968	3772 9061
26-35		9120	10987	16709	7150	8123	12288 10495
36-45		11576	14391	18366	19731	10560	10847 13493
46-55		13907	16244	18309	19504	14308	9818 15987
56-64		15800	20458	20429	20430	16654	12370 18796
Totals	10409	14420	17022	16785	10972		8852 13268

Smoker Cost Share

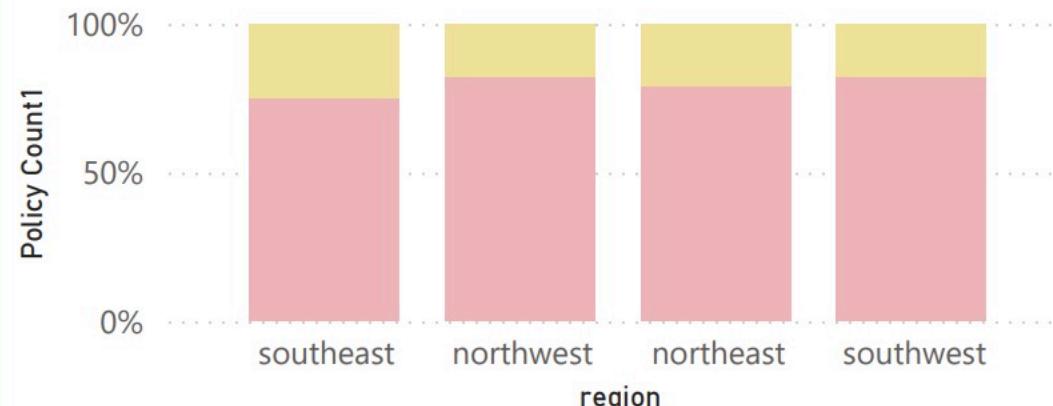
%49

Top 10% Cost Share

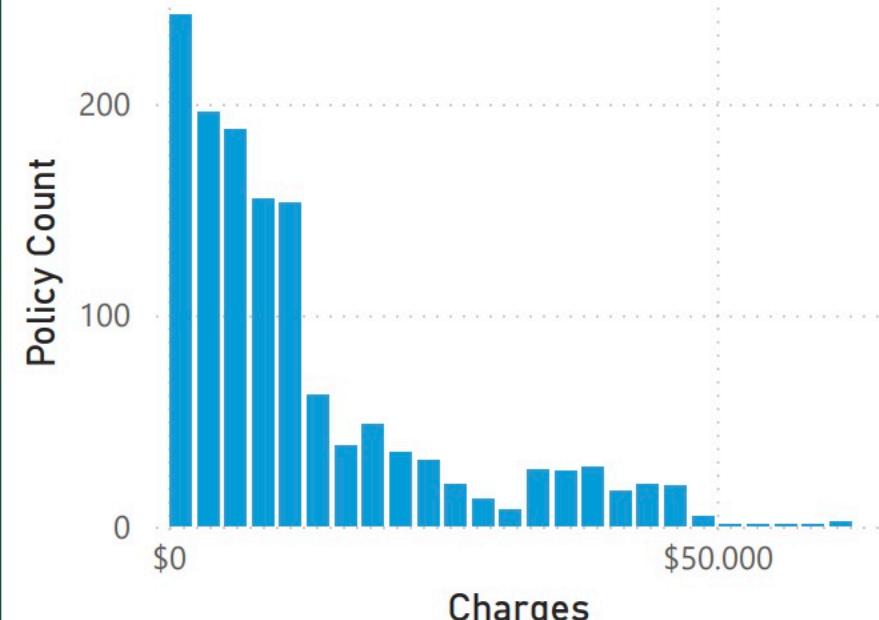
0,32

Policy Mix by Region & Smoking

smoker ● no ● yes



Charge Distribution (Binned)



Top 10 Highest Charges

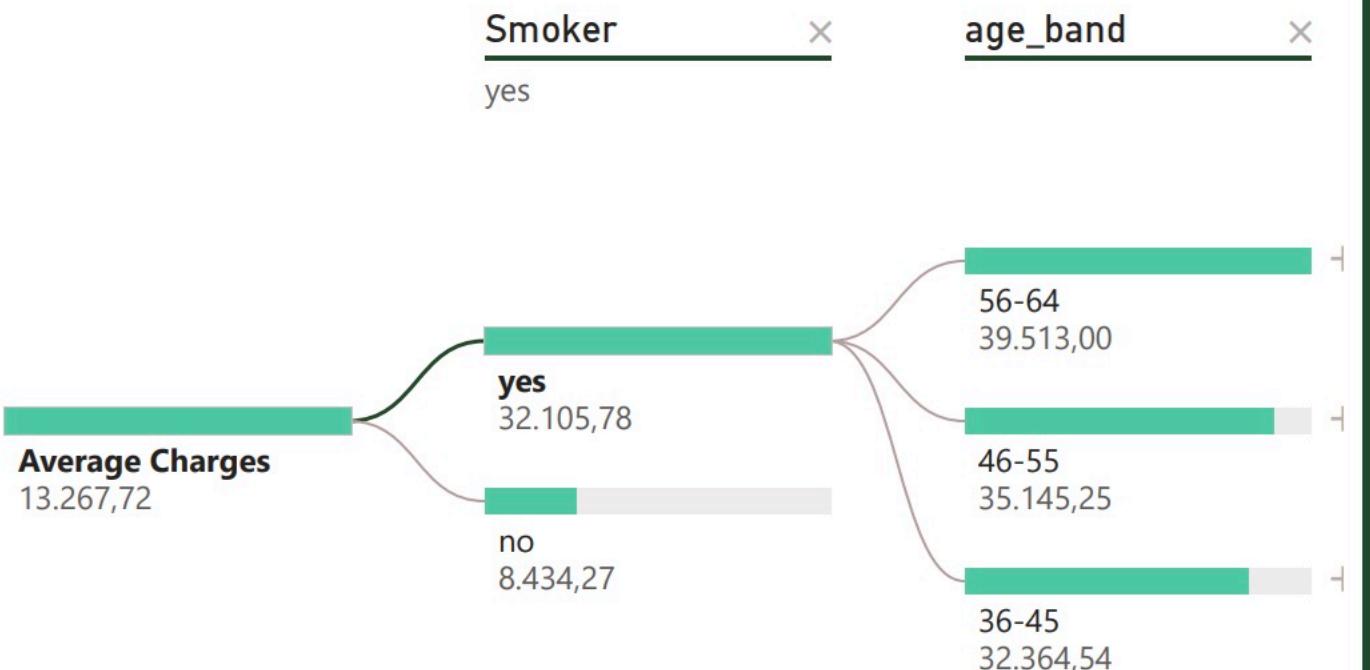
charges	region	sex	smoker	age	bmi	children
58.571	northeast	female	yes	31	38,10	1
55.135	northwest	female	yes	33	35,53	0
60.021	northwest	male	yes	52	34,49	3
48.885	southeast	female	yes	44	38,06	0
63.770	southeast	female	yes	54	47,41	0
62.593	southeast	male	yes	45	30,36	0
48.970	southeast	male	yes	59	41,14	1
49.578	southeast	male	yes	64	36,96	2
51.195	southwest	male	yes	28	36,40	1
52.591	southwest	male	yes	60	32,80	0



Average Charges Breakdown

Smoker x
yes

age_band x



Key influencers Top segments

What influences charges to Increase ?

When...

Smoker is yes

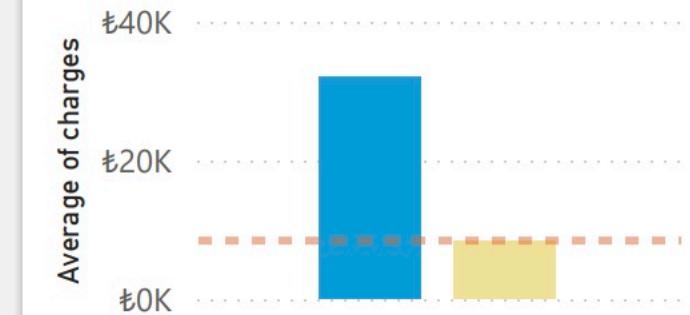
Age Band is 56-64

....the average of charges increases by

£23,67K

£6,59K

← charges is more likely to increase when Smoker is yes than otherwise (on average).



Only show values that are influencers

Age

49



BMI

22,50

Children

0 1 2 3 >

Sex

female
 male

Smoker

smoker

no
 yes

Region

northeast
 northwest
 southeast
 southwest

Estimated Premium

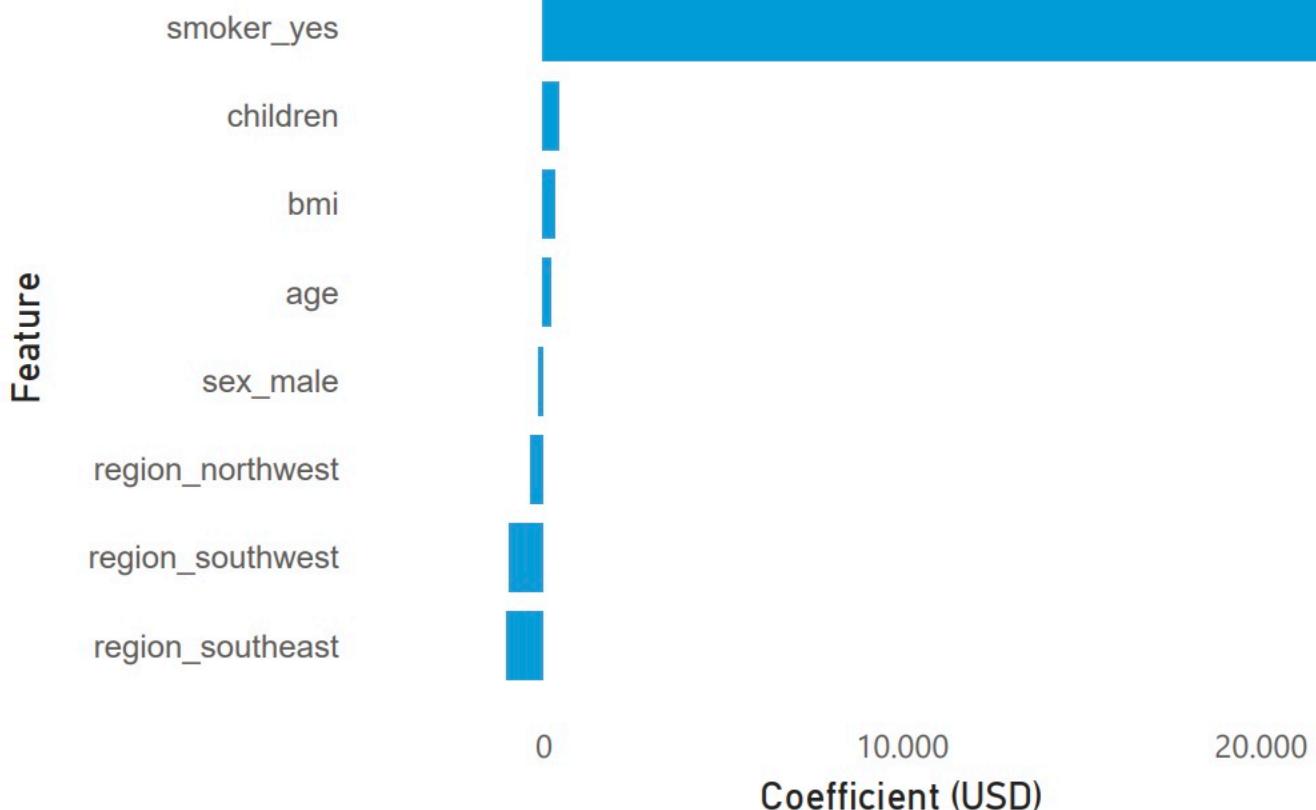
Based on selected inputs

33.079

Feature Contributions

23.848,53	12.585,96	7.631,85	951,00	0,00	0,00
Smoking Impact	Age Impact	BMI Impact	Children Impact	Sex Impact	Region Impact

Model Coefficients



How it works?

This estimator uses a Linear Regression model:

$$\text{Premium} = \text{Intercept} + \sum (\text{feature} \times \text{coefficient})$$

Coefficients are learned from the **training dataset**.

Contribution cards show the per-feature impact on the final estimate.

Actual premiums may vary by insurer and policy terms.