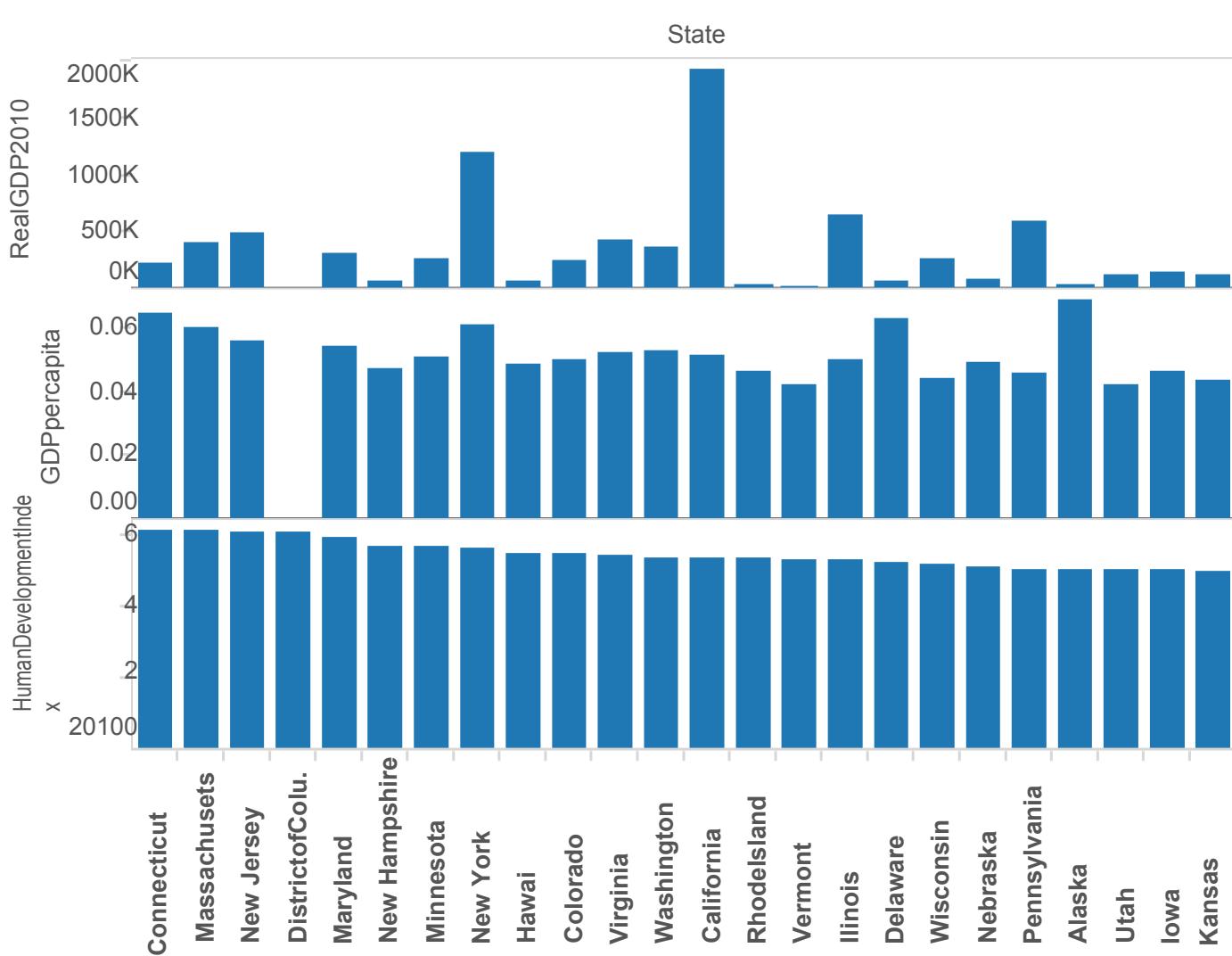


**19BCE1321
KUNAL JAISWAL
DV LAB9**

Assume the given US State dataset, using this dataset do the visual analytics with respect to the following points and show your prediction results.

1. Do states with higher GDPs have higher Human Development Indexes? This graph will show that California has the highest real GDP, but not the highest GDP per capita. This distinction makes any difference?

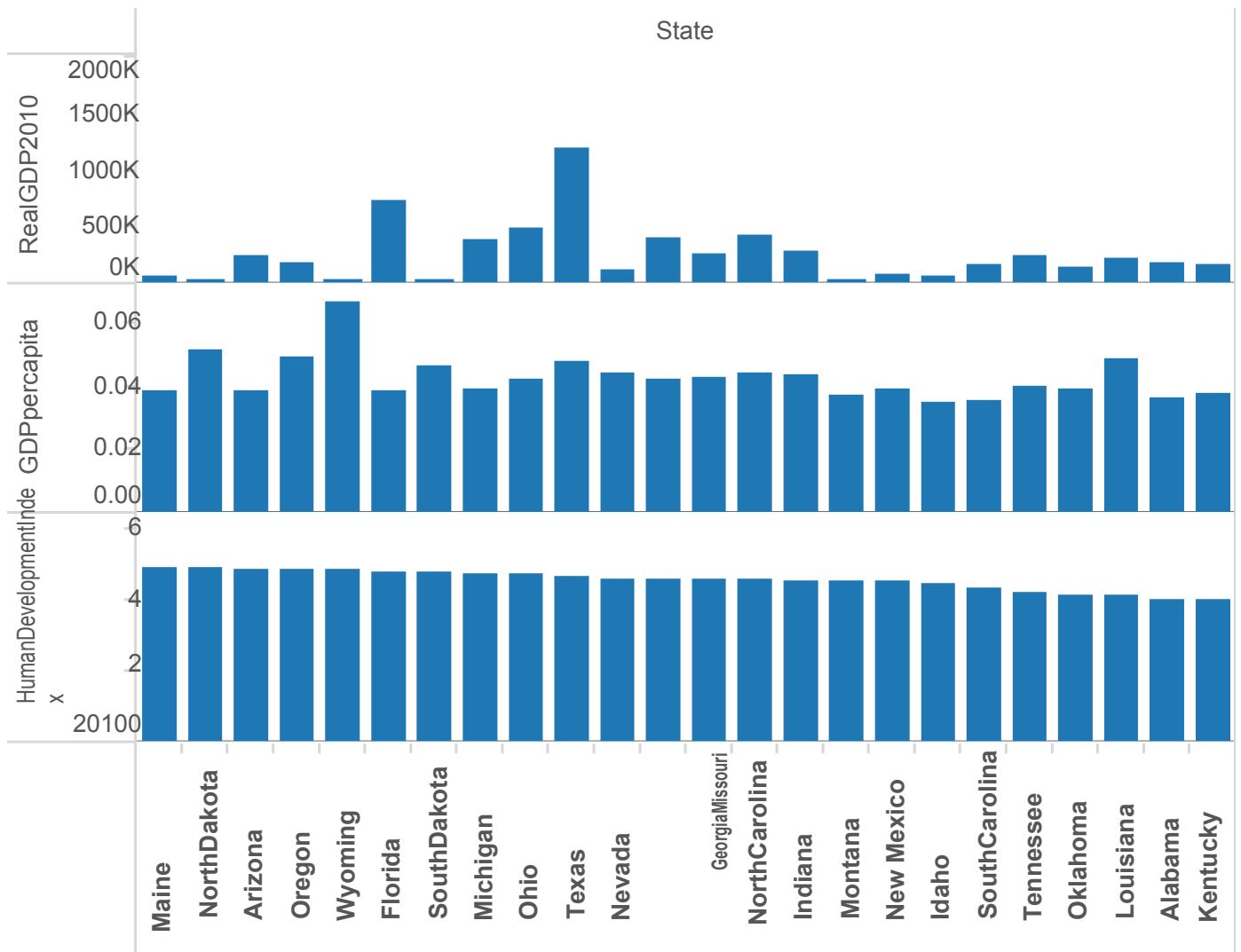
The bar plots compare which states had the highest real GDP in 2010, GDP per capita and Human Development Index in 2010. California, which had the highest overall GDP in 2010 actually comes in 11th when comparing GDP per capita.



Sum of Real GDP 2010, sum of GDP per capita and sum of Human Development Index 2010 for each State.

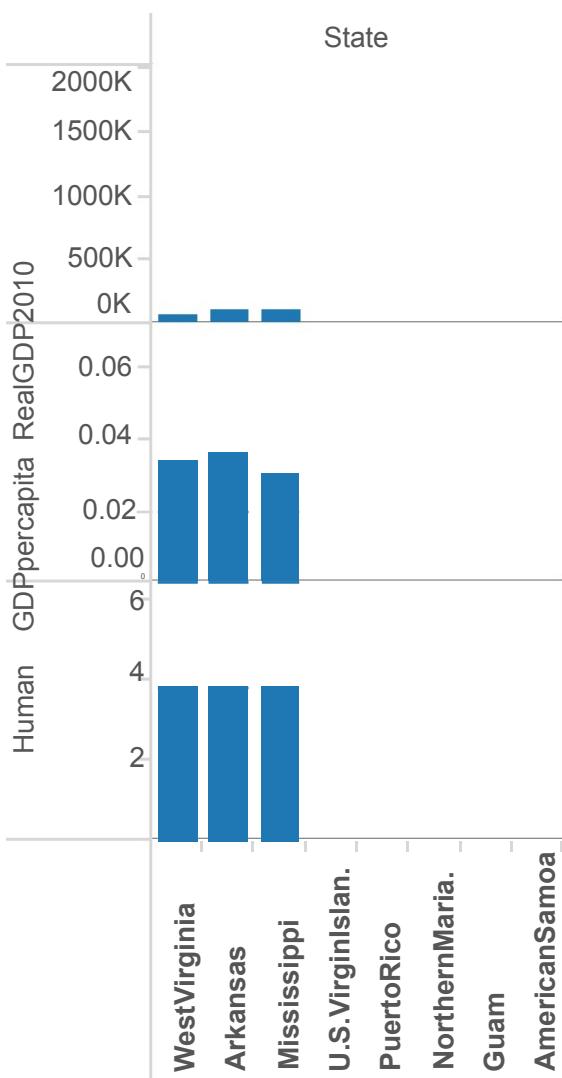
Inference: It is not necessary for states with higher GDPs to have higher Human Development Index. We can see from the above snapshots that though California has the highest Real GDP in 2010 of 1924438, its Human Development Index and GDP per capita are much less than highest with 0.400, and 0.05166 respectively. Meanwhile, Connecticut with Highest Human Development Index and GDP per capita has much less Real GDP in 2010 than California. Connecticut, Massachusetts both with the highest Human Development Indexes also have a fairly high GDP per capita. However, Alaska which has the highest GDP per capita barely sits above the median Human Development Index, and Wyoming which has the next highest GDP per capita is actually below the median Human Development Index. Most states above the median for the Human Development Index are also above the median GDP per capita. So we can say, GDP doesn't account for changes in inequalities in distribution of Income. If the rising GDP is concentrated in a few hands, per capita availability of goods in the economy might not increase. Also, if the rate of population growth is more than the rate of growth of GDP, the per capita availability of goods and services falls.

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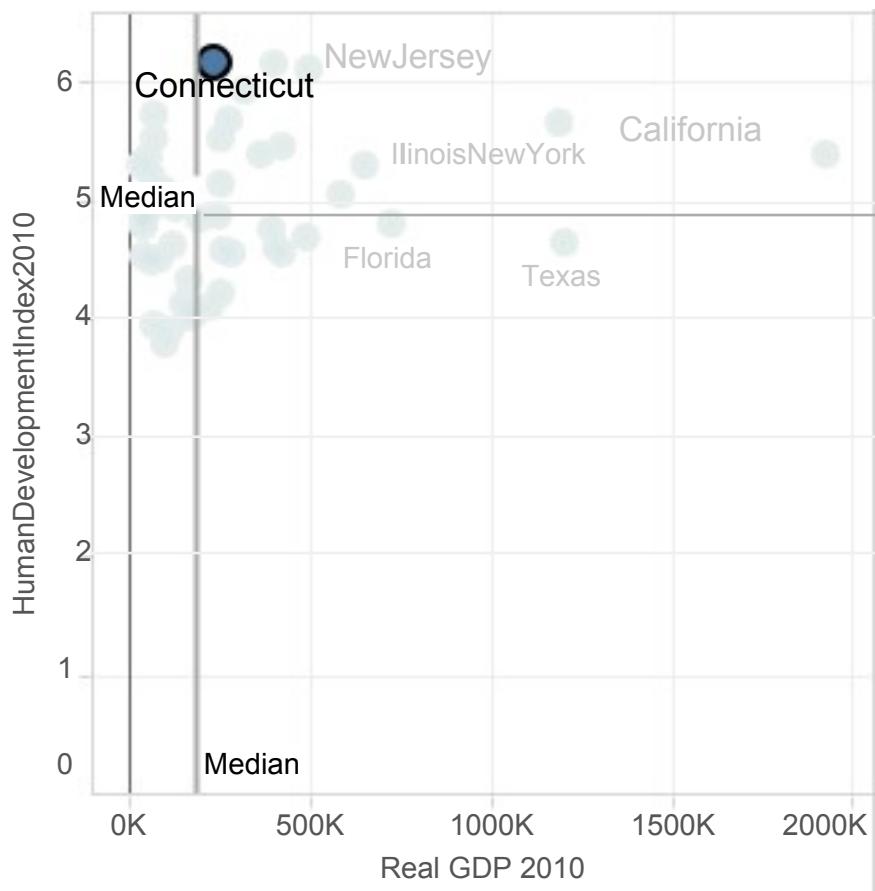
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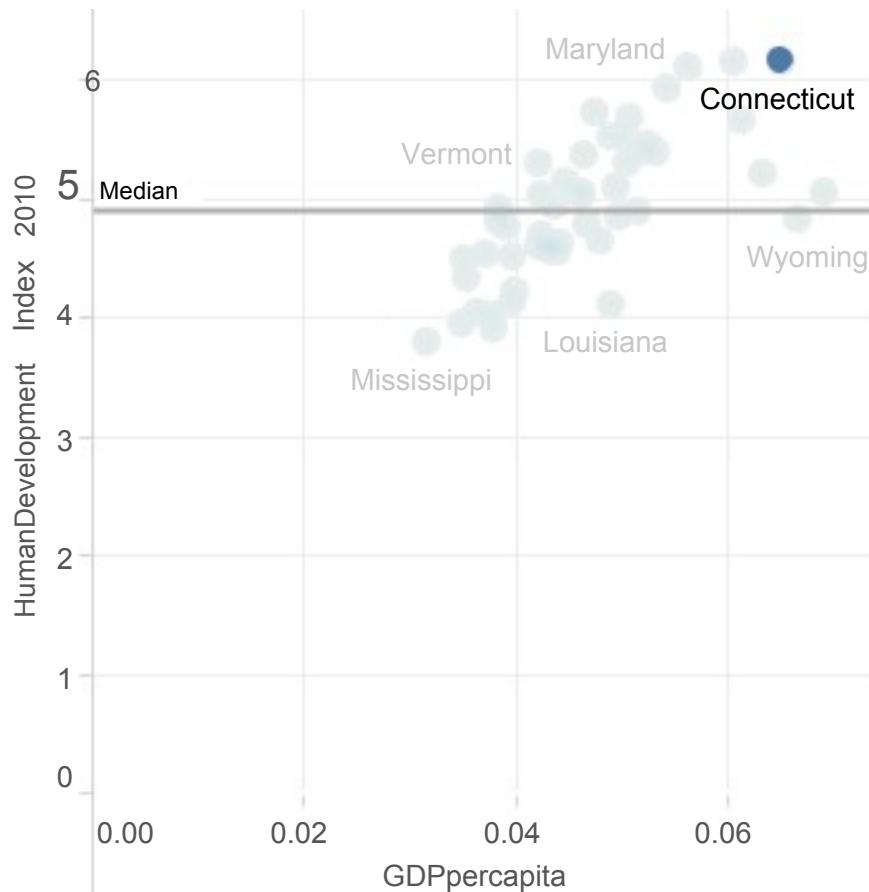
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Sum of Real GDP 2010 and sum of GDP per capita vs. sum of Human Development Index 2010.
The marks are labeled by State. Details are shown for Region.

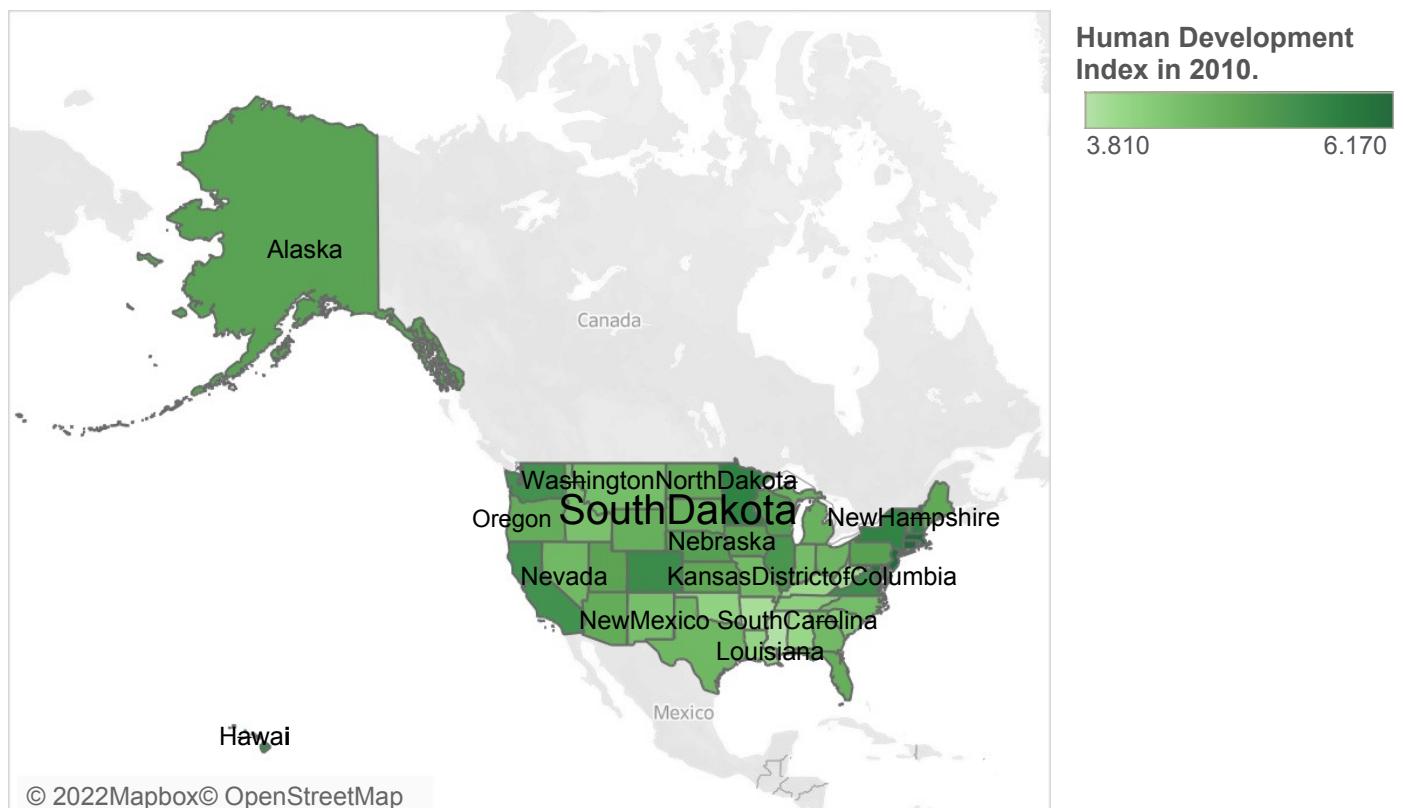
Comparing the densities of the real GDP in 2010 with the Human Development Index and GDP per capita with the Human Development Index in 2010.



Sum of Real GDP 2010 and sum of GDP per capita vs. sum of Human Development Index 2010. The marks are labeled by State. Details are shown for Region.

2. Let us compare the 2010 real GDP with the Human Development Index for each state. It is instantly clear that CA has the highest GDP, but not the highest HDI. Connecticut and Massachusetts have the highest HDIs, but not the highest GDPs. They both have GDPs that are higher than the median GDP. But how will this change if we look at GDP per capita instead?

The map shows the states with the highest Human Development Indexes are concentrated on the east coast of the US. The states with the top 3 HDIs and fairly high GDPs per capita are New York, Massachusetts and Connecticut. When only looking at states with the highest GDP per capita, with the exception of Alaska and Wyoming, the same top 3 east coast states appear with the addition of Delaware. What this seems to indicate is that age of a state impacts their HDI ranking. Ultimately, we can see that most states above the median Human Development Index also have GDPs per capita that are above the median GDP per capita.



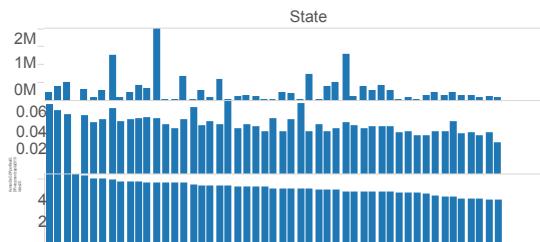
Map based on Longitude (generated) and Latitude (generated). Colors show sum of Human Development Index 2010. The marks are labeled by State. The data is filtered on Human Development Index 2010, Pop 2010 and Region. The Human Development Index 2010 filter ranges from 3.81 to 6.17. The Pop 2010 filter ranges from 53883 to 37253956. The Region filter keeps 10 of 10 members.

The bar plots compare which states had the highest real GDP in 2010, Index in 2010.

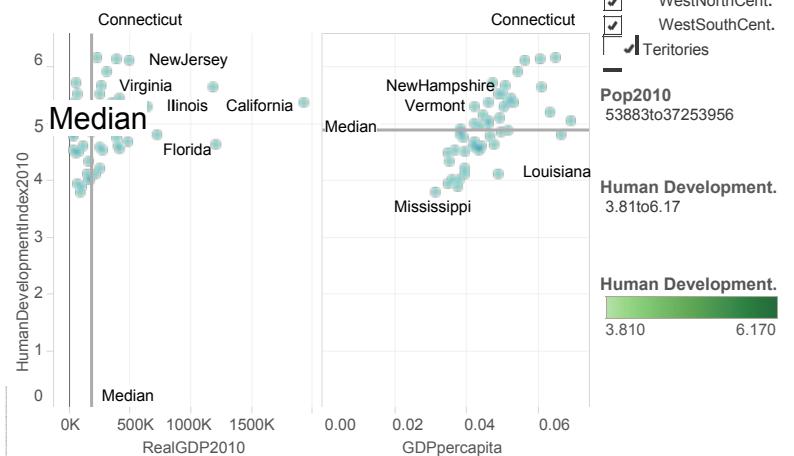
GDP per capita and Human Development Index in 2010.

California,
Which had the highest overall GDP in 2010 actually comes in 11th when

Comparing GDP per capita.



Comparing the densities of the real GDP in 2010 with the Human Development Index and GDP per capita with the Human Development Index in 2010.



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