

Vermont Economic Stimulus

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CIS 512 – Intro. To Data Science and Analytics

Approach

- ♦ **Identify Area For Improvement**
 - ♦ A failing industry?
- ♦ **Consider Method of Improvement**
 - ♦ Pair with successful industry?
- ♦ **Derive Specifics**
 - ♦ Pair with *what* industry?
- ♦ **Consider Further Work**

Data processing, internet publishing, and other information services

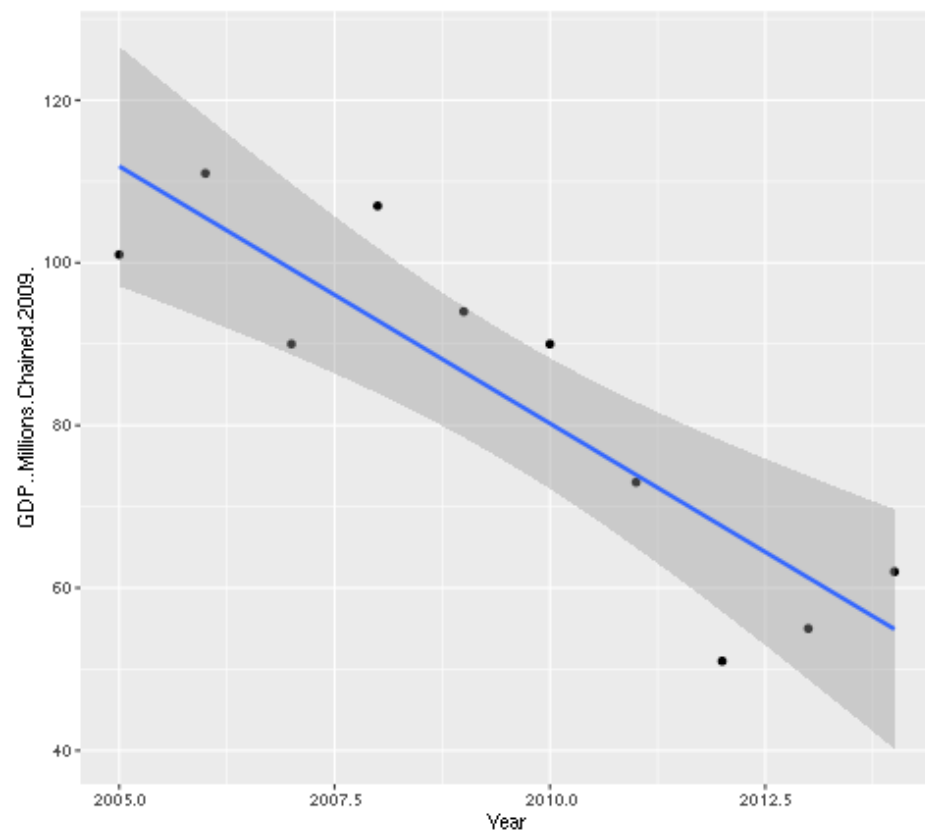
- ♦ Portion of GDP in VT fell from \$103M in 2006 to \$46M in 2014
- ♦ Opposite of national trend
- ♦ Against Intuition
 - ♦ “IT is *supposed* to grow!”



Same Industry, Different Views

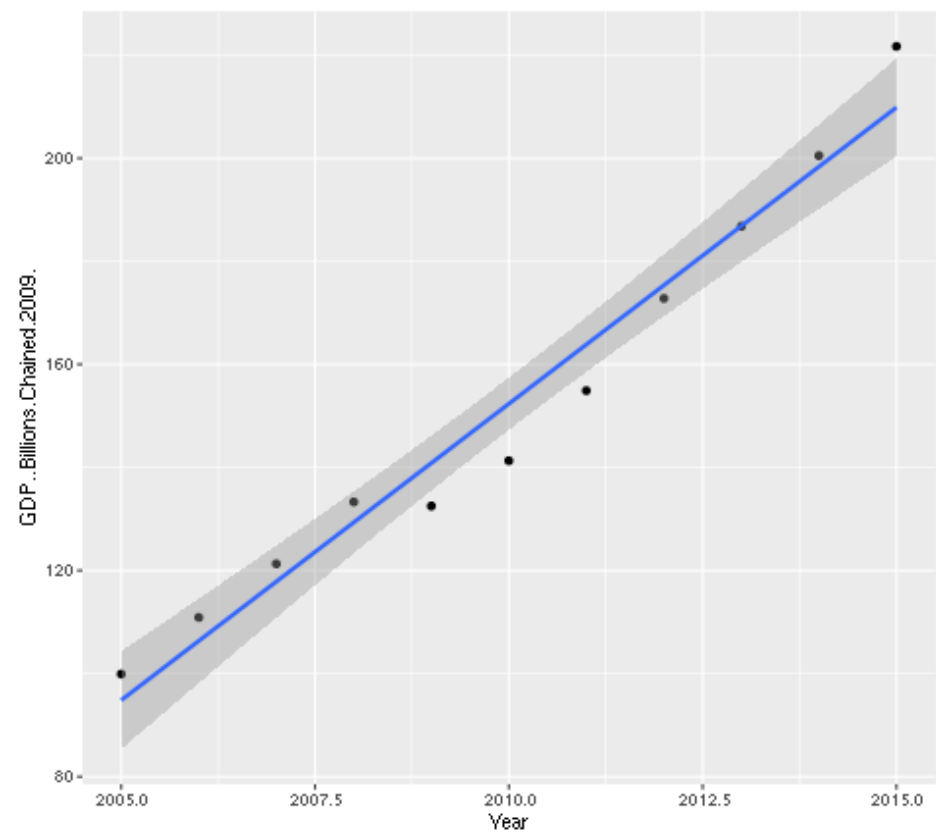
Portion of VT GDP

Data processing, internet publishing, and other information services



Portion of US GDP

Data processing, internet publishing, and other information services



Idea: The Buddy System

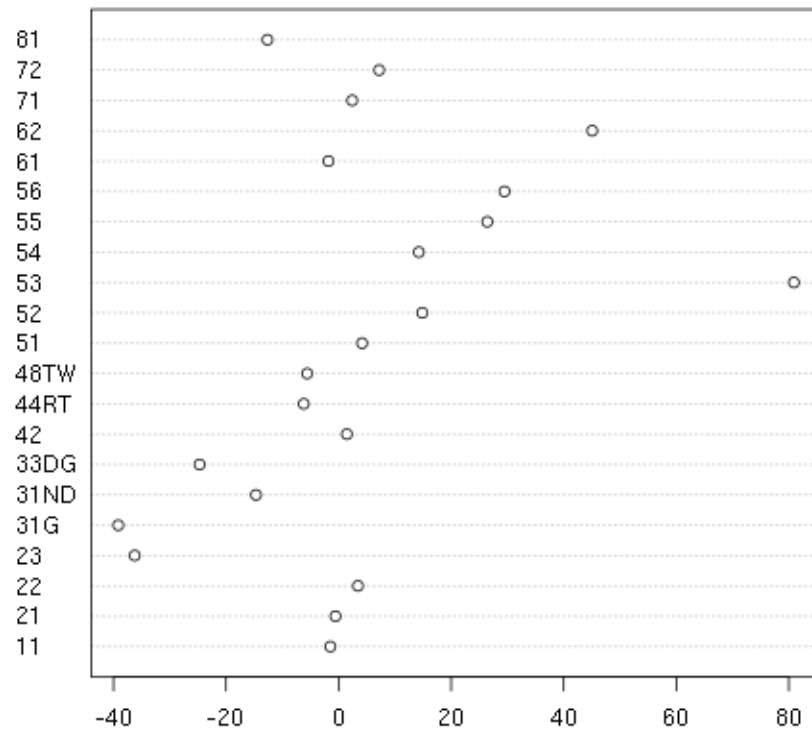
- ♦ **IT should be ubiquitous**
 - ♦ Useful to all sectors
- ♦ **Partner IT in Vermont with more successful industries**
 - ♦ Learn
 - ♦ Sell
 - ♦ Collaborate

Find Your Buddy

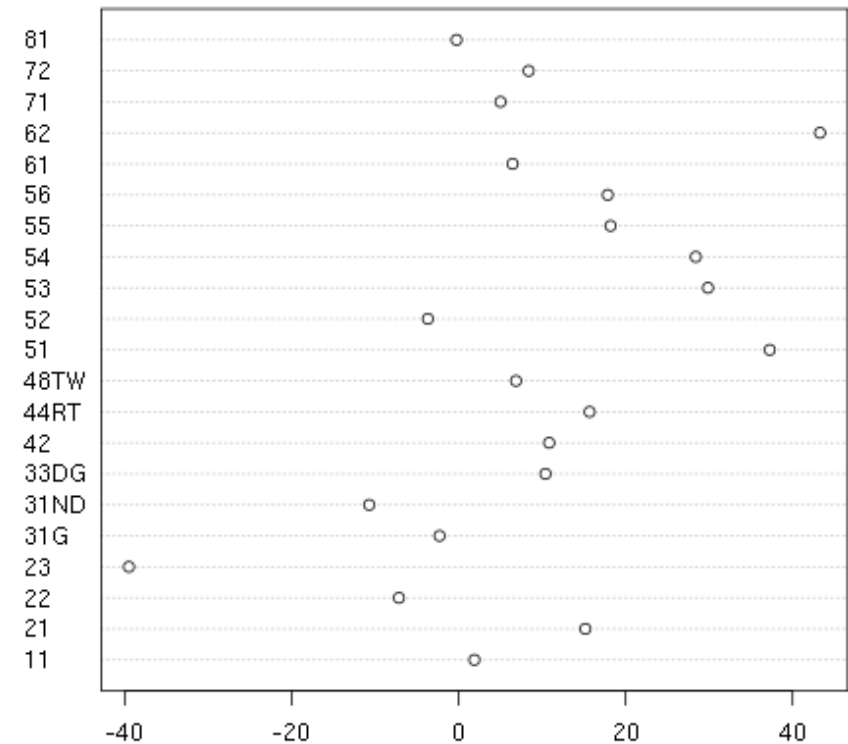
- ♦ **Model all sectors**
 - ♦ Linear Regression
 - ♦ Direction, Strength, and Consistency
- ♦ **Find Top 10 in VT and Top 10 in US**
 - ♦ The intersection contains our finalists

Model Candidate Sectors

Regression slopes of Large sectors - VT



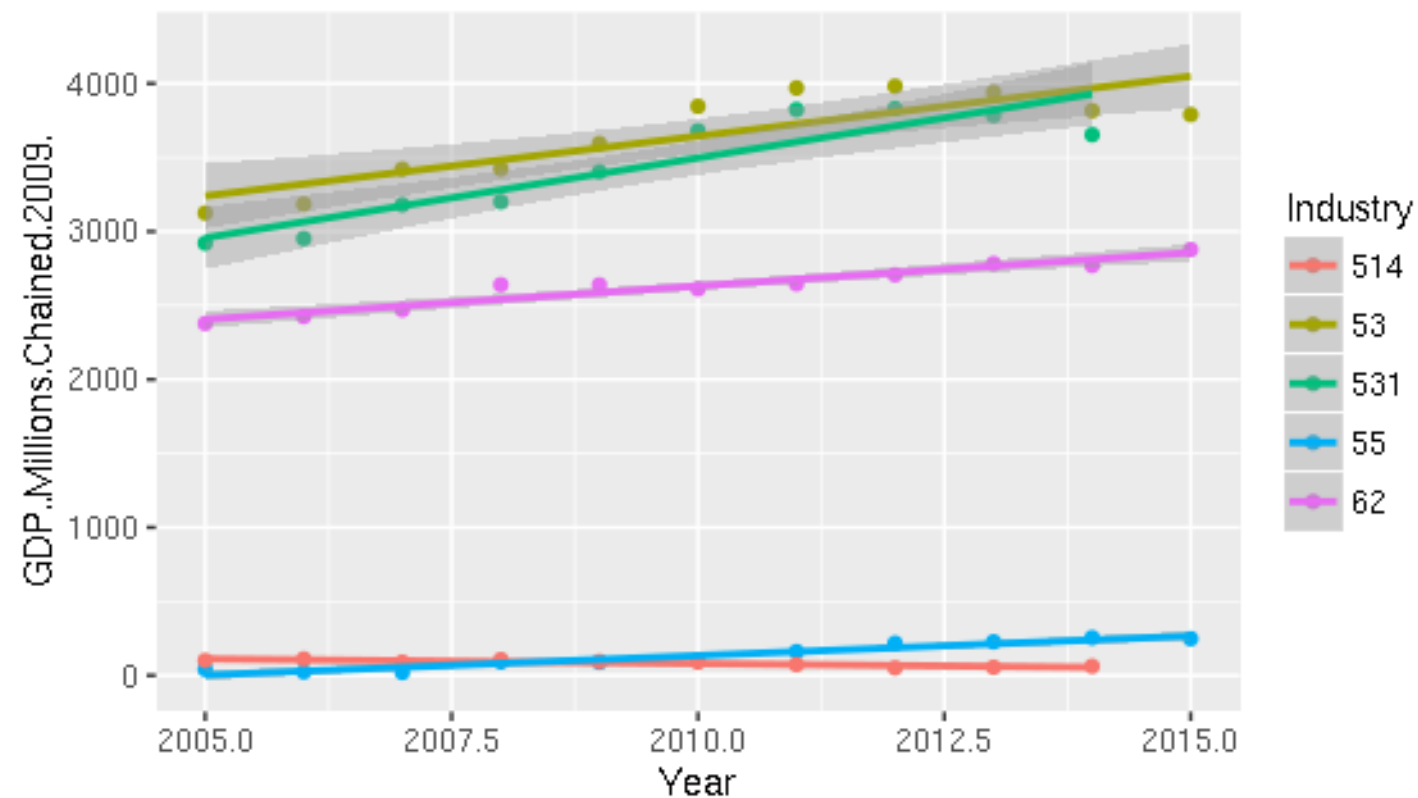
Regression slopes of Large sectors - US



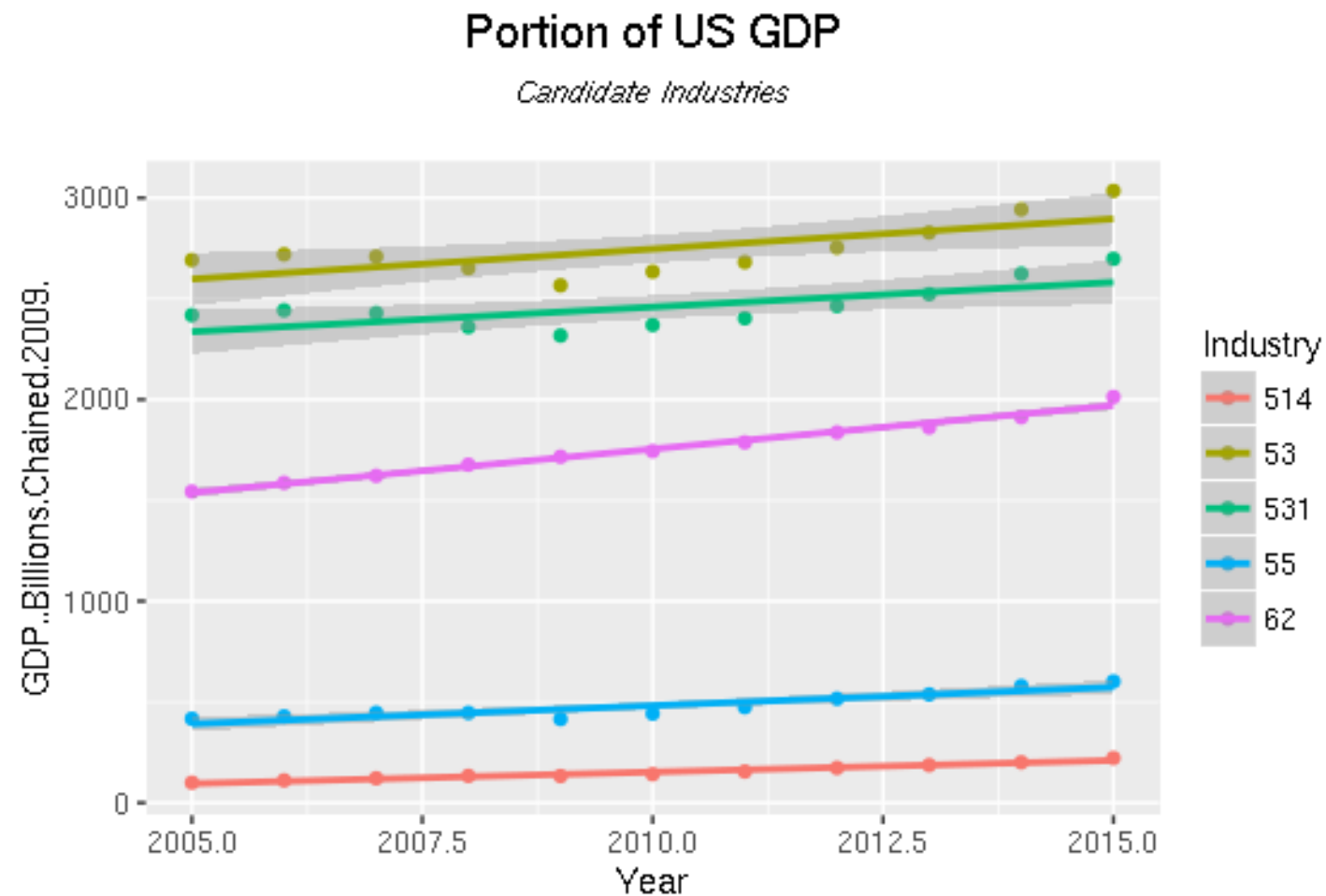
Finalists in VT

Portion of VT GDP

Candidate Industries



Finalists in US



Health Care and Social Assistance

- ♦ **Real estate is a big player,**
 - ♦ But it is unpredictable
- ♦ **Healthcare shows consistent growth**

Industry	Industry Description	VT Growth	US Growth	R ² VT	R ² US
514	Data processing, internet publishing, and other	-6.33	11.50	0.78	0.97
53	Real estate and rental and leasing	80.91	29.86	0.73	0.51
531	Real estate	107.99	24.52	0.83	0.50
55	Management of companies and enterprises	26.42	18.19	0.93	0.83
62	Health care and social assistance	45.06	43.29	0.92	0.99

Potential Methods of Co-operation

- **Hosting cross discipline conferences**
- **Creating shared incubation space**
- **Create grants to encourage IT firms to solve healthcare problems**



Further Analysis Directions

- **Better understanding of work force**
- **Research into cause of GDP loss**
- **Case study analysis**

More Info and Sources

- **Project at:** <https://github.com/brennap/cis-512>
- Bureau of Economic Analysis:
http://www.bea.gov/API/bea_web_service_api_user_guide.htm