

Uni Studies 3: How to lie with Infographics

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Uni Stu 3 Fall 2012



- Last time
 - Sample Bias
 - Self-report bias
 - Mean, median and mode
 - The importance of looking at variation also
 - The importance of sample size
 - The importance of labeling graphs
 - Making sure that the statistics are important
 - “Much Ado About Nothing”
 - The importance of thinking about motivations
 - The importance of paying close attention to the words

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- 2nd presidential debate
 - Energy policy
 - Job creation

- **Romney:** "As a matter of fact, oil production is down 14 percent this year on federal land, and gas production was down 9 percent. Why? Because the president cut in half the number of licenses and permits for drilling on federal lands and in federal waters."
- **Obama:** "Very little of what Governor Romney just said is true. We've opened up public lands. We're actually drilling more on public lands than in the previous administration and my — the previous president was an oilman."

- **Romney**: "As a matter of fact, oil production is down 14 percent this year on federal land, and gas production was down 9 percent. Why? Because the president cut in half the number of licenses and permits for drilling on federal lands and in federal waters."
- Facts are correct
 - oil sales are down 14% from 2010 to 2011
- Context is ignored
 - **Obama** temporarily halted offshore drilling after the BP oil spill which accounts for the loss in production

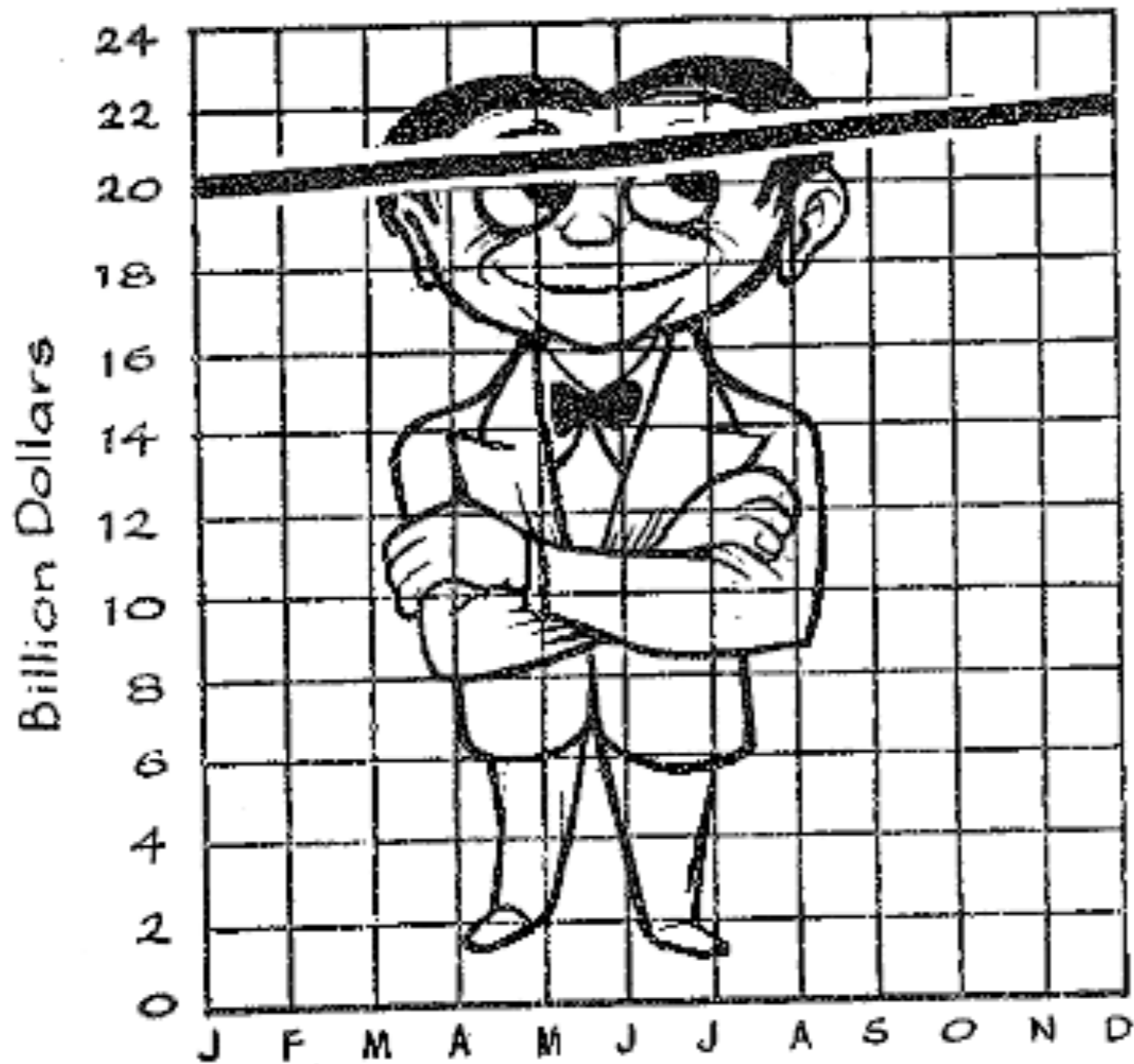
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- Facts are correct
 - gas production on **federal land** is down
- Context is wrong
 - It is now much cheaper to drill on private land

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 - **Job creation**

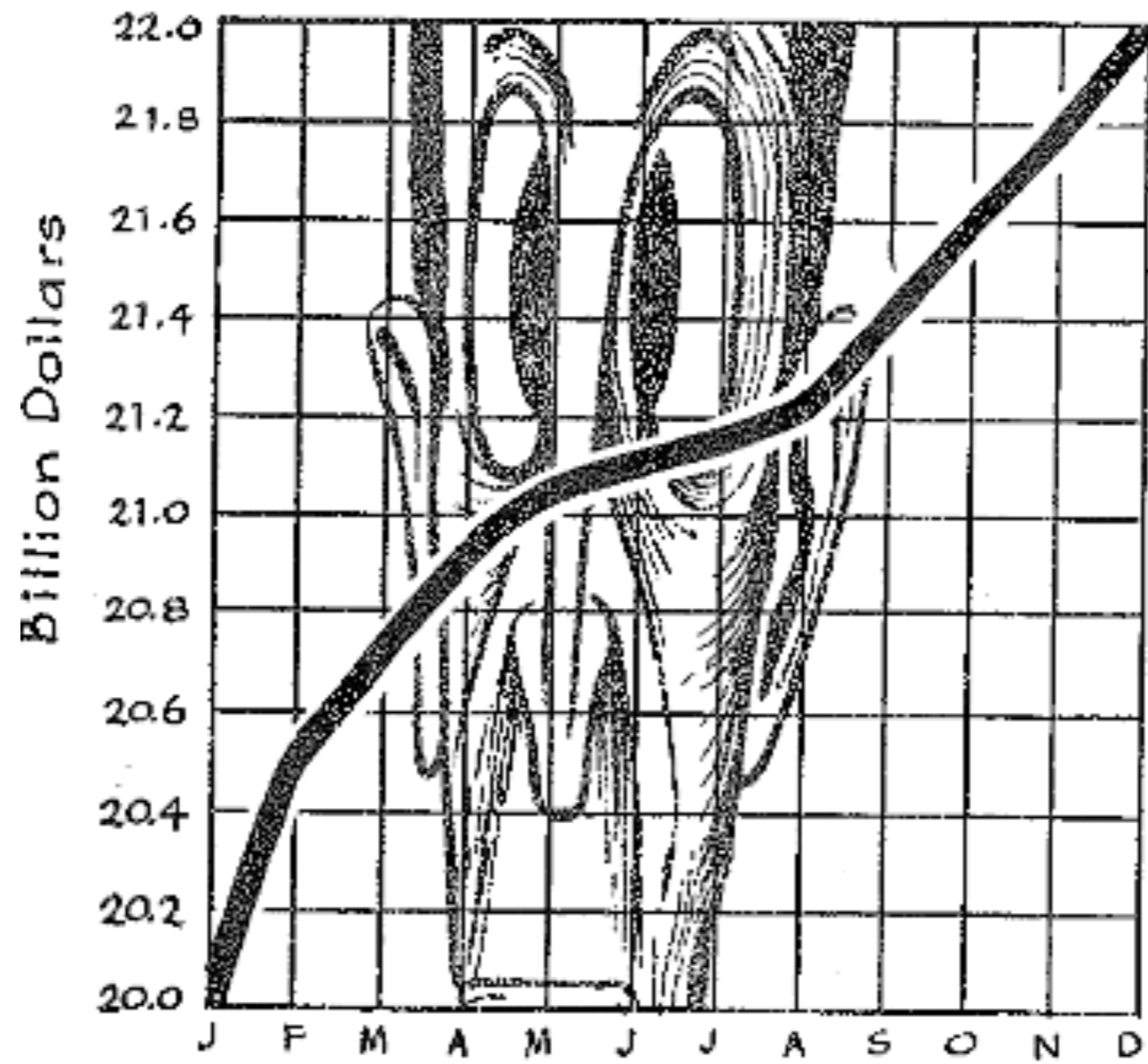
- **Obama:** "And what I want to do is build on the 5 million jobs that we've created over the last 30 months in the private sector alone."

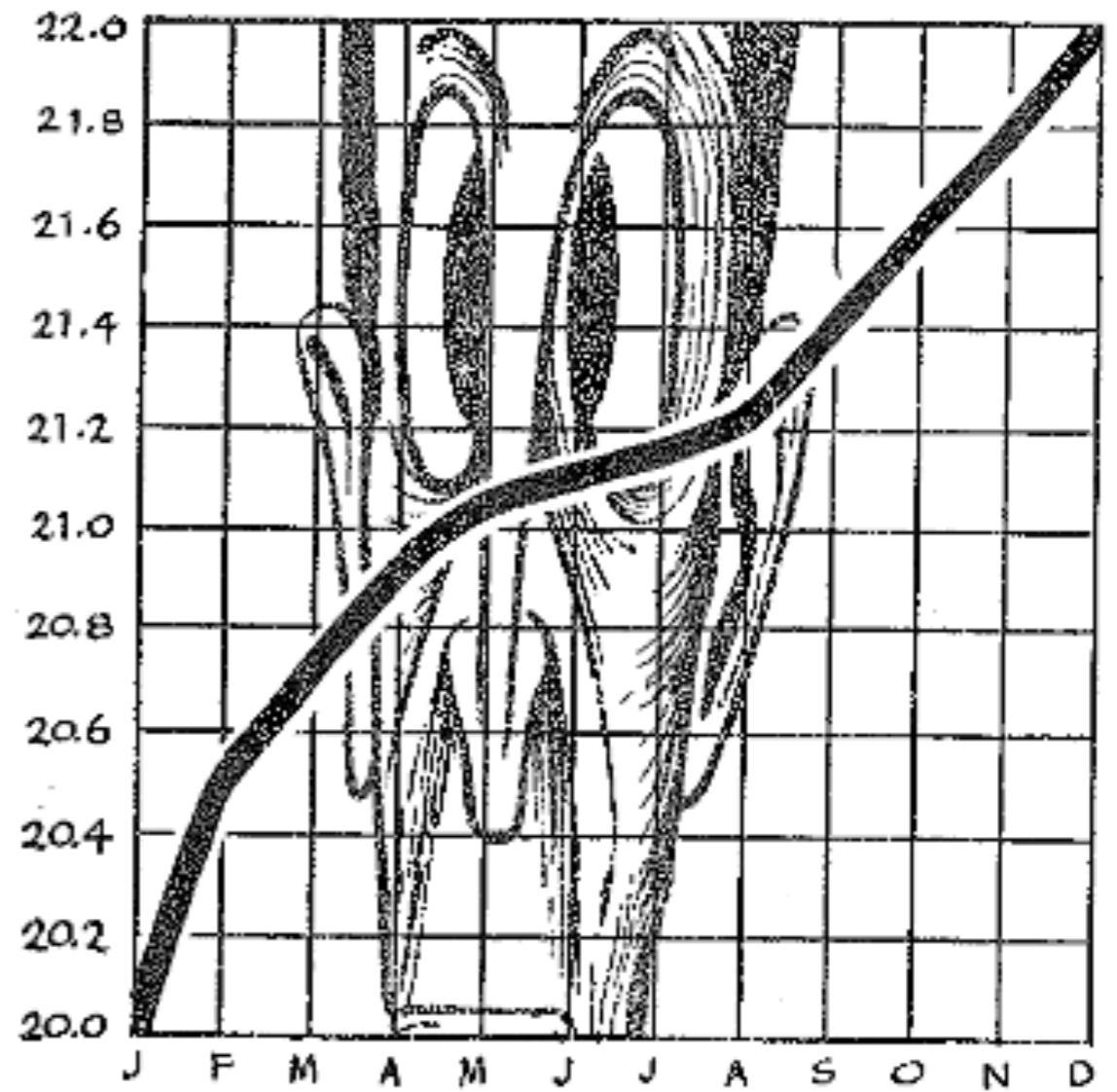
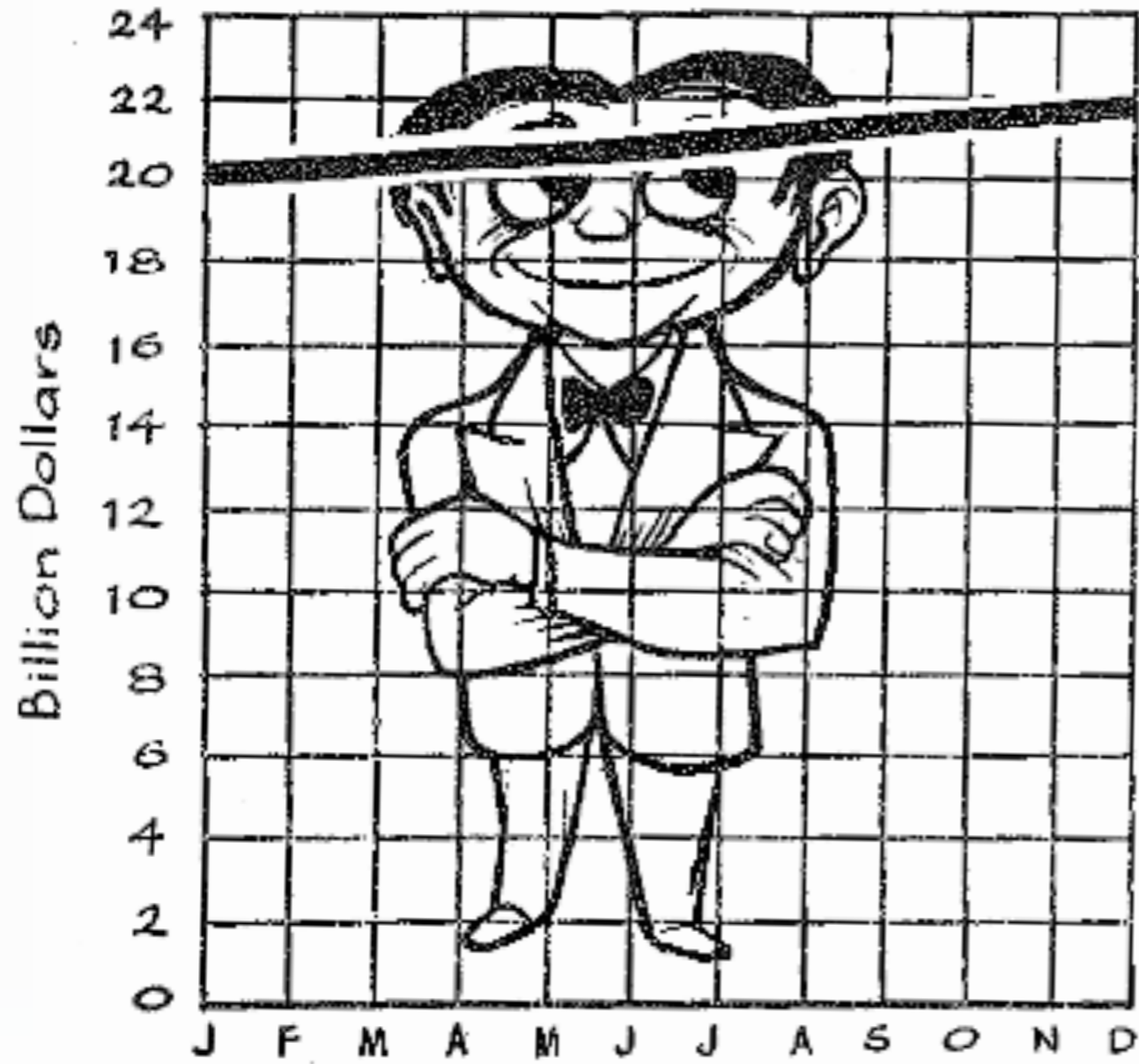
- **Obama:** "And what I want to do is build on the 5 million jobs that we've created over the last 30 months in the private sector alone."
- **"the last 30 months"** That ignores job losses during his presidency up until that point. According to the Labor Department, about 4.5 million total jobs have been created over the past 30 months. But some 4.3 million jobs were lost during the earlier months of his administration. At this point, Obama is a net job creator, but only marginally.

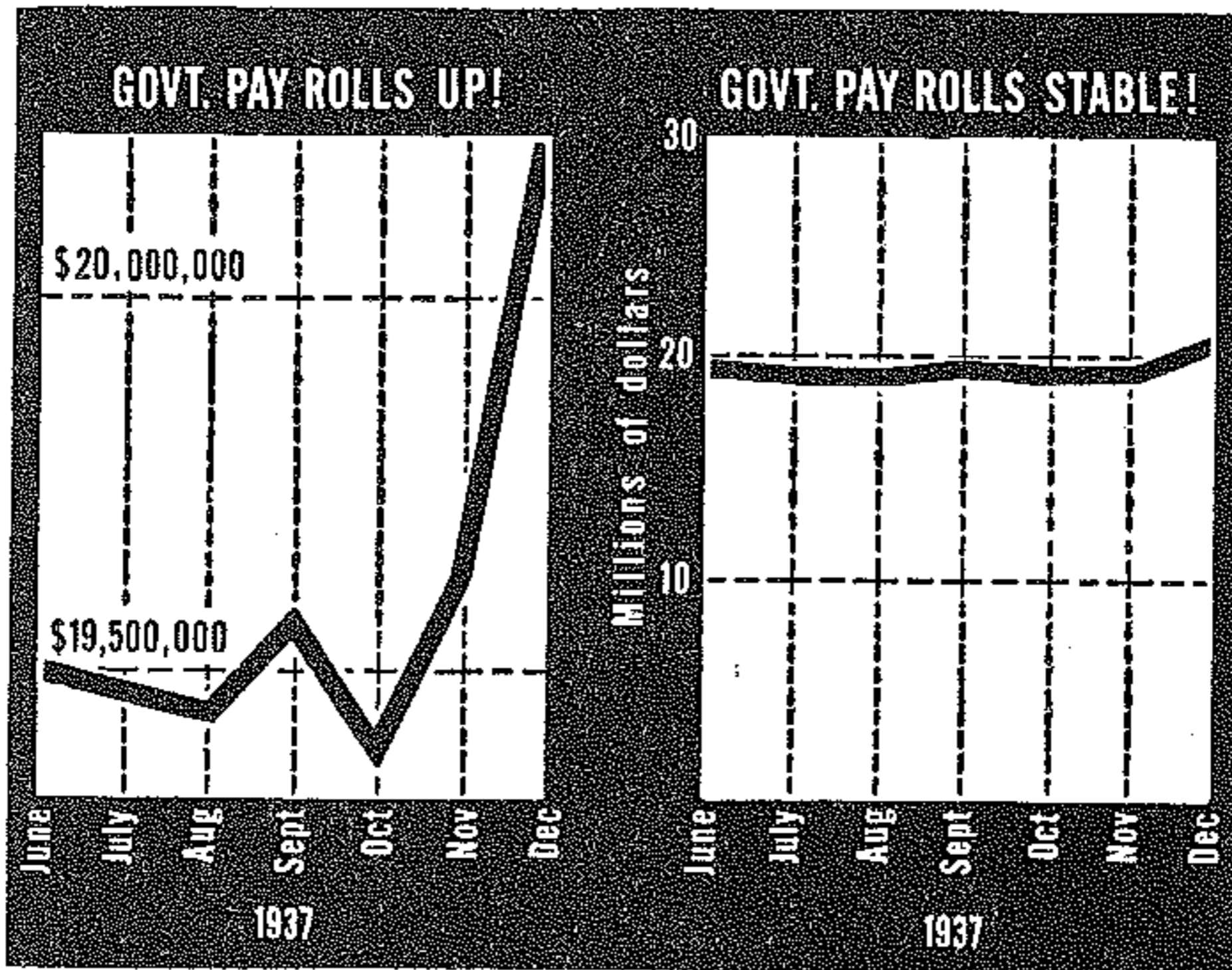
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- **The Gee-Whiz Graph**
 - The One-Dimensional Picture
 - The Semiattached Figure

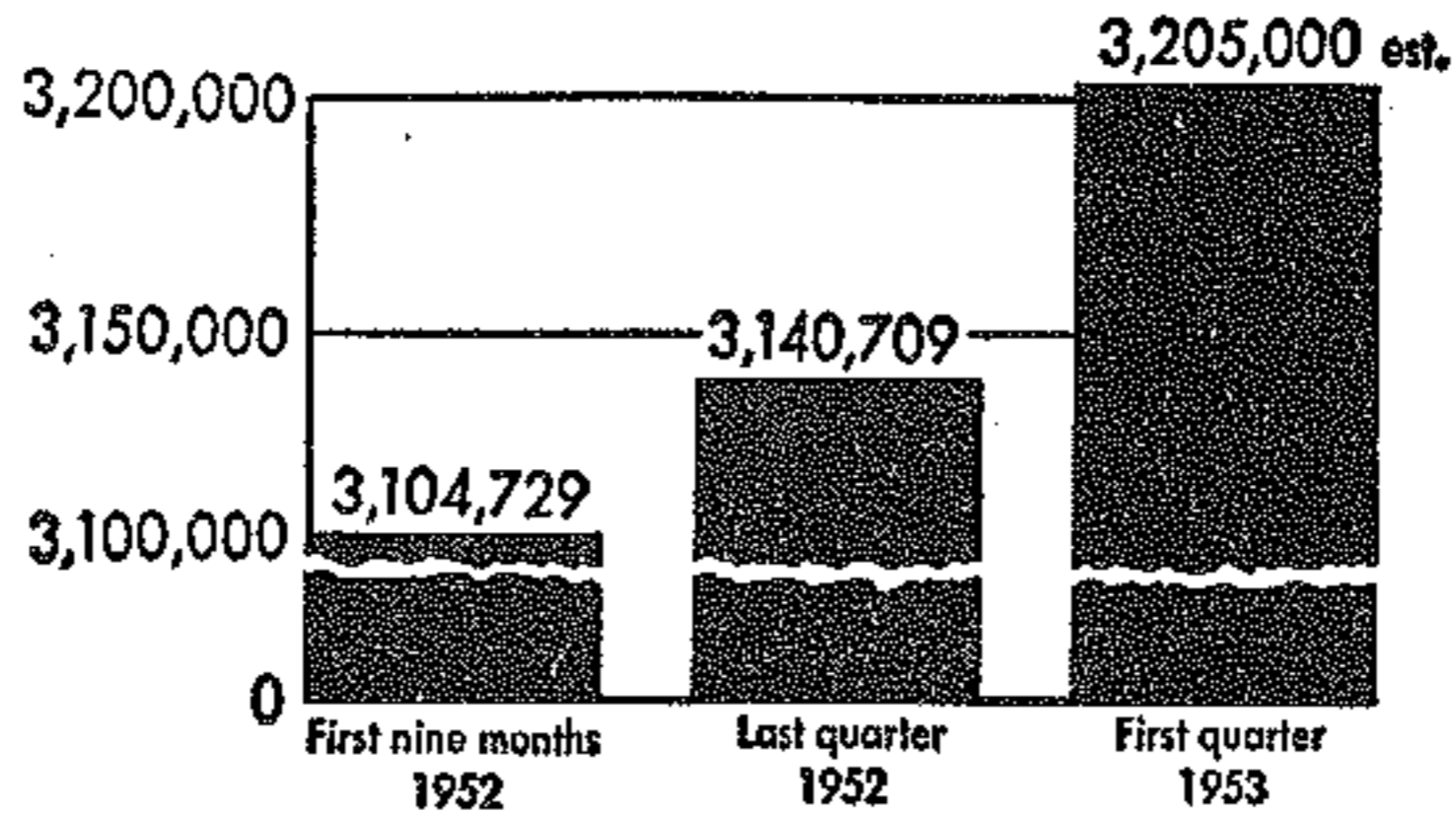






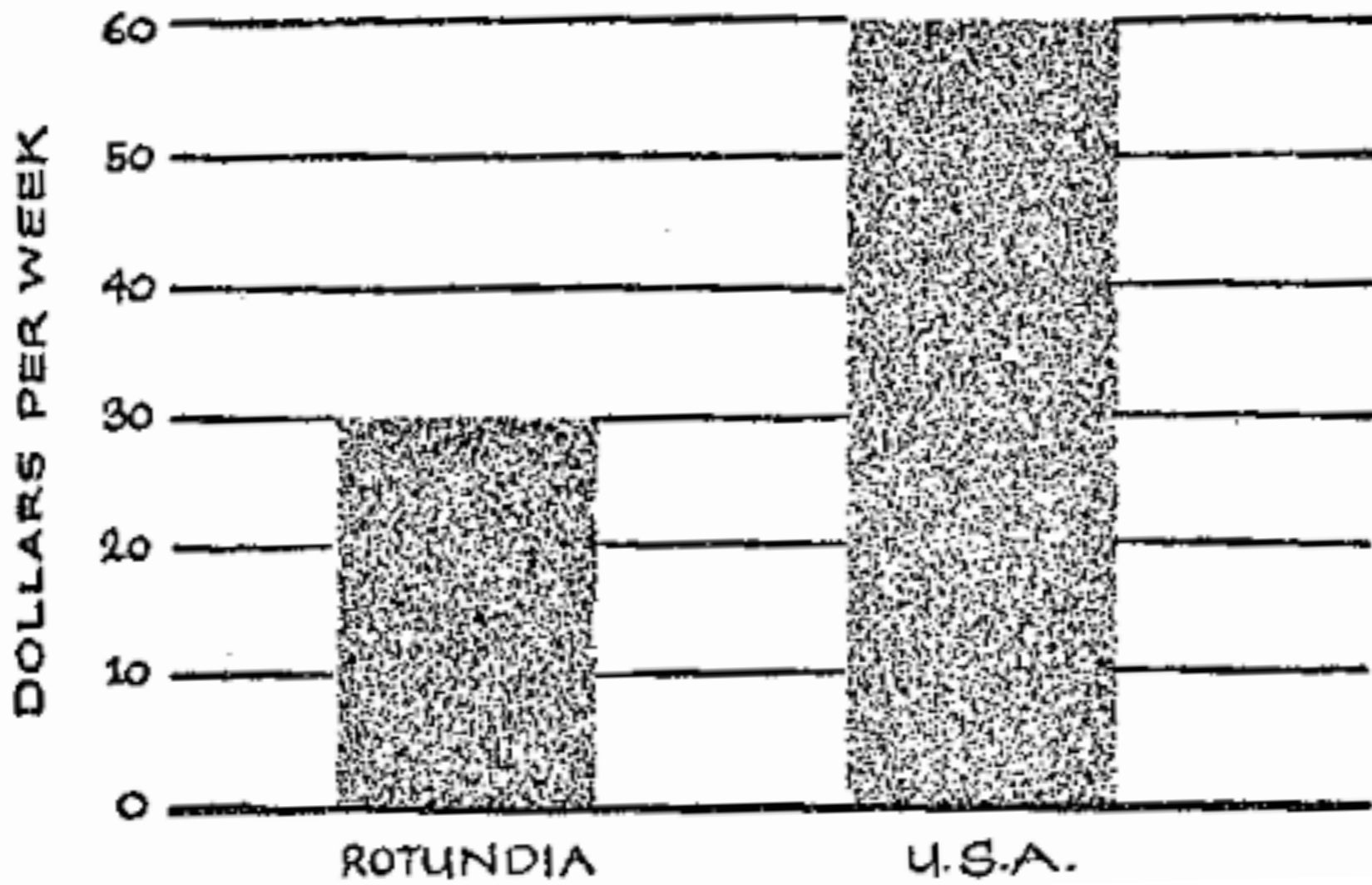






From an April 24, 1953, newspaper advertisement for COLLIER'S

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- The Gee-Whiz Graph
 - The One-Dimensional Picture
 - The Semiattached Figure







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- The Gee-Whiz Graph
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 - **The Semiattached Figure**

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 - Why?

- Ask people who are respected their opinion
 - “27% of physicians smoke brand X cigarette”

According to repeated nationwide surveys,

More Doctors Smoke **CAMELS** than any other cigarette!

Doctors in every
branch of medicine
were asked, "What
cigarette do you smoke?"
The brand named most
was Camel!

You'll enjoy Camels for the same reason
so many doctors enjoy them. Camels have
real, real richness, pack after pack, and
a flavor unmatched by any other cigarette.
Make this simple test: Smoke only
Camels for 30 days and see how well Camels
please your taste. How well they suit
your throat as your steady smoke. You'll
see how enjoyable a cigarette can be!

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!



DR. MARY MCGEE, M.D., New York
"Camels are my favorite cigarette."
I smoke them every day.



DR. ROBERT M. GIBSON, M.D., Chicago
"I've smoked Camels for 20 years and
I still prefer them to any other brand."
I smoke them every day.



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For 30 days, test Camels in your "P-Zone" (P for Throat, P for Taste).

www.StrangeCosmos.com



According to repeated national surveys . . .

More Doctors Smoke CAMELS than any other cigarette

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

THE DOCTORS' CHOICE IS AMERICAN!



DR. ELMER M. CLARK, M.D. is Chairman of the American Medical Association. Dr. W. H. WYLLIE is Chairman of the American Society of Internal Medicine.

For 30 days, test Camels

"I'll Be Right Over!"

. . . 24 hours a day your doctor is "on duty" . . . guarding health . . . protecting and prolonging life . . .

Physicians . . . men of science . . . men of duty . . . have been known to say "I'll be right over!" and have shown to the world that in his daily routine he has many demands, and displays great devotion to the work he has chosen.

Even the most imaginative mind could never invent. And he asks no special credit. When there's a job to do, he does it. A few weeks of sleep . . . a few pulls of a cigarette . . . and he's back at that job again . . .



According to a recent nationwide survey: **MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE!**

THOUSANDS of America's leading independent research organizations asked 113,392 doctors to name the cigarette they themselves preferred to smoke.

The answers came in by the thousands . . . from doctors in big cities, in small towns . . . from general physicians, diagnosticians, surgeons, specialists—doctors in every branch of medicine! Results? More doctors smoke Camels as their smoke than any other cigarette!

Yes, a doctor, too, smokes for pleasure. For focus, confidence, and confidence means just as much to him as they do to any other worker. Smoke Camels and see for yourself.



THE "T-ZONE" TEST WILL TELL YOU

The "T-Zone" is 1 for every 1000 calories in your body . . . the more you smoke, the more you burn up . . . the more you burn up, the more you live. On the basis of the scientific tests, every dollar of money, every dollar of work, every dollar of health, we believe Camels will get you "T-Zone" as a "T".

CAMELS Costlier Tobacco

According to repeated nationwide surveys

More Doctors Smoke **CAMELS** than any other cigarette

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

THE DOCTORS' CHOICE IS AMERICA



For 30 days, test Camels

"I'll be Right C

"You're like part of the family, Doctor!"

According to a recent Nationwide survey:

MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

YOUR "E-ZONE" WILL TELL YOU...

CAMELS *Costlier Tobacco*




According to repeated national surveys:

More Doctors Smoke CAMELS than any other cigarette

You'll find CAMELS in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was CAMELS!

THE DOCTORS' CHOICE IS AMERICA



For 30 days, test CAMELS

"I'll be Right CAMELS"

"You're like part of the family, Doctor!"

According to a recent Nationwide survey:

THE DOCTORS' CHOICE IS AMERICA

YOUR "E-ZONE" WILL TELL YOU

CAMELS

Lady with a Lamp (1946 Version)

According to a recent Nationwide survey:

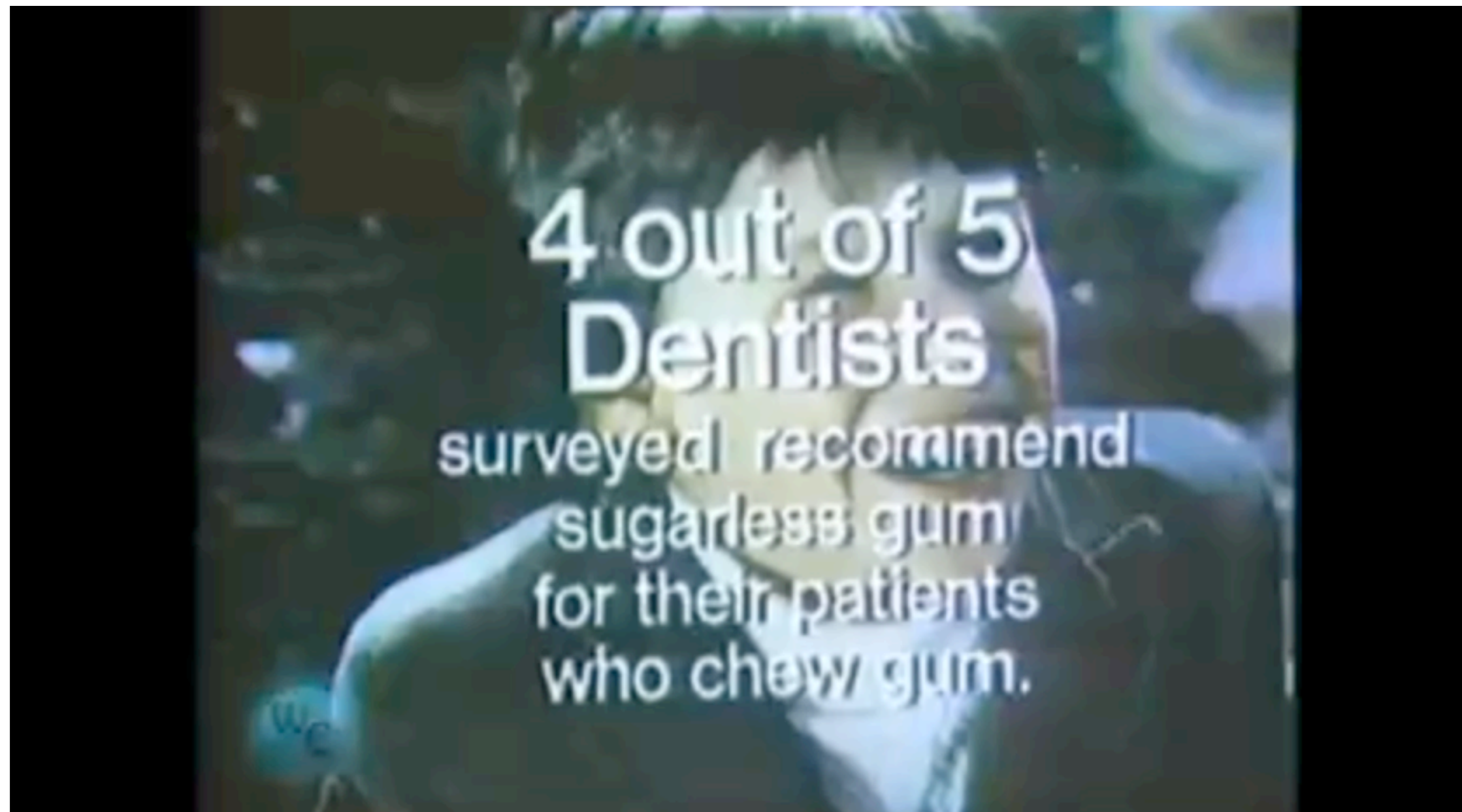
MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

TEST CAMELS ON YOUR "E-ZONE"

CAMELS Camelier Tobaccos







- Many ways of expressing a figure
 - 1% return on sales
 - 15% return on investment
 - 10 million dollar profit
 - increase of 40% (compared with last decade)
 - decrease of 60% (compared with last year)

- Not considering rates, just absolute numbers
 - Four times more fatalities occur on the highways at 7pm than at 7am.
 - During the Spanish-American war
 - 9 out of 1000 people died in the Navy
 - 16 out of 1000 people died in NYC
 - Join the Navy!



Facebook

If Facebook were a country it would be the

world's 3rd largest country

(after China and India)

and 2x the size of the U.S. population

Facebook = +

Facebook
640M Registered users



75%

of Brand 'Likes' come from advertisements



Fastest growing segment of users:

College-aged kids



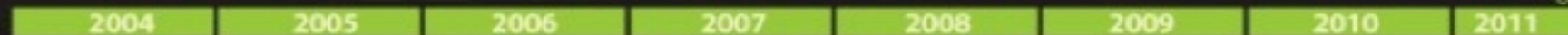
Chicago:

Fastest growing city on Facebook

in terms of usage in 2010

Evolution

Million of registered users



During the average 20-minute period in 2010, there were:

5870,000 wall posts | 2,716,000 photos uploaded | 10,208,000 comments posted

★ AMERICA'S POLITICAL TASTE FOR PIZZA ★

Determine your friends political leaning based on pizza preference

To celebrate National Pizza Month, California Pizza Kitchen surveyed 1000 Americans about their pizza preference and political leanings. Results showed that likely voters for both candidates - Barack Obama or Mitt Romney - have unique pizza habits and preferences.



Barack Obama Voters are more likely than Romney voters to...



What America likes...



Mitt Romney voters are more likely than Obama voters to...

Enjoy pizza for lunch



Eating pizza for either lunch or dinner



Enjoy pizza for dinner

Order take-out or delivery



Eating pizza at home

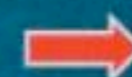


Make home-made pizza

Warm those slices up



Eating left-over pizza



Enjoy the pizza cold, right out of the refrigerator

Drink soda with their pizza



Washing their pizza down with a cold beverage

Enjoy a pint of beer or glass or wine with your pizza?
You are equally likely to vote for either Mitt Romney or Barack Obama.

New Year's Resolutions

What Resolutions Are Made,
How Likely You Are To Keep Them
And How To Improve
Your Chances Of Success

HOW COMMON IS SETTING A RESOLUTION?



TOP NEW YEAR'S RESOLUTIONS

- DRINK LESS ALCOHOL
- EAT HEALTHY FOOD
- GET A BETTER EDUCATION
- GET A BETTER JOB
- GET FIT
- LOSE WEIGHT
- MANAGE DEBT
- MANAGE STRESS
- QUIT SMOKING
- REDUCE, REUSE, AND RECYCLE
- SAVE MONEY
- TAKE A TRIP
- VOLUNTEER TO HELP OTHERS



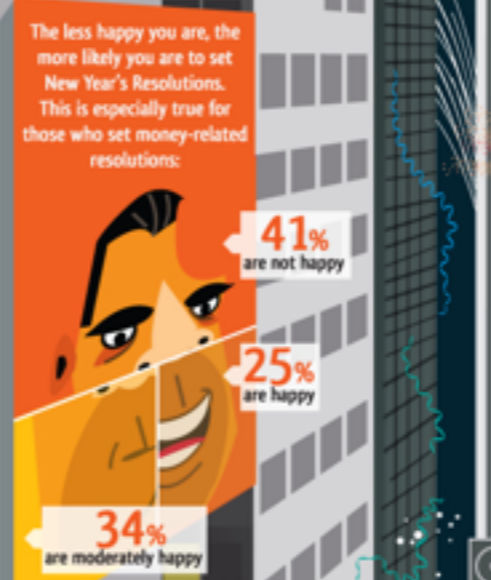
YOUR CHANCES OF SUCCESS



TIPS TO INCREASE THE LIKELIHOOD OF SUCCEEDING

- Choose a Specific, Realistic Goal
- Pick Just One Resolution
- Don't Wait Until New Year's Eve
- Start With Small Steps
- Avoid Repeating Past Failures
- Set intermediate milestones
- Keep Working on Your Goals
- Get Support from Your Friends and Family

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<http://www.usa.gov/Citizen/Topics/New-Years-Resolutions.shtml> • <http://www.steveshapiro.com/2008/12/11/interesting-new-years-resolution-statistics/>



Average Wireless Speeds

Coast to Coast

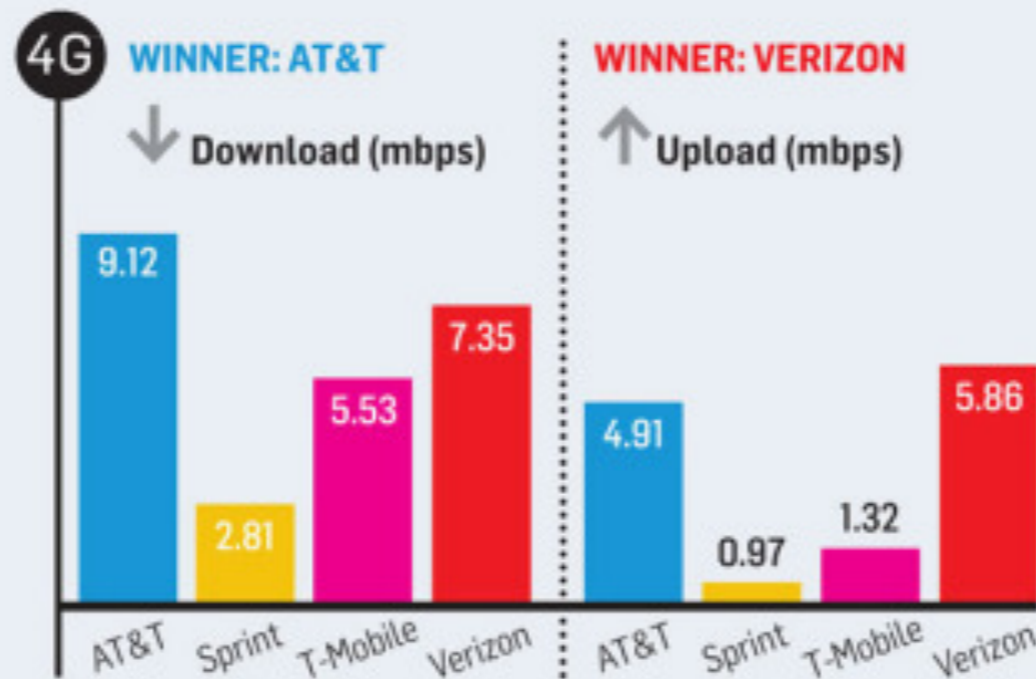
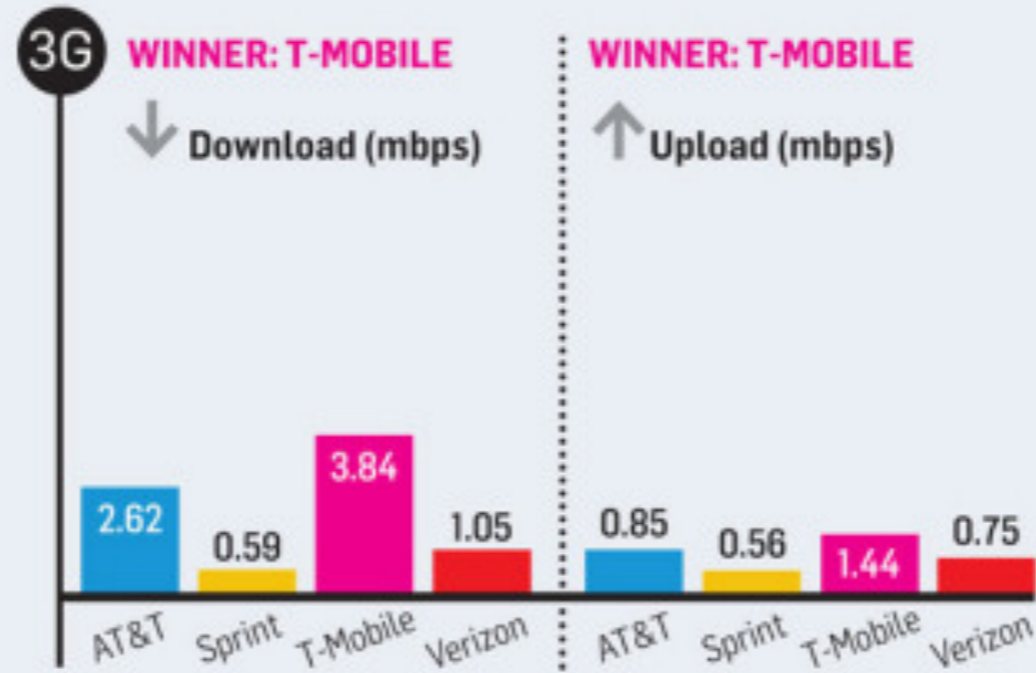


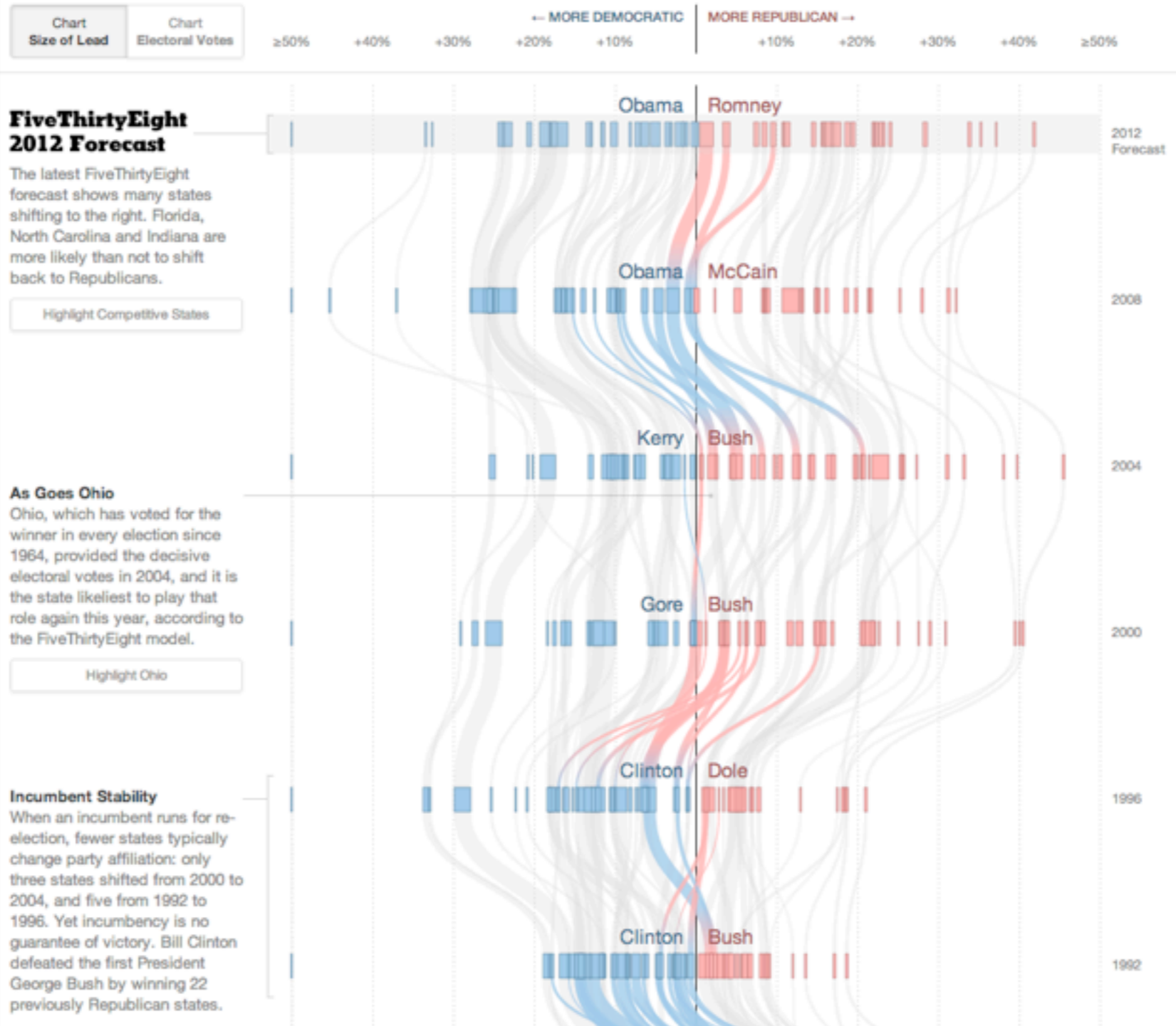
CHART NOTES: mbps = megabits per second; higher is better. AT&T doesn't offer 4G service in Denver or Seattle, so its 4G numbers reflect data from 11 cities, rather than 13. Also, Sprint does not offer 4G WiMax service in New Orleans, so its 4G numbers

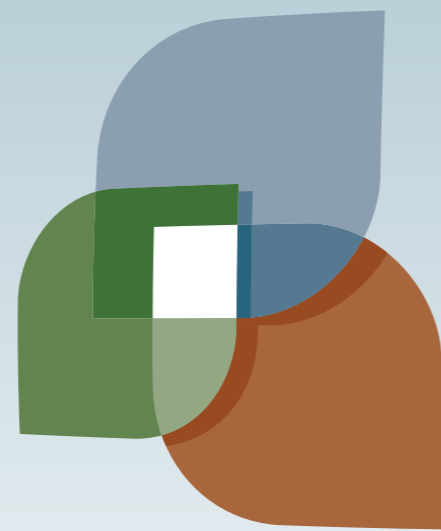
Published: October 15, 2012

Over the Decades, How States Have Shifted

Recent elections have placed a heavy emphasis on "swing states" — Ohio, Florida, and a handful of other states most-easily swayed from one party to the other. Yet in the past, many more states shifted between the Democratic and Republican parties. A look at how the states stack up in the current FiveThirtyEight forecast and how they have shifted over past elections.

- Each box represents a state sized by number of electoral votes.
- Each curve shows how much it shifted left or right between elections.





L U C I

