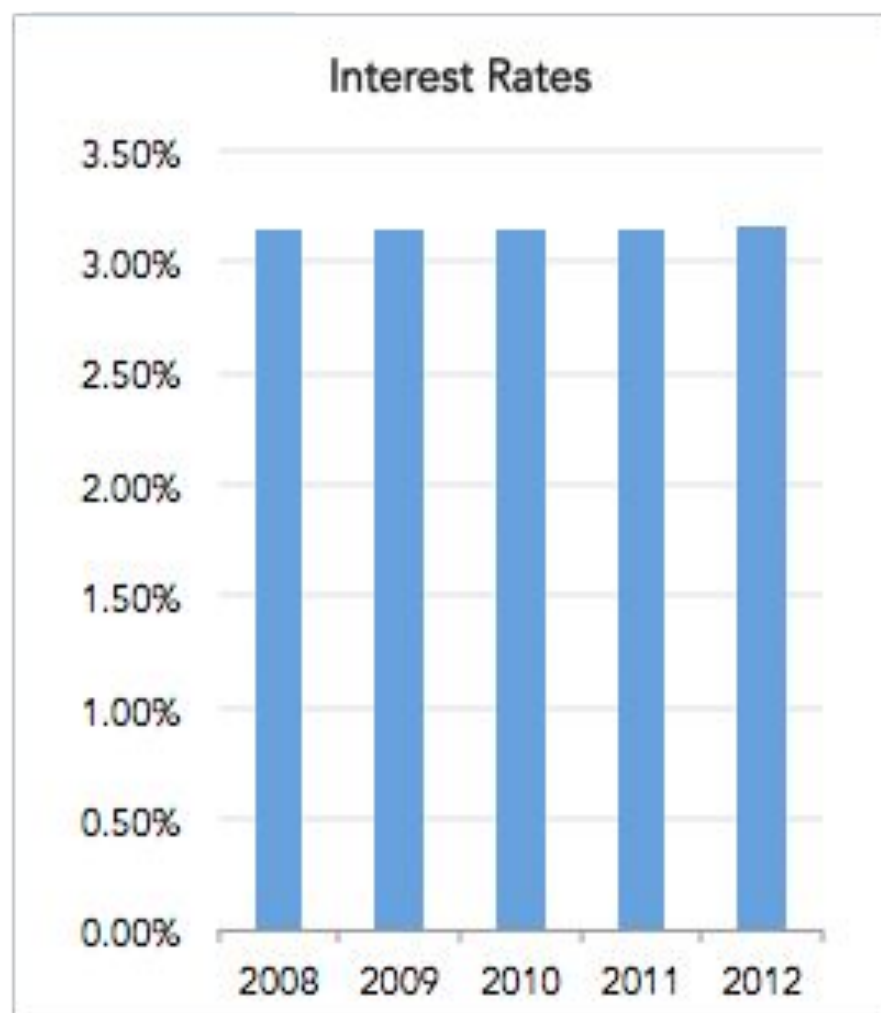
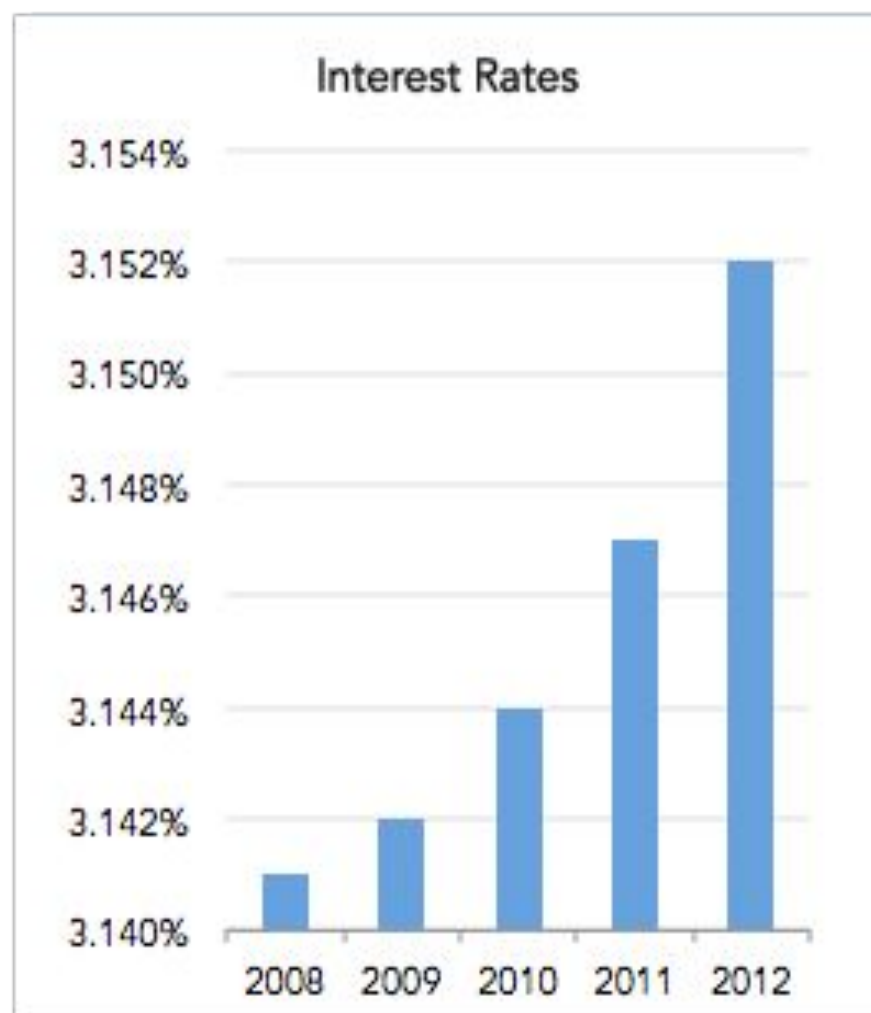


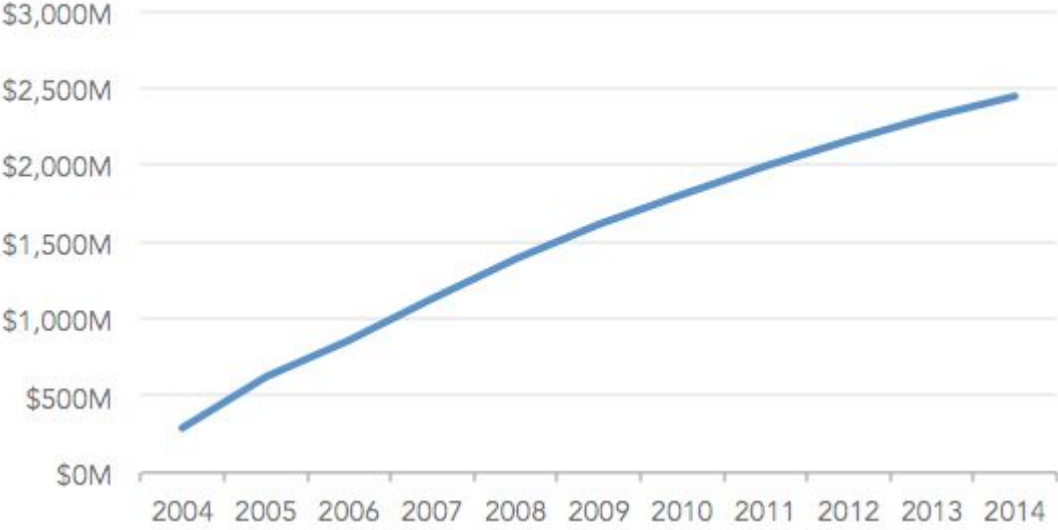
# Эти коварные диаграммы

28.04.2017

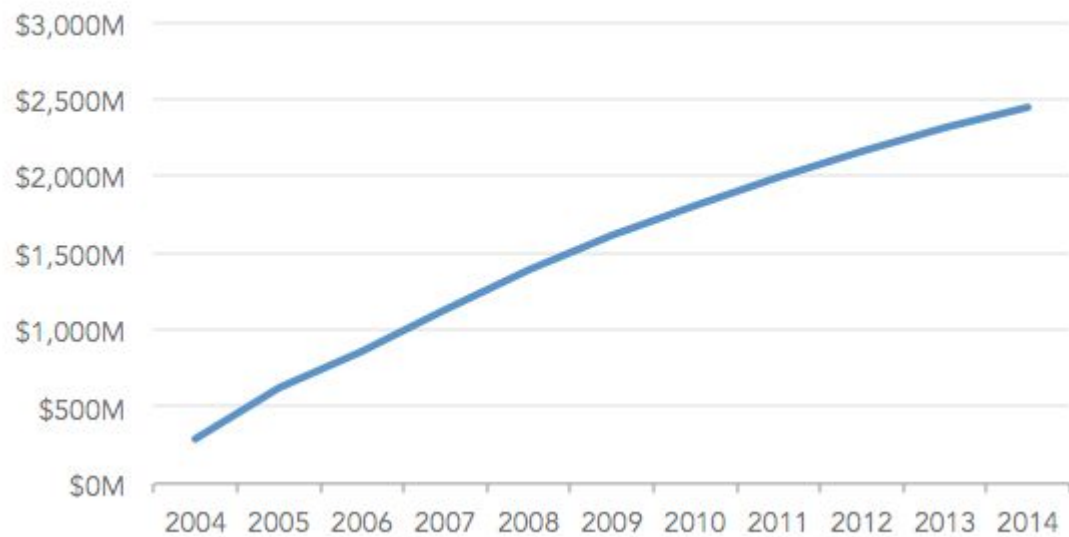
## Same Data, Different Y-Axis



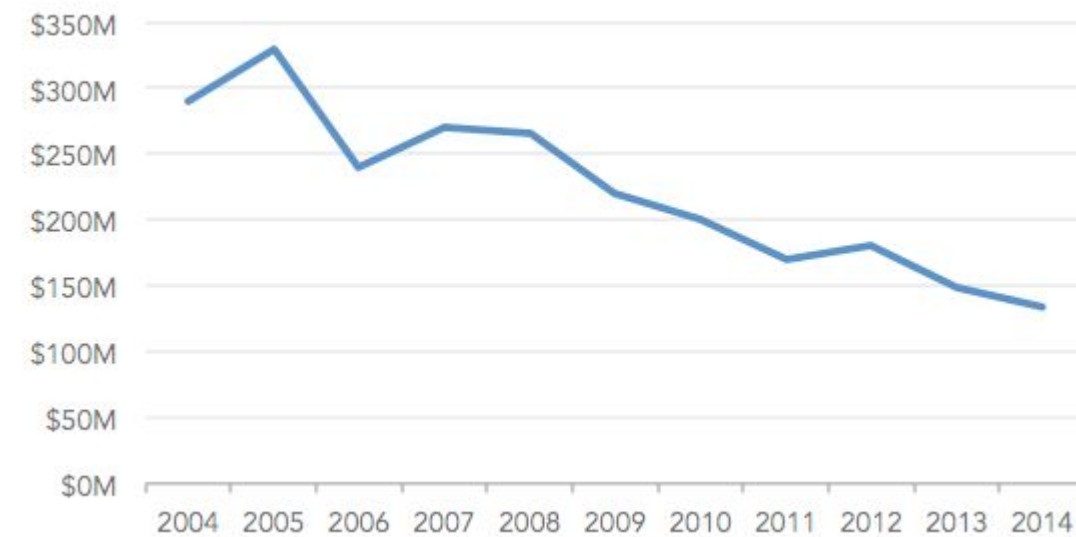
**Cumulative Annual Revenue**



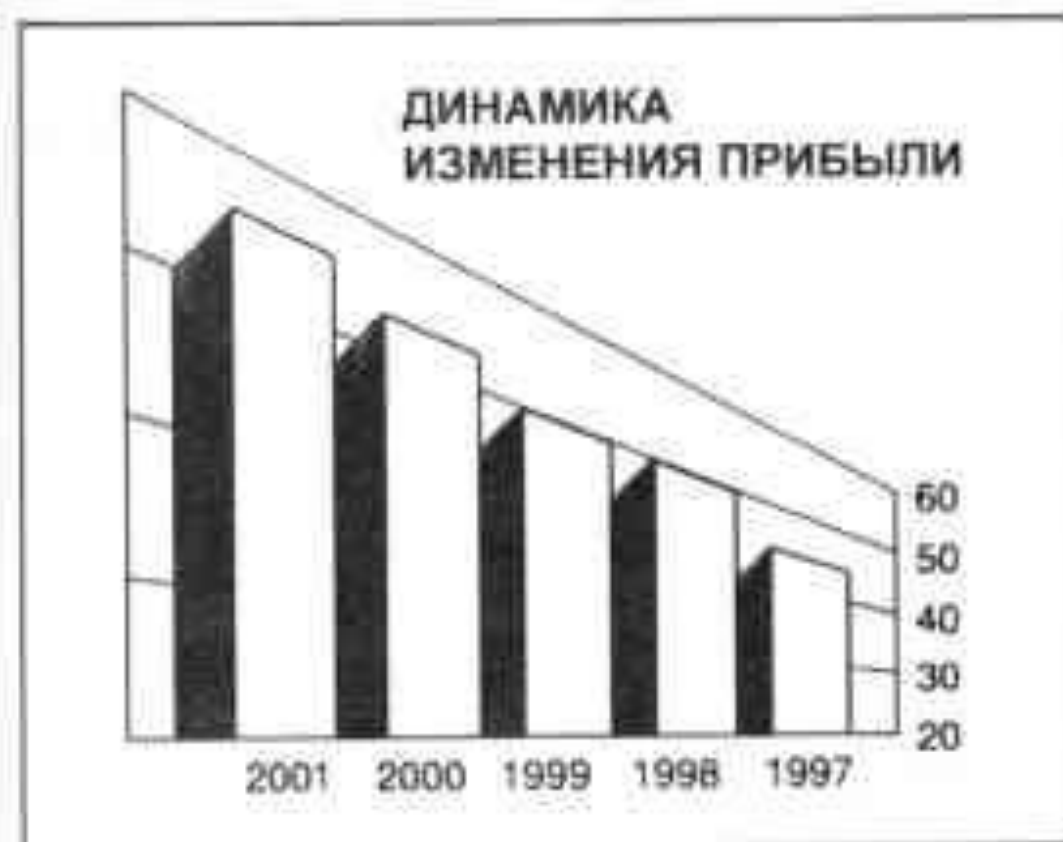
**Cumulative Annual Revenue**



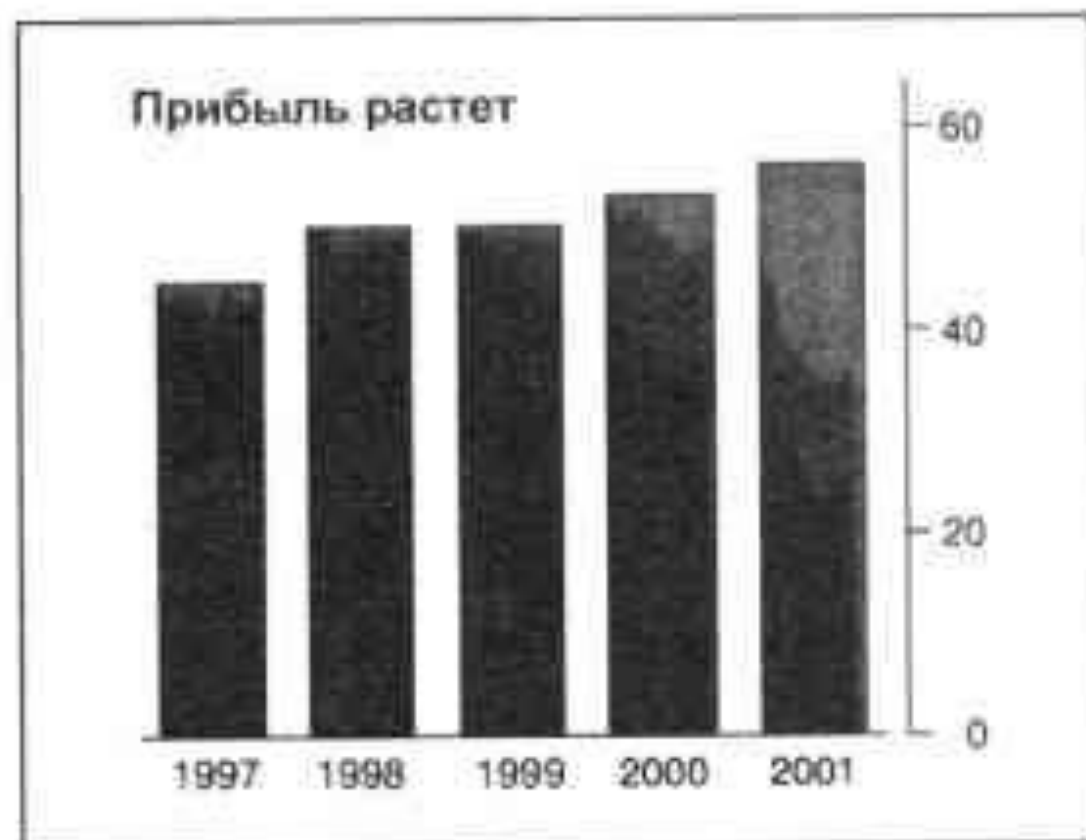
**Annual Revenue**



## Ненамеренная ошибка



## Правильная диаграмма



## Пример ► 2

Намеренный обман

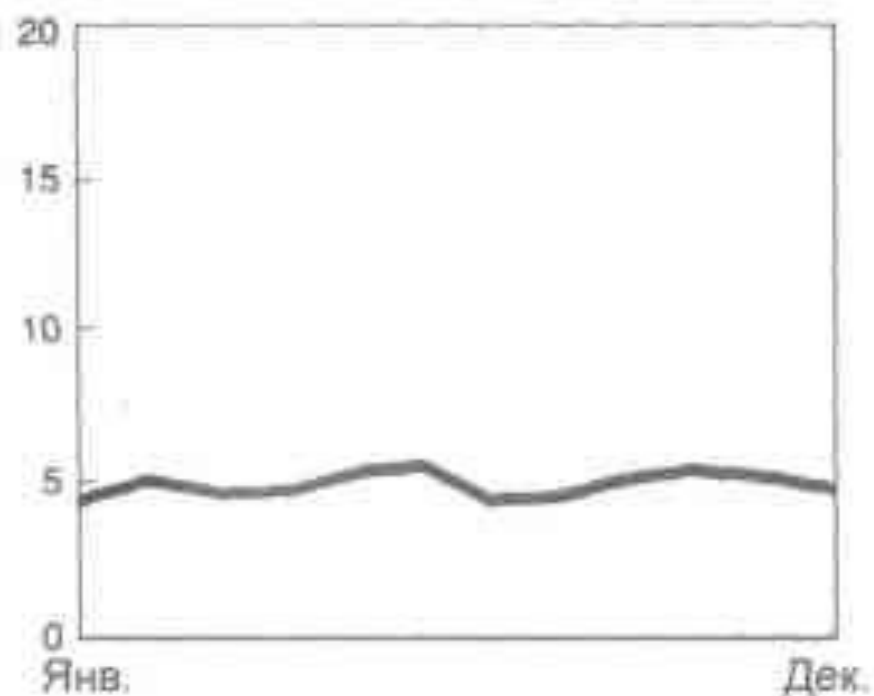


Правильная диаграмма



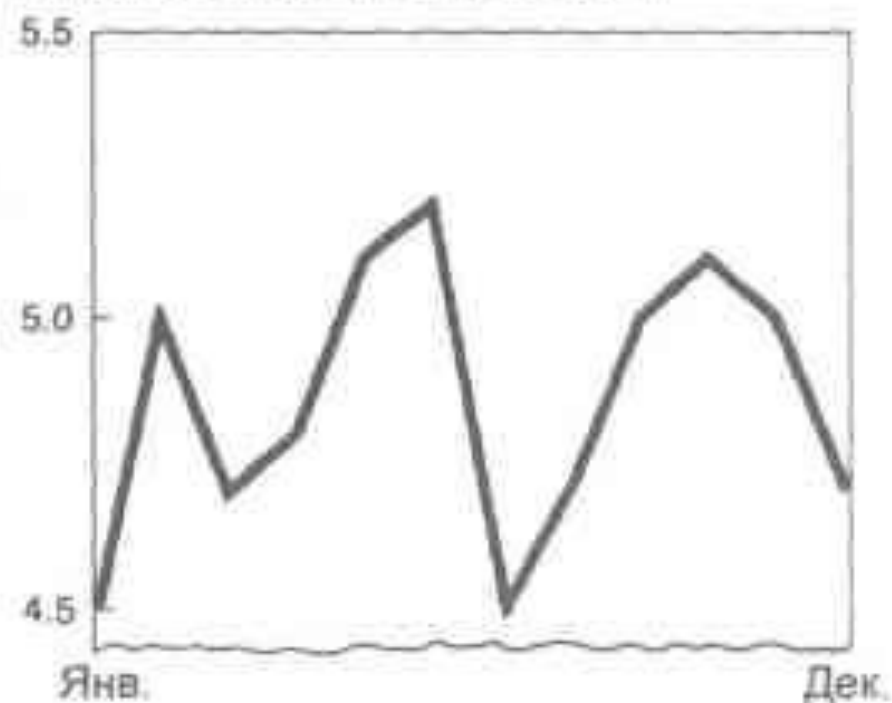
► А

Наш бизнес  
относительно **СТАБИЛЕН**



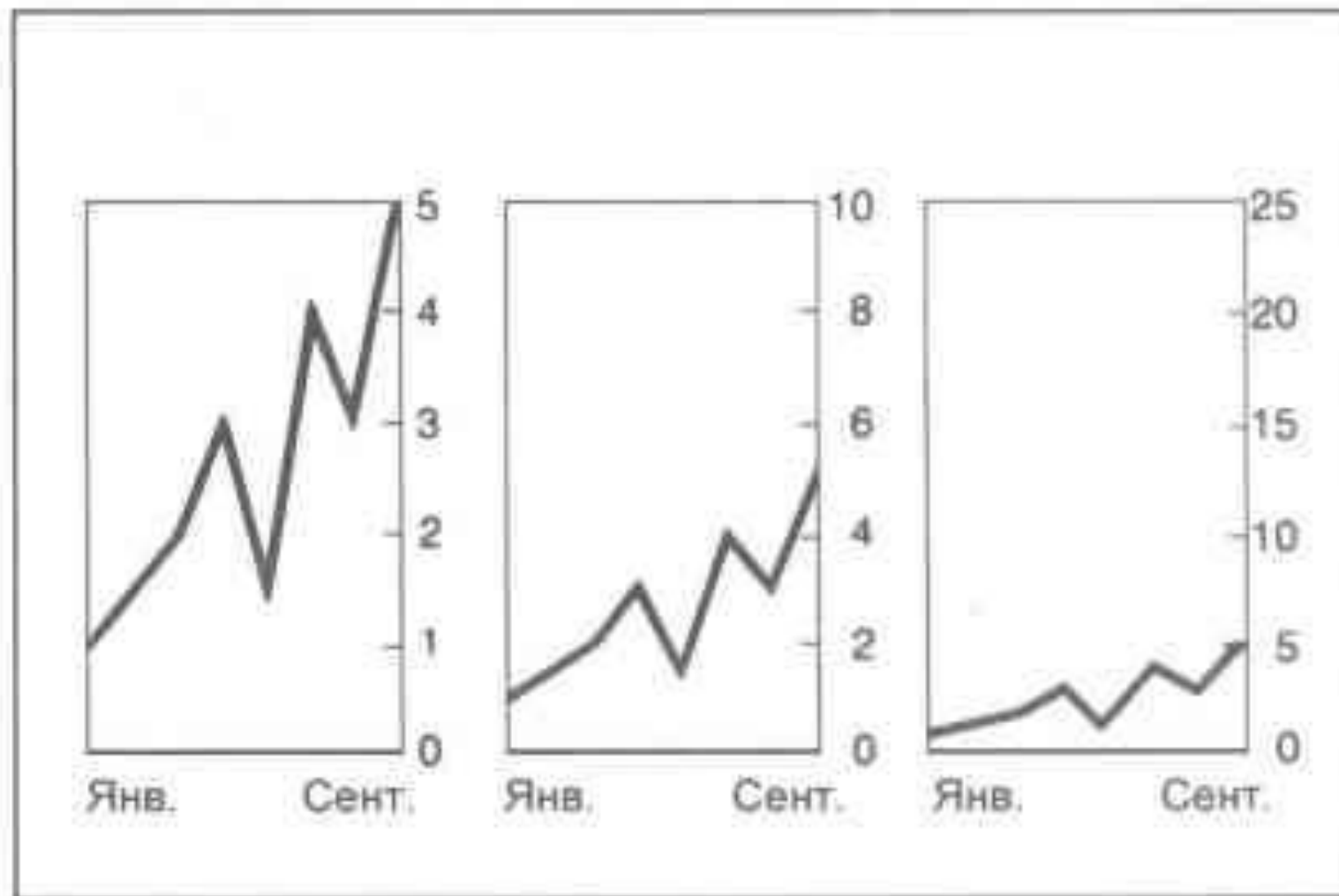
► Б

Наш бизнес  
относительно **НЕСТАБИЛЕН**



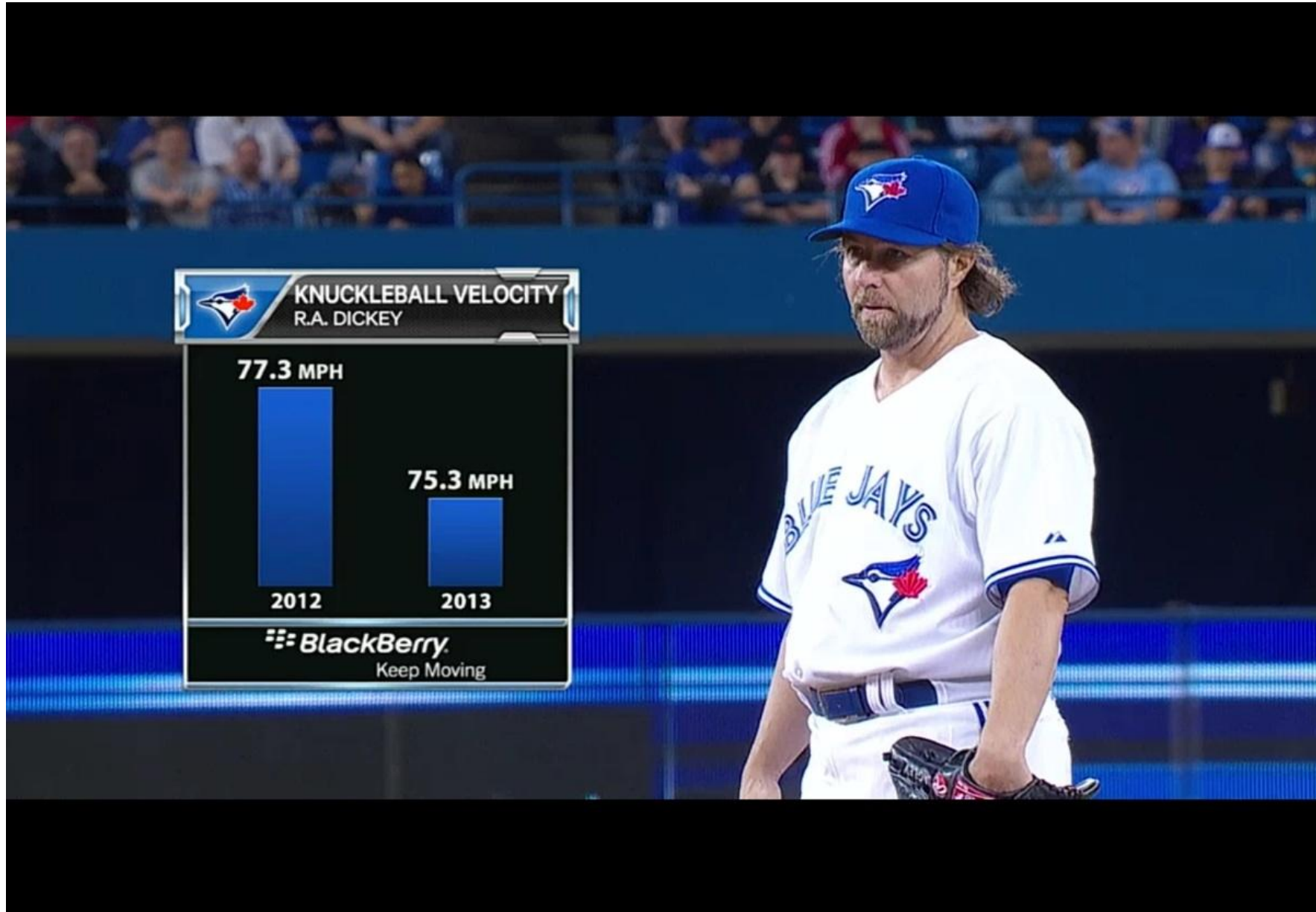
Какую шкалу  
выбрать?

Зависит от  
контекста и  
цели.



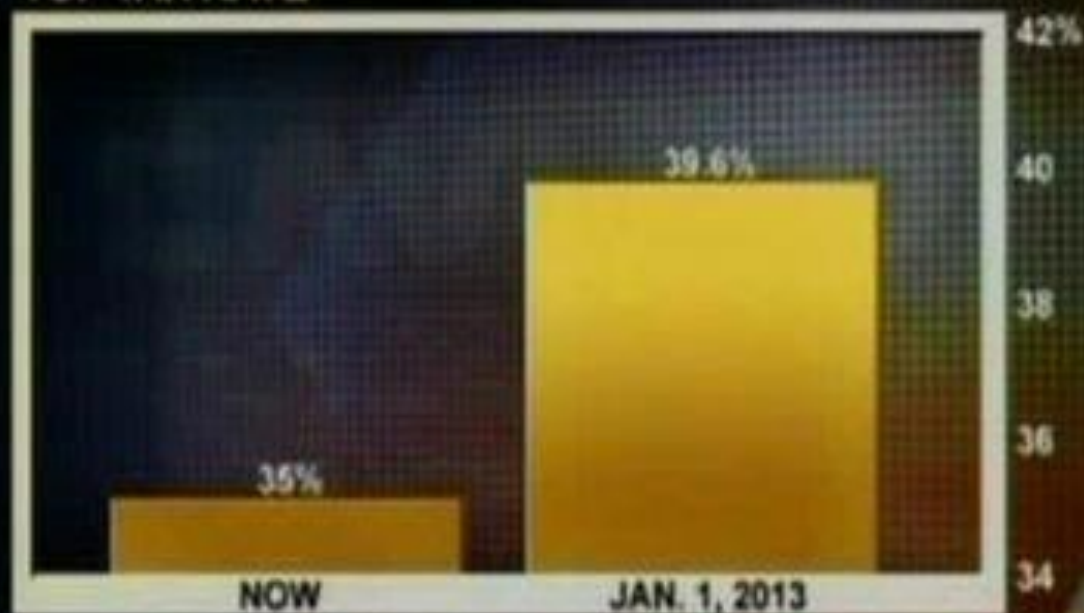


В жизни таких графиков не бывает? Бывает и не такое!



# IF BUSH TAX CUTS EXPIRE

TOP TAX RATE



8:01p ET

**FOX**  
BUSINESS

TOP STORIES

TECHNOLOGY

CONSUMER

WITH THE JUSTICE DEPARTMENT AND ACQUIRES FULL T

DOW 13008.68 ▼ 64.33

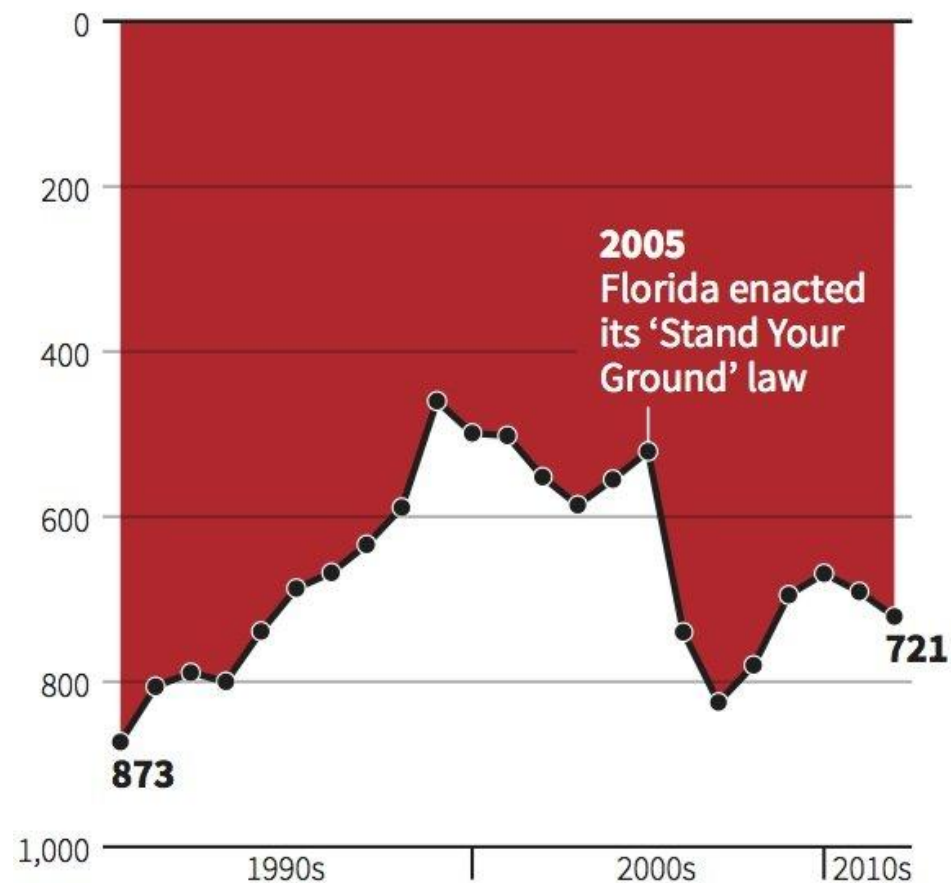
S&P 1379.32 ▼ 5.98

NASDAQ 2939.52 ▼ 6.32

Что не так с этой  
диаграммой?

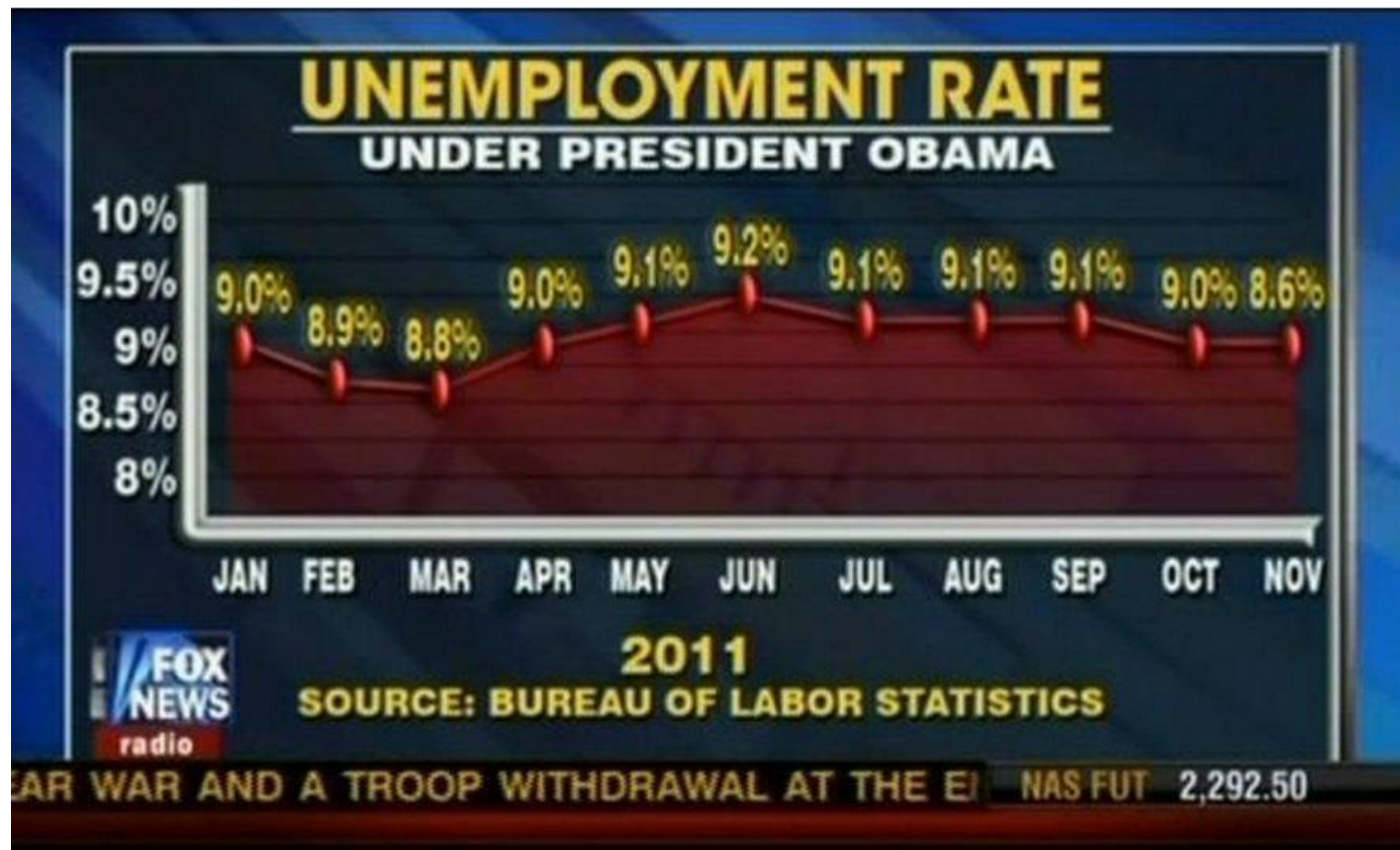
## Gun deaths in Florida

Number of murders committed using firearms



Source: Florida Department of Law Enforcement

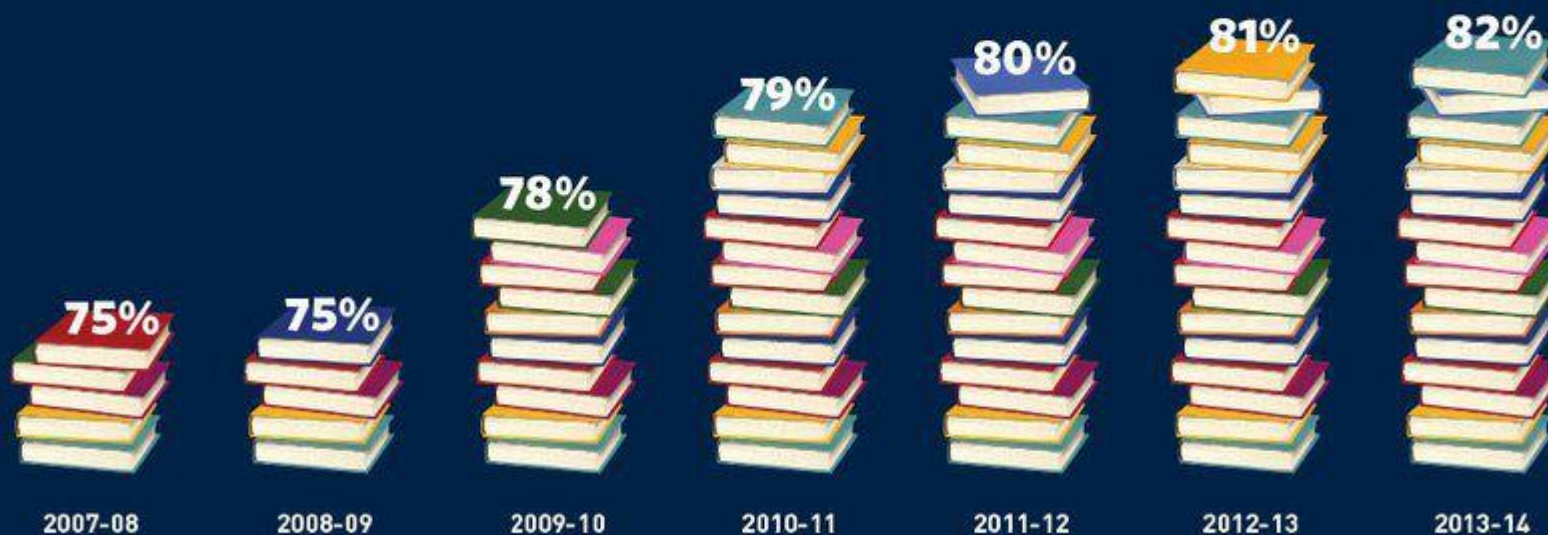




Внимание на три точки слева и на крайнюю правую.

# UNDER PRESIDENT OBAMA, **MORE STUDENTS ARE EARNING** THEIR HIGH SCHOOL DIPLOMAS THAN EVER BEFORE

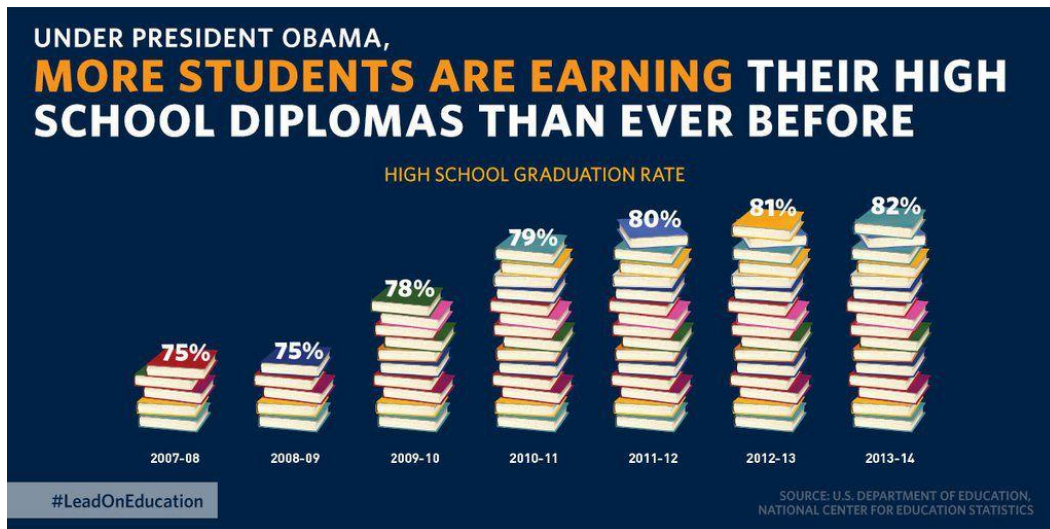
## HIGH SCHOOL GRADUATION RATE



#LeadOnEducation

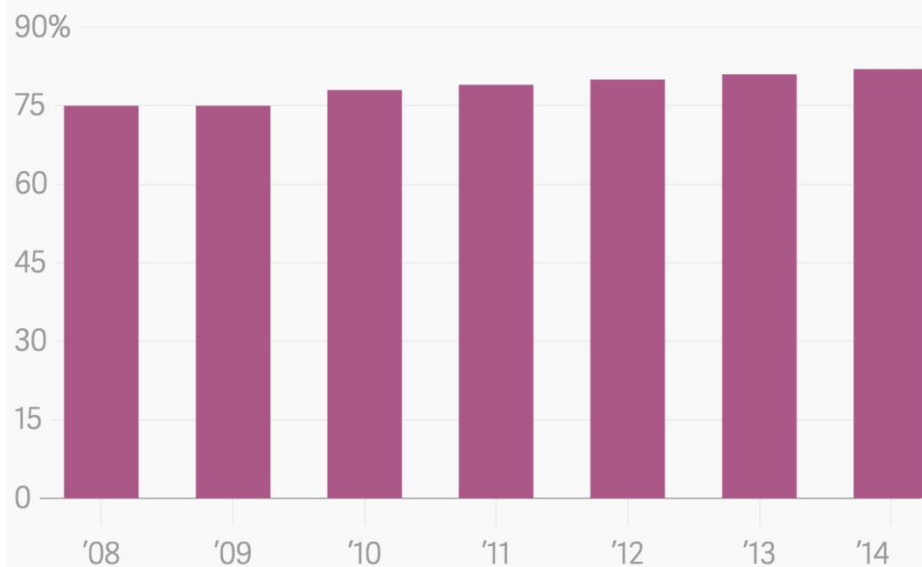
SOURCE: U.S. DEPARTMENT OF EDUCATION,  
NATIONAL CENTER FOR EDUCATION STATISTICS

In mid-December, the White House tweeted: “Good news: America’s high school graduation rate has increased to an all-time high. 🎓”



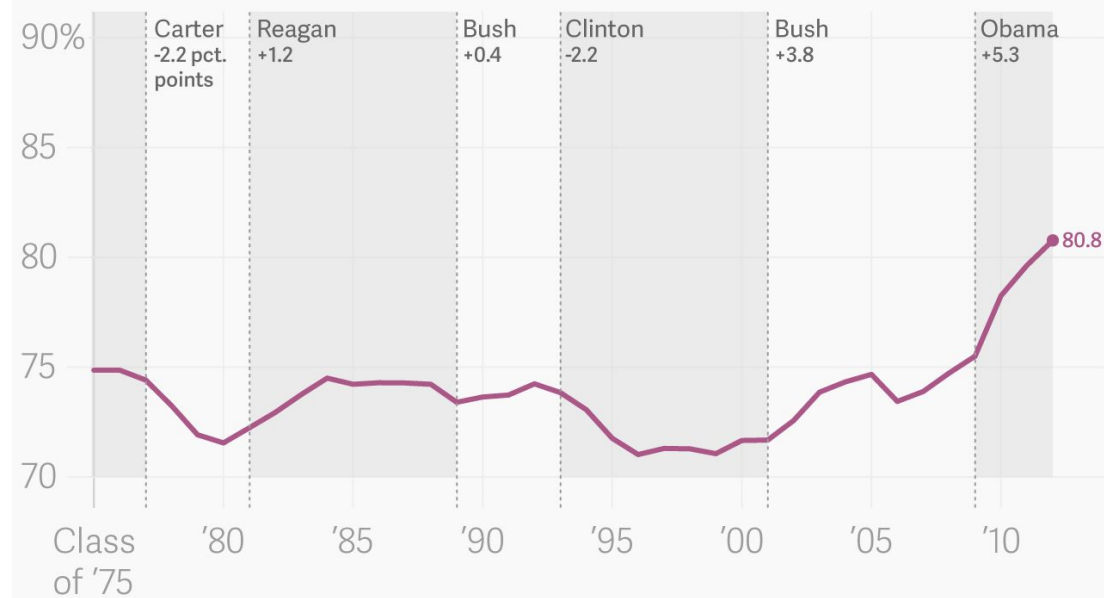
Важно правильно выбрать тип диаграммы.

High school graduation rates in the US



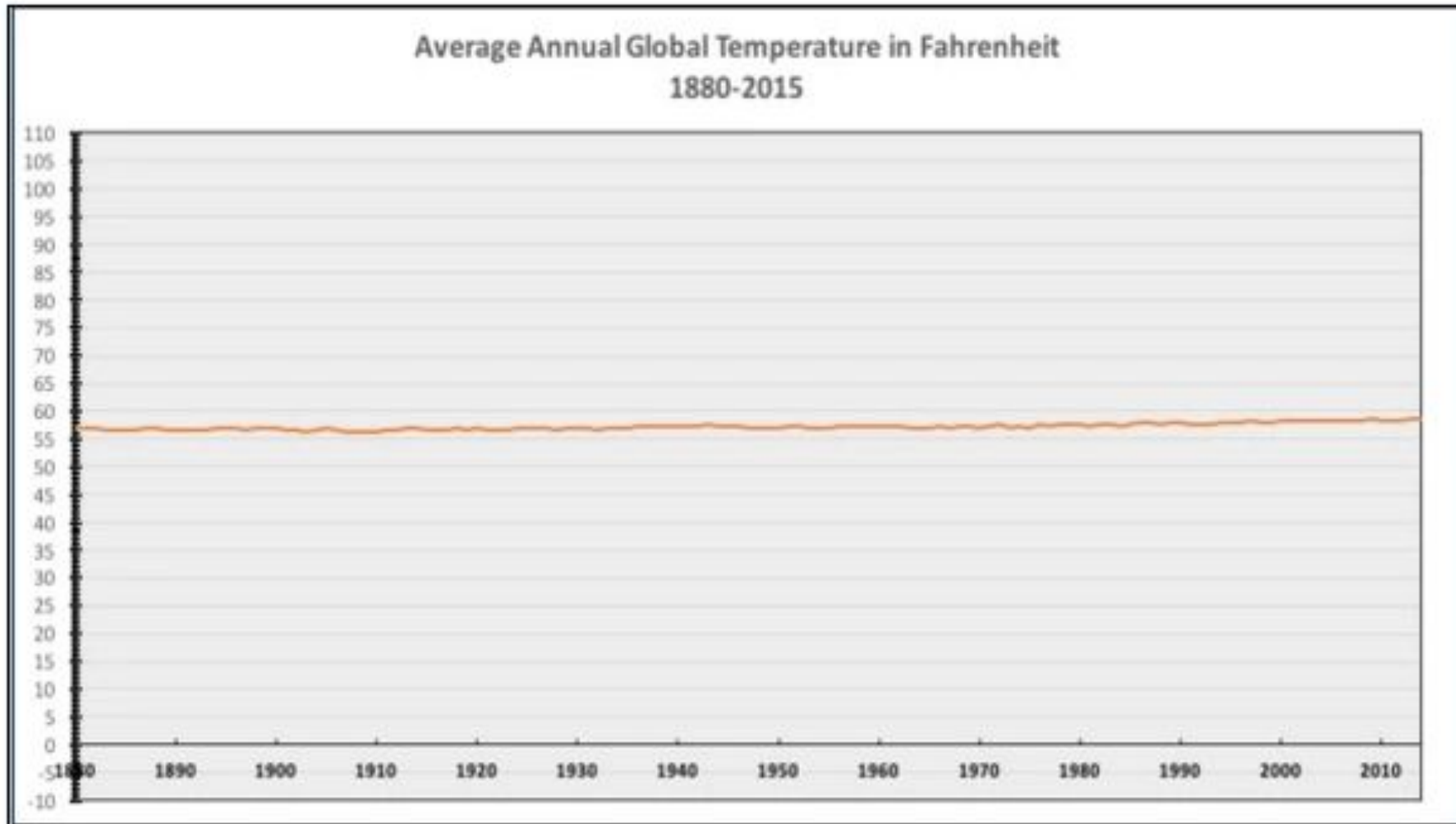
ATLAS | Data: White House

High school graduation rates in the US, 1975 to 2012



Quartz | qz.com

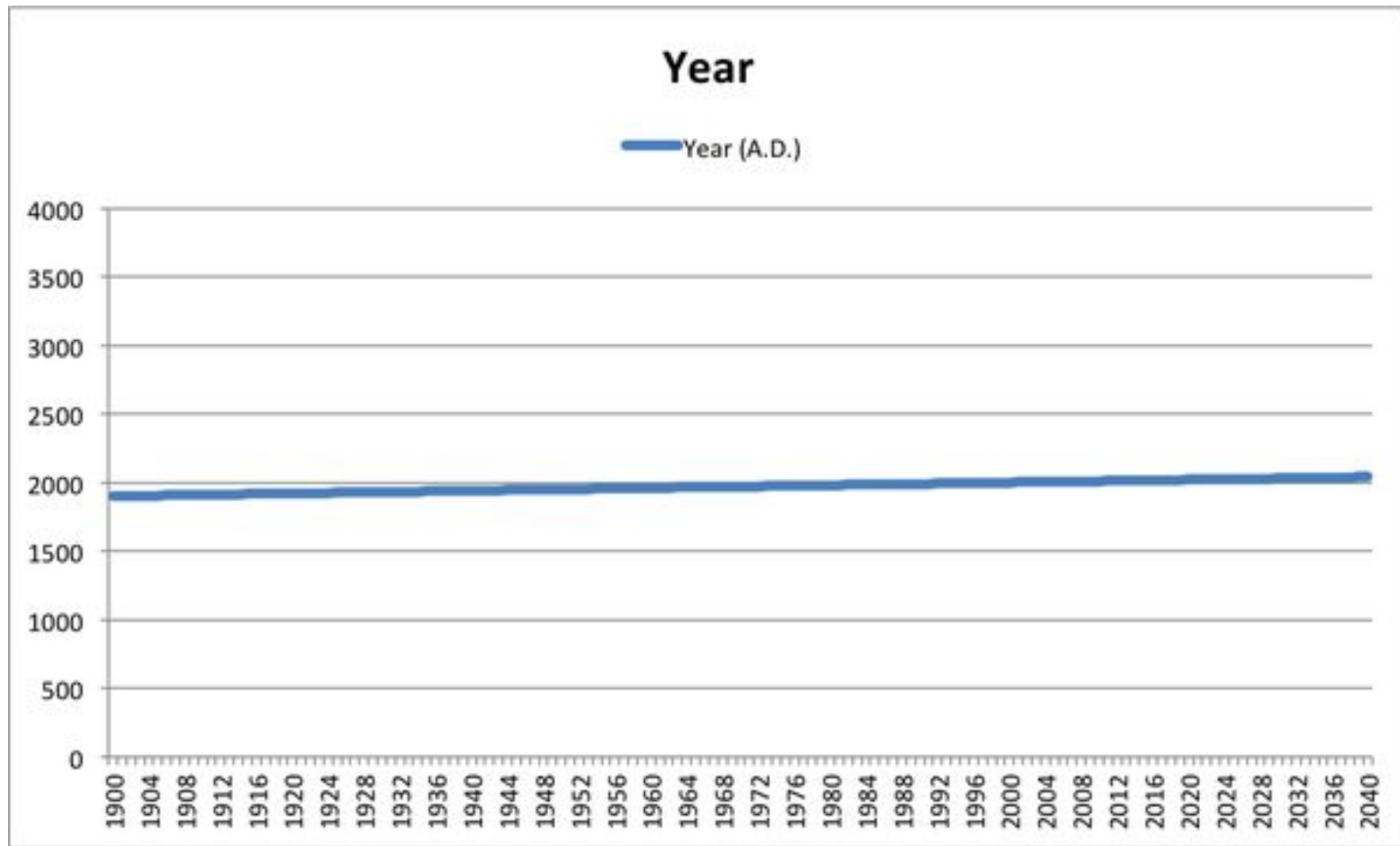
Data: National Center for Education Statistics



«The only #climatechange chart you need to see.»

This is the chart we should all think about when someone says line charts should always have a y-axis starting at zero. A change of even one degree in the average global temperature is significant, but starting this chart at zero makes it look miniscule.





#NROgraphics



## Average global temperature, 1880 to 2014

60° fahrenheit

59

58

57

56

55

1880

1900

1920

1940

1960

1980

2000

Δ T L Δ S | Data: NASA

А как на самом деле?

Не всегда стоит брать ось от нуля

THINK  
PROGRESS

## 2012 PRESIDENTIAL RUN

GOP CANDIDATES

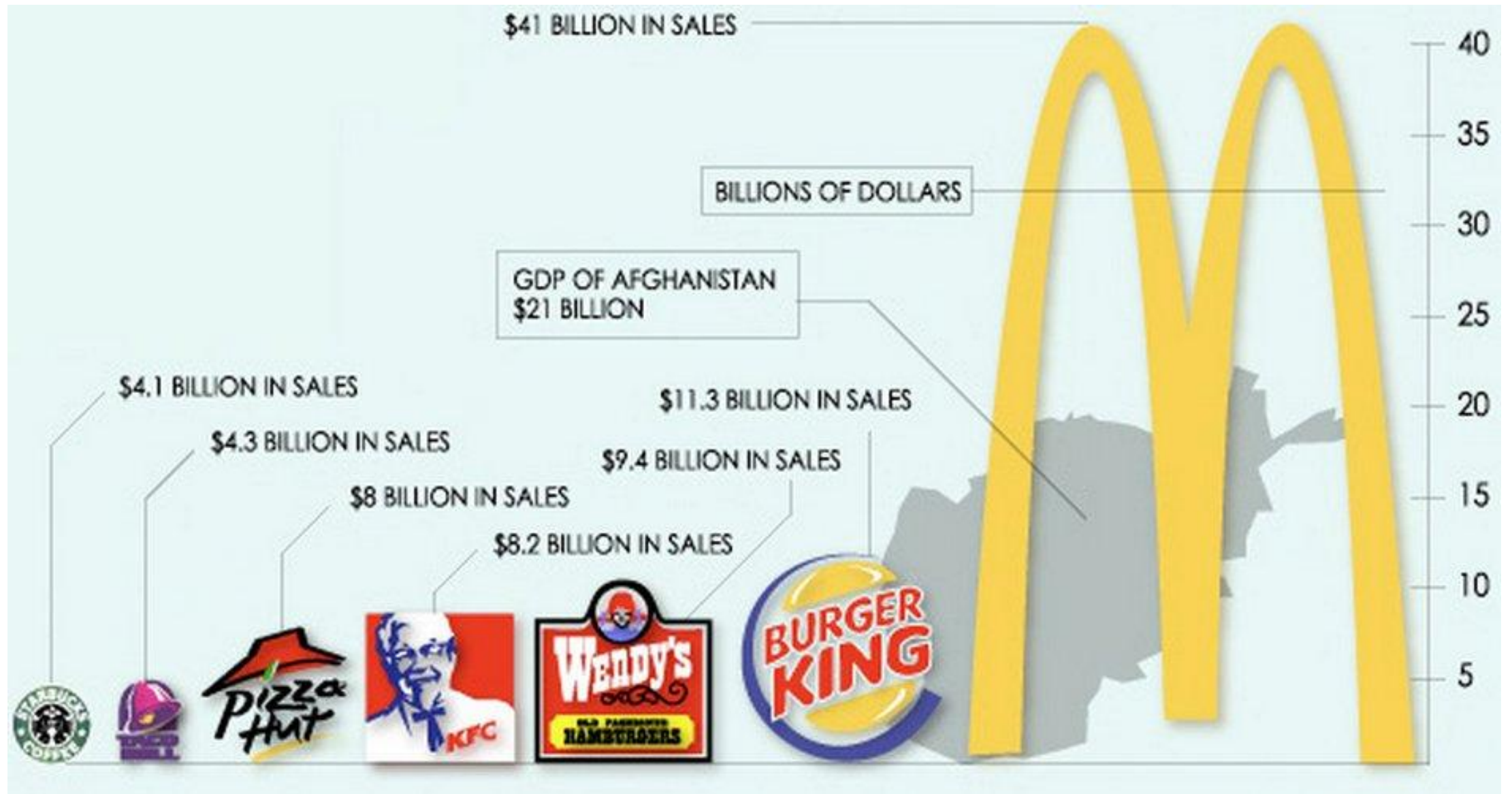


FOX

9:17 PM

SOURCE: OPINIONS

DYNAMIC



Продажи Burger King в три раза больше продаж Starbucks.

Но площади логотипов отличаются в 9 раз!

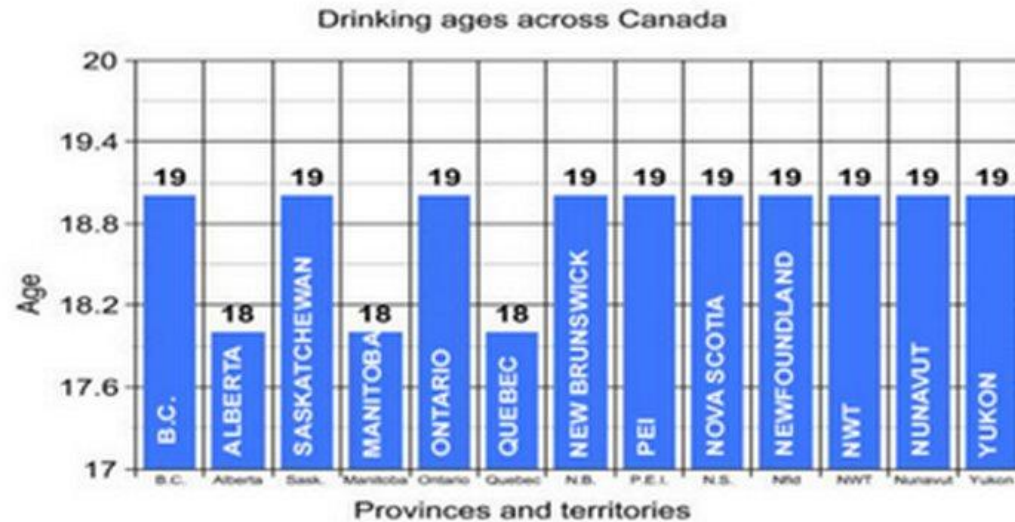


Gizmodo was trying to demonstrate that the new iPad battery gained 70% in capacity. They did this by making the battery on right 70% taller than the battery on left. However, since they also expanded the width of a cylinder, the implied volume has skyrocketed of the battery. Whoops.



# Drinking age will remain 19 in Saskatchewan

CBC News Posted: Mar 4, 2013 11:59 AM CST | Last Updated: Mar 4, 2013 11:55 AM CST 25



Canadian Centre on Substance Abuse

You have to be 19 in Saskatchewan to have a drink, while in Alberta and Manitoba, the drinking age 18. (CBC)

The Saskatchewan Party government has ruled out lowering the drinking age, four months after party members put the issue in the public eye.

Facebook

Twitter

Share

Email

Stay Co



Mobile Fac

Возраст, с наступлением которого разрешается потребление спиртных напитков – везде 19 лет, кроме трех провинций, где 18. Но шкалы...

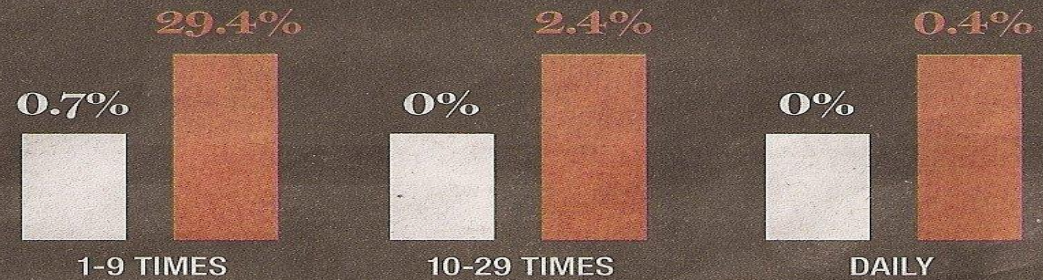


4700000?

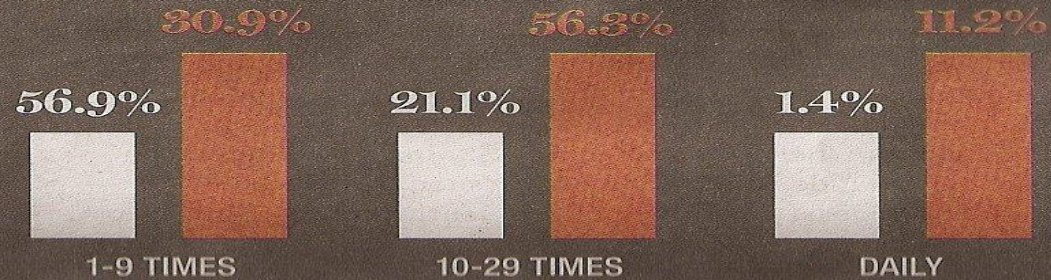
# BY THE NUMBERS

The National Collegiate Health Assessment was taken by 1,000 UCSB students in Spring 2009. Participants were asked how frequently they used substances over the past 30 days. Numbers in white reflect actual student use, while red numbers indicate perceived substance use. The average age of participants was 20 years and approximately 99 percent were full-time students.

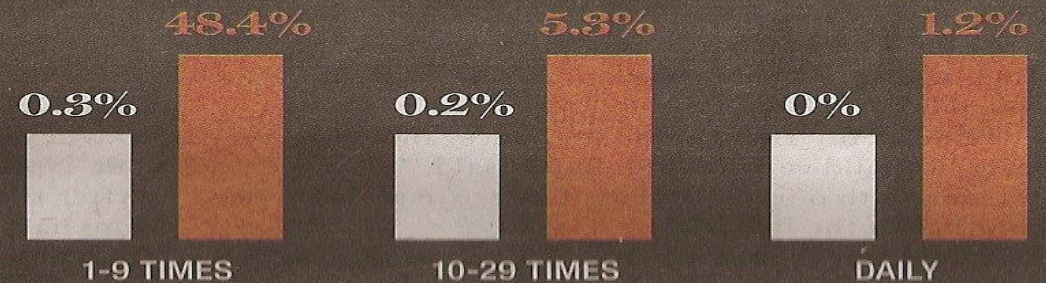
## OPIATES



## ALCOHOL



## COCAINE







Fox News really got this wrong. First of all, if we lost 15 million jobs in one quarter this country would be a lot worse off than it actually was. The points don't actually follow a straight line, something you don't notice because there isn't actually a Y-axis. The four points are also not equidistant with time.

И просто плохие диаграммы:



I never thought it was possible but I actually understand soccer less after looking at this chart.



# WHERE YOUR FOOD COMES FROM

Imports of foods have doubled in a decade and now account for a fifth of what Americans eat.

A large percentage of these foods that Americans eat are imported.

FRUIT AND NUTS  
51%



HONEY  
61%



FRESH VEGETABLES/  
MELONS  
20%



LAMB  
52%



SEAFOOD  
88%



These countries are the largest exporters of each food.

FRUIT



26%  
SUPPLIED



13%

VEGETABLES



50%



22%

SEAFOOD



16%



6.5%

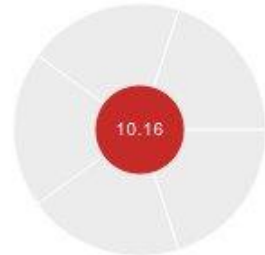
Source:  
USDA Economic  
Research Service

CHART: KANG KIM; STYLIST: LAURIE RAAR

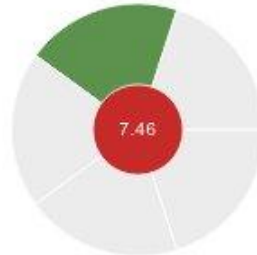
Дыни?

## States with the highest firearm murder rate

Louisiana scored only two points on the Brady scale for banning guns from college campuses. It also has the highest firearm murder rate per 100,000 people in the country. Overall, Republican states have an average Brady score of 4.6, compared to 26.73 for states that voted for President Obama in the last election.



1. Louisiana



2. Mississippi



3. South Carolina



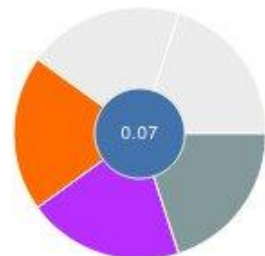
4. Michigan



5. Maryland

## States with the lowest firearm murder rate

Hawaii has the lowest firearm murder rate in the United States with just 0.07 murders per 100,000 people. South Dakota is the only Republican state to rank on this list. Despite scoring only 7 points on the Brady score and enacting none of the laws highlighted on this chart, Iowa still has one of the lowest firearm murder rates in the country.



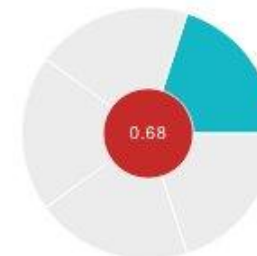
1. Hawaii



2. New Hampshire



3. Rhode Island



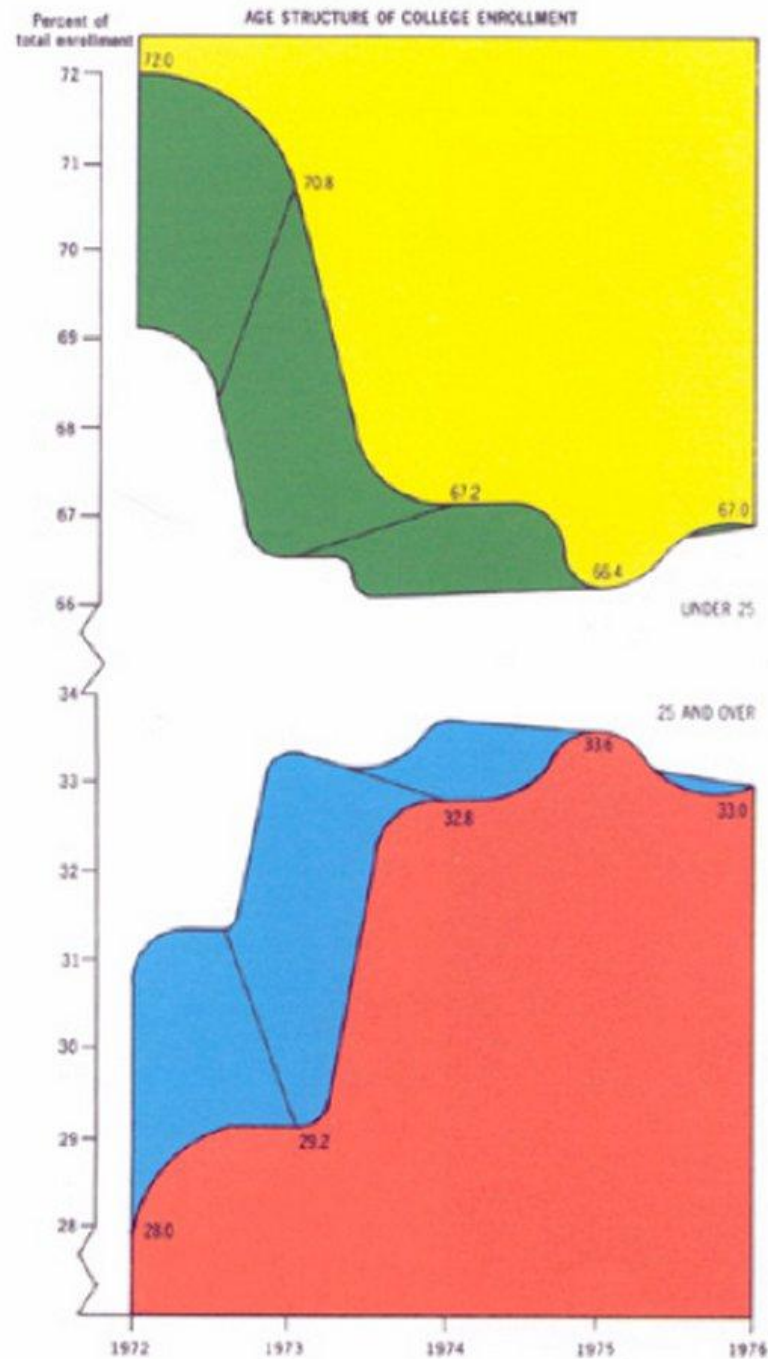
4. South Dakota



5. Iowa

При чем тут  
круговые  
диаграммы?

Edward Tufte — the guy who invented the word "chartjunk" — personally held this up as the worst chart ever. Why? The colors may induce ocular bleeding, it's in three dimensions for no reason, the Y-axis is broken twice, The chart only communicates five numbers — it's showing the breakdown of students under 25 and over 25 over 5 years — and the top section is inexplicably inverted.





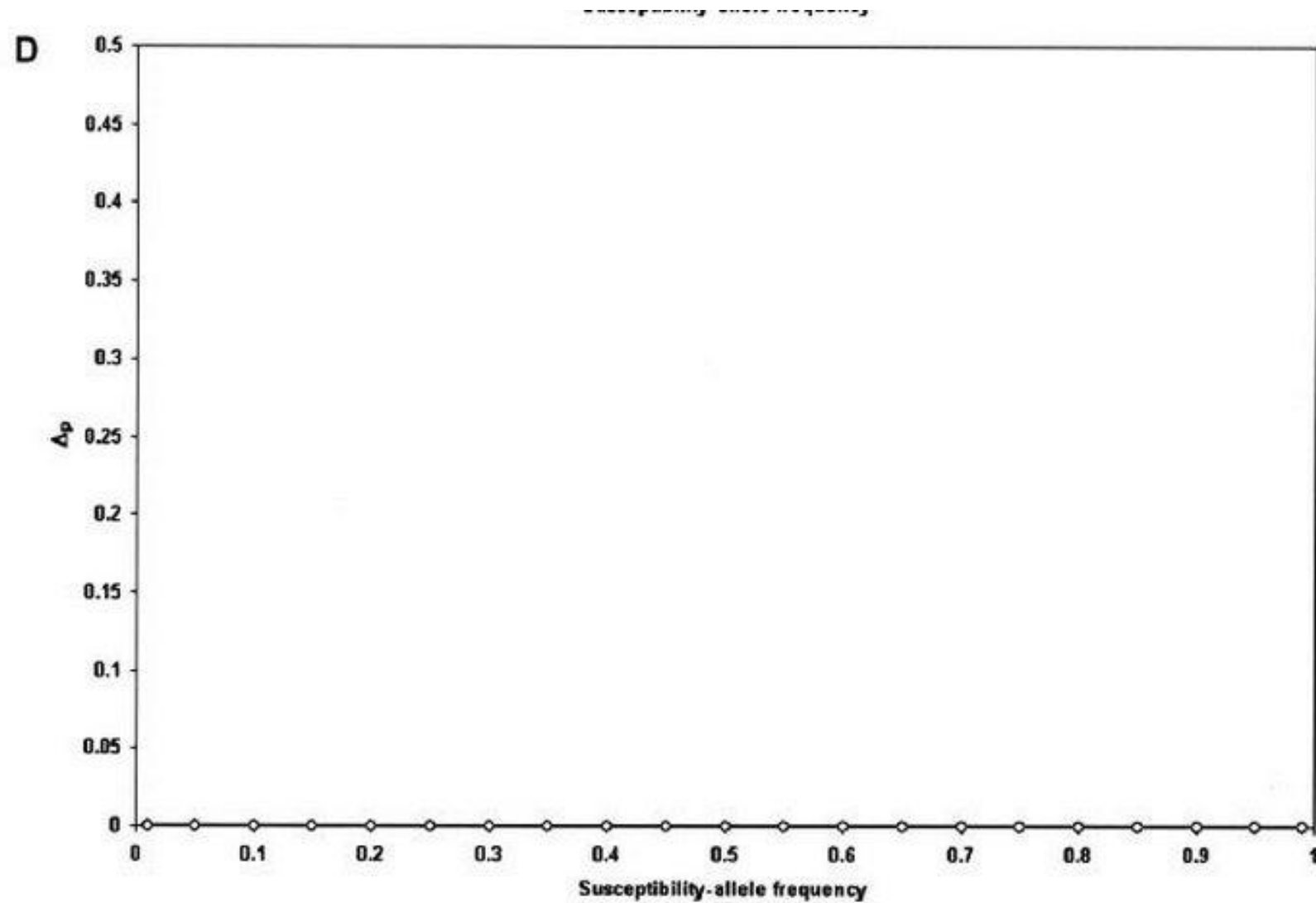
## Yesterday's results

What was the best part of the Super Bowl?

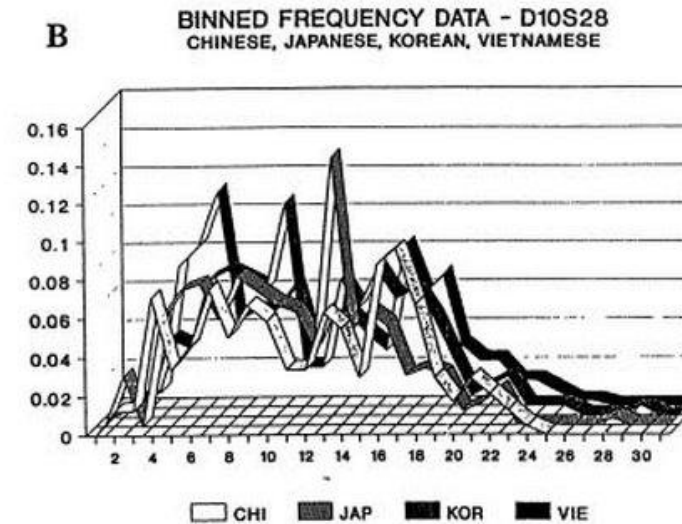
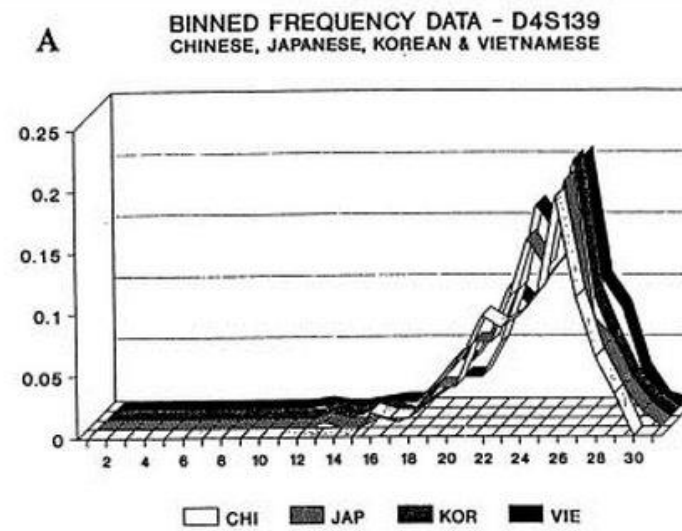


Vote at [winnipegsun.com](http://winnipegsun.com)

В этой  
диаграмме  
прекрасно все.



The next two are from Dr Karl Broman's page of the worst charts he's encountered in scientific literature. This chart — which took up half of a page — indicated that all values were zero.



Three dimensional ribbons are likewise a senseless way to tweak a line graph.

FIG. 4. Fixed bin distribution (histogram) for two loci and four Asian subpopulations (used with permission from John Hartmann): the boundaries of the 30 bins (vertical axis) are determined by the FBI; these bins are not of equal length. Sample sizes (numbers of individuals) for Chinese, Japanese, Korean and Vietnamese are 103, 125, 93 and 215 for D4S139 and 120, 137, 100 and 193 for D10S28. The horizontal axis is the bin number; bins are not of equal length.

## OPINION

# Obama's Divided Nation

Obama presides over a more divided country than any time in 50 years that was riven by racial lines gathering in 2008 to elect its president. That president, four years dividing the country on the basis of economic policy. The campaign revealed no evidence that Mr. Obama will close the chasm he has created between his voters and those he attacked and vilified.

It may be true that the president failed to respond



problem with polls, verbally facile as Mr. Obama is, that in crunch time, he reverts to No. 1. Exit polls show that 9% of the electorate who to vote for just Tuesday; and among those, 42% said Mr. Obama's response to the Sandy response—the tie photo-op—was a factor. Of those, 42% voted for Mr. Obama. Mr. Christie is a politico who is

Yes, Republican across two presidential elections that there are how crudely the issue like ill. Blowing up the if you thought day's results

Obama spoketotum replied: It

Oops...

<https://www.youtube.com/watch?v=h1osOniNVCY> - 146%

<https://charter97.org/ru/news/2016/3/11/194681/>

<https://www.youtube.com/watch?v=6Xmk2rZOPiY>