

# The Politics of Attention

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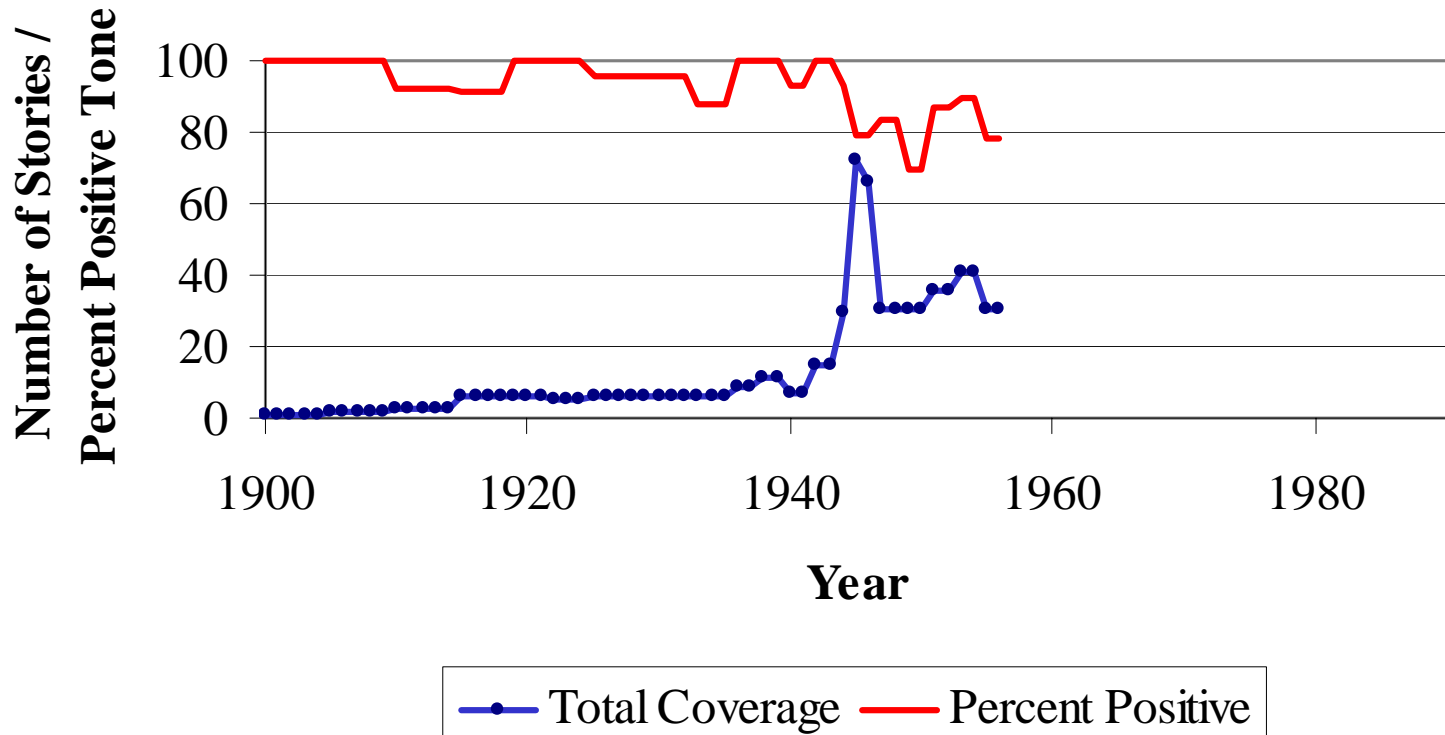
10 juin, 2005

# Let's Start with a Puzzle

- What causes large scale policy change?
- What makes policy makers share a consensus on the special value of the status quo policy that makes them repeat it so much?
- P-E finding requires explaining BOTH hyper-incrementalism and radical change
- I'll focus on *cognitive processes* to do so.

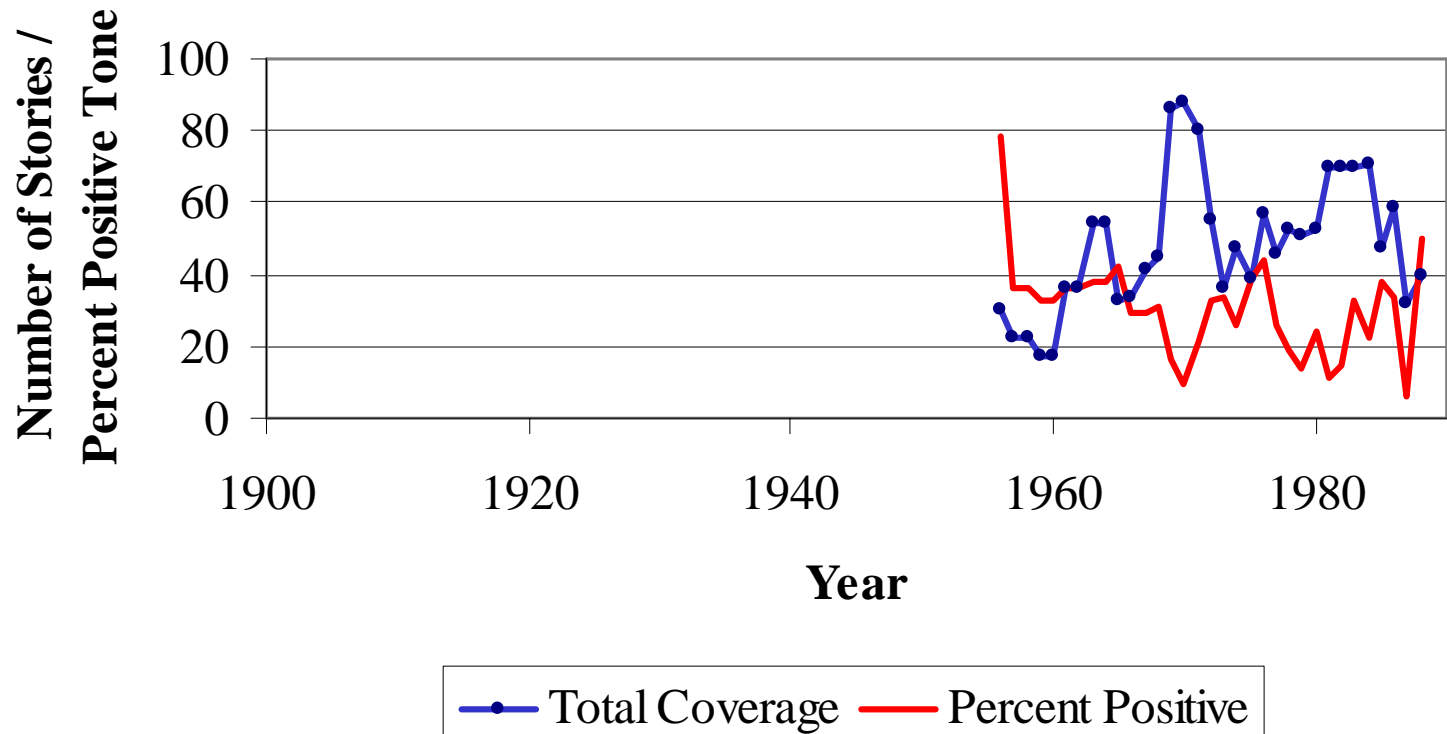
# Pesticides: Looking Good after World War Two

## Media Coverage of Pesticides, 1900-1990



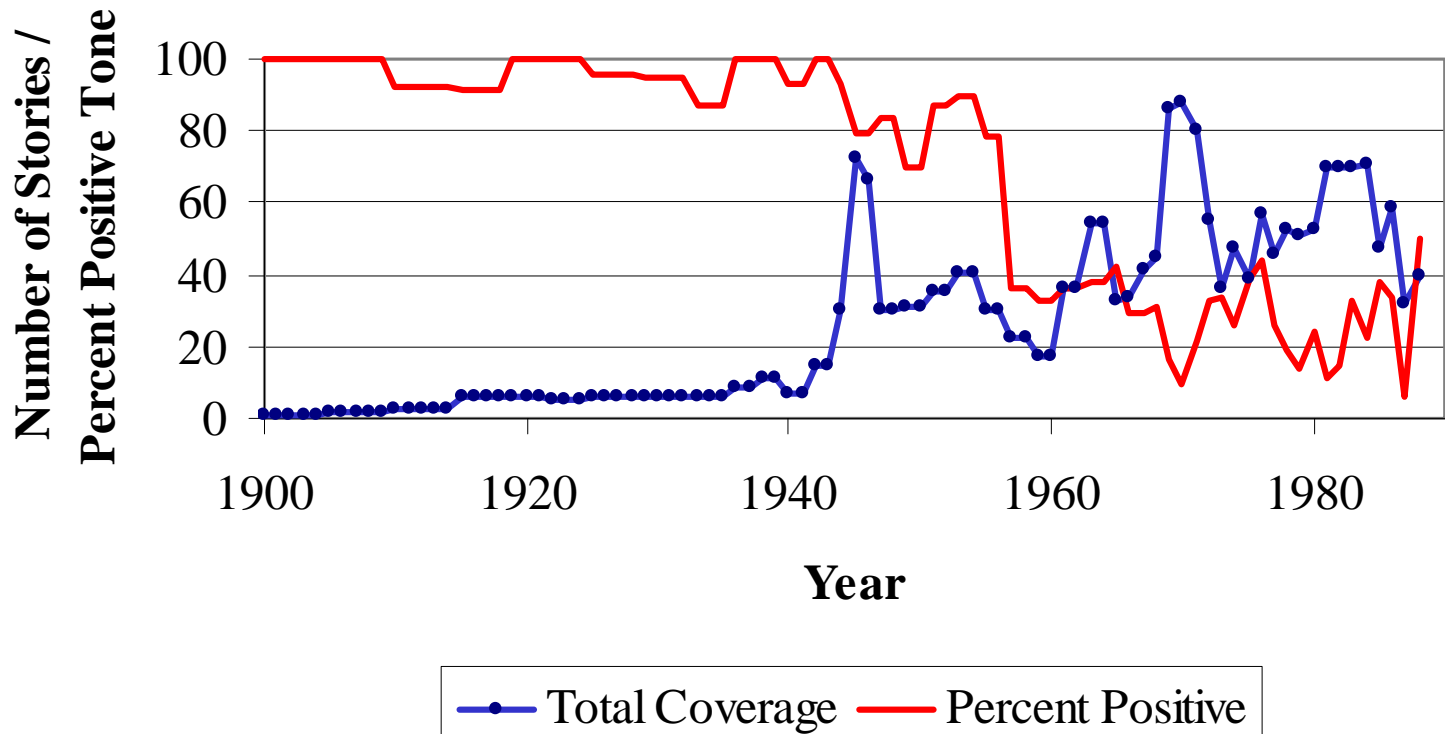
# Pesticides: No Longer Such Good News after 1956

## Media Coverage of Pesticides, 1900-1990



# Pesticides: From Green Revolution to Nobody's Baby

## Media Coverage of Pesticides, 1900-1990



# Individuals Policymakers Attempt to Manipulate these Processes

- If you could have predicted, or (even better) caused that shift in public understandings of pesticides in 1956, you'd be either: 1) powerful, 2) rich, or (most likely) 3) both
- What factors inhibit new policy images from taking hold, or allow them to dominate at other times?

# The Policy Agendas Project

- [Http://www.policyagendas.org/](http://www.policyagendas.org/)
- With Bryan D. Jones
- Interactive web site: allows analysis as well as dataset retrieval
- Research, archive, teaching uses

# Policy Agendas - Datasets

- Congressional Hearings (~72,000 cases)
- Statutes (12,000)
- Stories in CQ Almanac (18,000)
- Sample of NYTimes Abstracts (36,000)
- OMB Budget, by 62 categories (3,000)
- Gallup Most Important Problem data
  
- All are comprehensive, from 1947-



# Policy Agendas – In Progress

- Bill Introductions (~400,000 cases)
- Supreme Court Decisions
- Executive Orders of the President
- State of the Union Speeches
- Association Activities, from the *Encyclopedia of Associations*, from 1959 to present (with John McCarthy)
  - ~25,000 associations in 2002
  - ~6,000 associations in 1959
- Other data sources to be added in the future...

# Agendas Project - Organization

- Everything coded according to:
  - 21 Major Topics of Policy Activity
    - Macro-economics
    - Health
    - Agriculture
    - Etc.
  - 226 subtopics
    - Each major topic further subdivided
- Consistently coded over time, allows time-series analysis
- Facilitates systematic historical work, often by adding new coding from same sources.
- Sophisticated index system for public sources.
- Can be used alone, or as a base for more detailed analysis.

# Today: A System Focus, not a Policy Focus as is More Common

- Looking at Entire Systems, Rather than One Policy At a Time:
  - Do we see patterns of policy change consistent with the P-E Theory?
- Other Parts of Work Look at One Policy at a Time
  - This is much more familiar in policy studies
  - My focus today will appear strange, unfamiliar
- Focus on Budgetary Data today; project obviously is much broader than that

# *The Politics of Attention:* *How Government Prioritizes Problems*

- Builds a decision-making model based on bounded rationality
- Introduces implications of attention-shifting concept both for individuals and organizations
- Introduces system-level data analysis and shows limits of one-case-study-at-a-time approach (while recognizing value of such)
- Tests the P-E model
- Expands on P-E model developing the friction model as well

# Inefficiency in Attention-Shifting

- Given multi-dimensional issues, how does attention shift from one dimension to another?
- Individuals: attention-allocation
- Organizations: agenda-setting
- Agenda-setting: the first step in decision-making

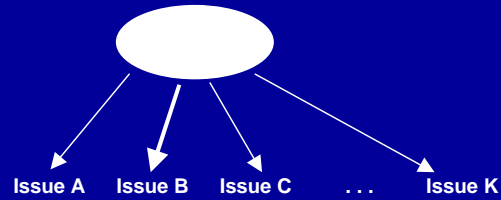
# A Model of Decision-Making

Individual Level

Attention Allocation

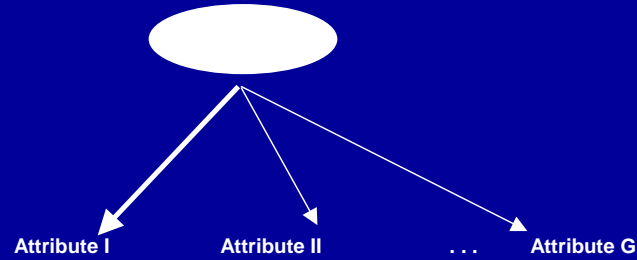
System Level

Agenda Setting



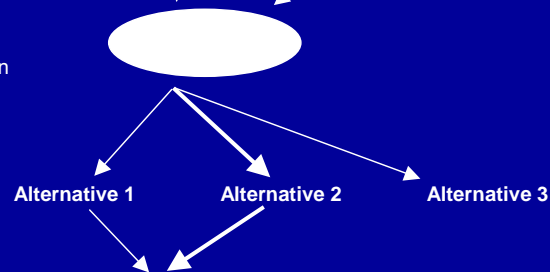
Problem Characterization

Problem Definition



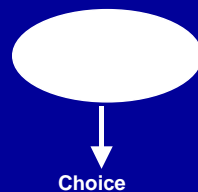
Alternative Generation

Proposals and Debate



Choice

Collective (Policy) Choice



# Sources of Inefficiency in Decision-Making (individual or collective)

- Over-attention to a limited number of dimensions
  - Cognitive limitations of individuals
  - Institutional design
- Status-quo bias
  - Previously relevant dimensions remain relevant until proven otherwise (individual level)
  - Organizational design, venue-control (committee chair probably is author of status quo legislation; not that easy to convince him/her to revise understanding) (collective level)
- Applies to Complex, not Simple, Decisions
  - Governments always deal with unlimited numbers of potential problems, but only hundreds of these get their attention.
  - Therefore attention is not universal, even if very broad.

# Sources of Inefficiency (cont.)

- Disjoint change
  - New dimensions sometimes emerge, but were previously completely absent from consideration
  - Attention to a new dimension can lead to a dramatic reversal in the choice, not a marginal adjustment
- Prediction: one of two outcomes:
  - Equilibrium, based on a previously established and partial understanding of the policy choice (or decision)
  - Punctuation, based on the sudden “discovery” of an unattended dimension.
  - (*Moderate, proportionate change not expected...*)
- Leptokurtosis: large proportion of cases in central peak, many extreme outliers, few in “shoulders” of distribution



# What is Incrementalism?

$$P_t = P_{t-1} + e_t$$

- Policy today is a function of fluctuations of policies yesterday.

Rearranging the terms yields:  $(P_t - P_{t-1}) = e_t$ , or  $\Delta P = e_t$

- That is, policy is a random walk in time; changes in policies are simply random.
- This is logical if one thinks of efficient institutions responding to stochastic (random) inputs
- Decision makers may be fully rational, responding to changing inputs perfectly efficiently
- Easily testable by taking all annual change measures across all years and all policies

# Normality *Not* Expected in P-E Model

- Under bounded rationality, choices are **inefficient** as attention moves from one issue to another.
- Over-attention to previously defined attributes; no constant weighting to all relevant dimensions; zero-weights to many potentially relevant issues.
  - Friction, resistance to change, inefficient reaction to new information.
    - Individuals: ideology, cognitive limits
    - Organizations: “missions” and focus on particular solutions rather than (inherently multidimensional) problems
  - Both under- and over-reactions expected.

# Leptokurtosis: A Signature Characteristic of Friction-Laden Processes

Friction and inertia lead to much greater than normal incrementalism: reduced variance seems apparent.

However, this is combined with occasional bursts of extreme change. Variance is actually quite significant, but skewed.

Moderate change is lower than expected.

Kurtosis, a measure of peakedness ( $k=0$  for Normal curve

# Leptokurtosis (cont.)

Reactions are not proportionate to inputs

Either extreme resistance to change, or massive over-reactions

Earthquakes, avalanches, forest fires, many natural processes have these characteristics

Difficulty to observe when  $N$  is low; appears roughly Normal with “a few outliers”

Easily apparent, and statistically discernable, when  $N$  is high enough, as in our large datasets

# The Basic Idea

- Social complexity ensures that inputs being forced on government are likely to be distributed *Normally*
- A perfectly efficient decision-making system would respond *proportionately* to those inputs, producing a distribution of *outputs* that is also Normal
- Deviations in the direction of *higher kurtosis* show a P-E process
- Kurtosis is a variable, not a threshold. Can be zero, low, moderate, or high.
- Governments differ in the efficiency with which they respond to changes in the environment.
- This can be measured by the kurtosis of outputs.

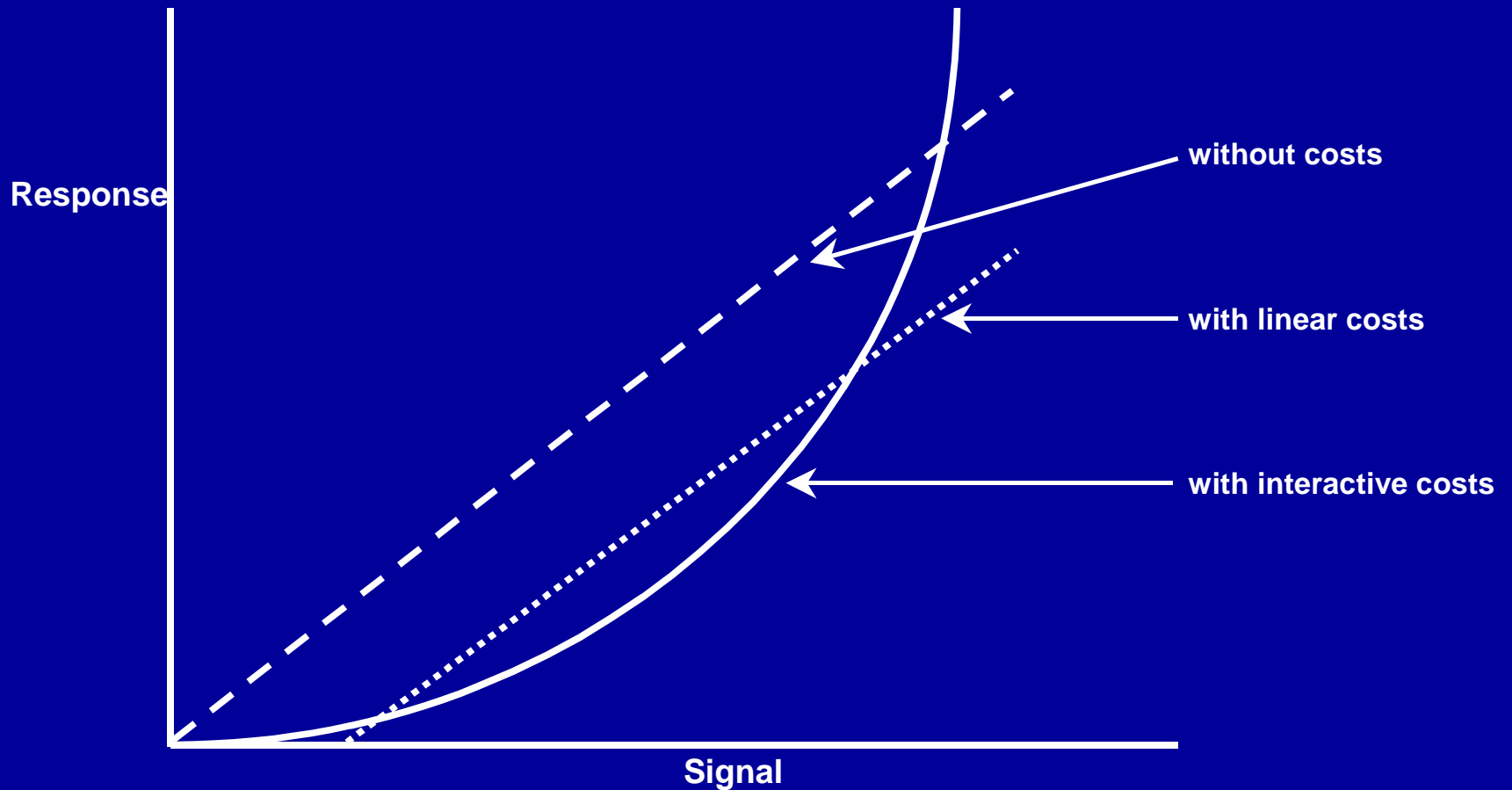
# Is It Fair to Argue that Normality Implies Incrementalism?

- Perhaps the INPUTS from society are simply abnormal?
- This could be true in small systems, or in those cases where only a single or a small number of social indicators are being used.
- This cannot be true, practically speaking, whenever more than about 5 different distributions are being monitored, by the Central Limit Theorem
  - We demonstrate this, using simulations
  - Individual series can be highly abnormal, exponential, flat, curving in virtually any way
  - The key is that society is complex and that many *unrelated* factors come to affect government.
- The combination of many unrelated factors, when combined into a single index, statistically will be Normal
- Different political institutions deal with SAME INPUTS

# Two sources of Friction

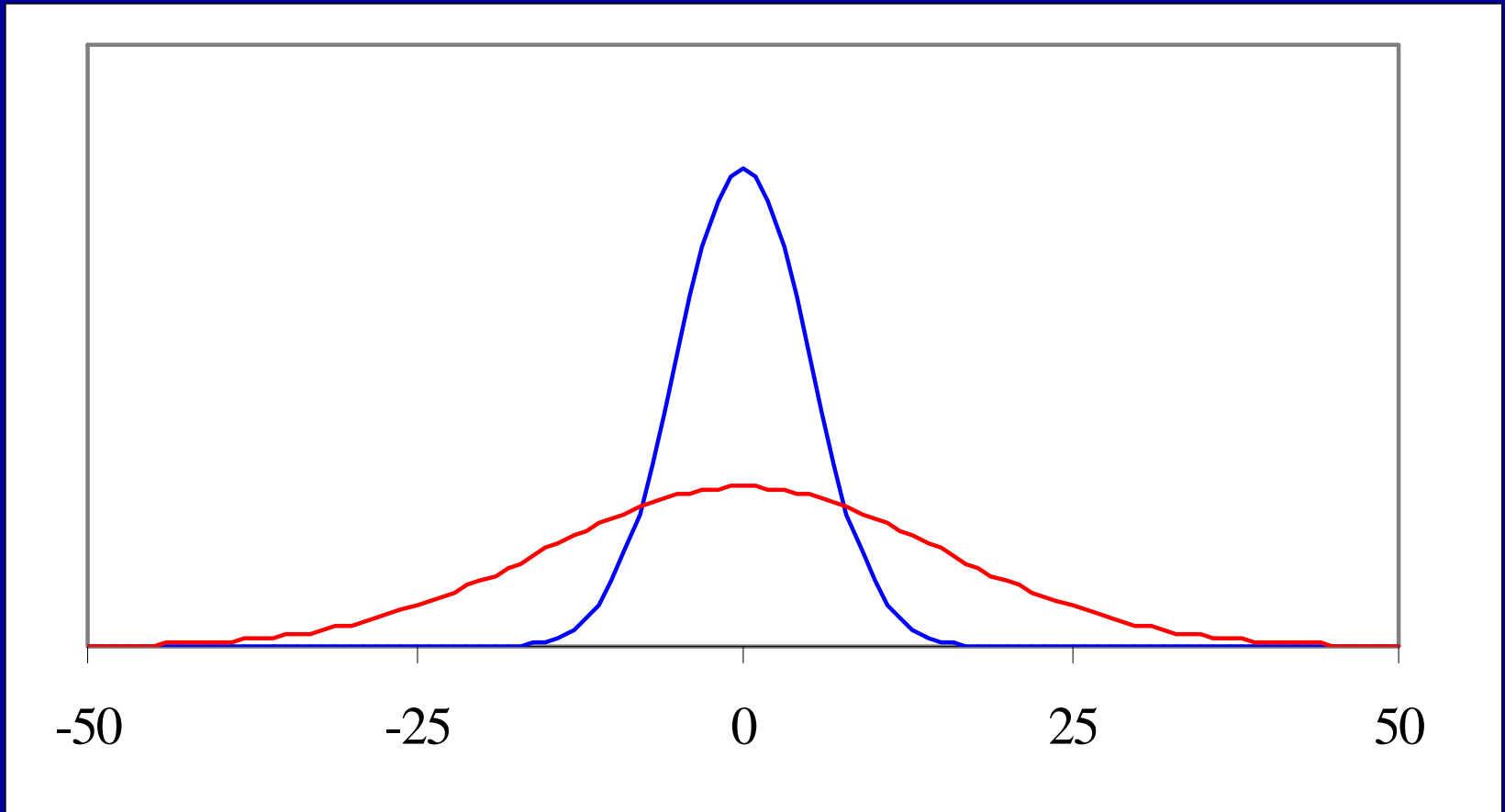
- **Cognitive Capacity:** It is impossible simultaneously to attend to all elements of a complex issue.
  - Neither individuals nor organizations can do it.
  - Zero attention to many elements implies “surprised discovery” of them occasionally
  - Disjoint, not smooth change stems from this
  - Some friction ALWAYS expected.
- **Institutional Friction**
  - Some institutions can be more efficient than others
  - This can be measured by the patterns of outputs that they produce over time

# Fig. 6-2. Response with Interactive Costs



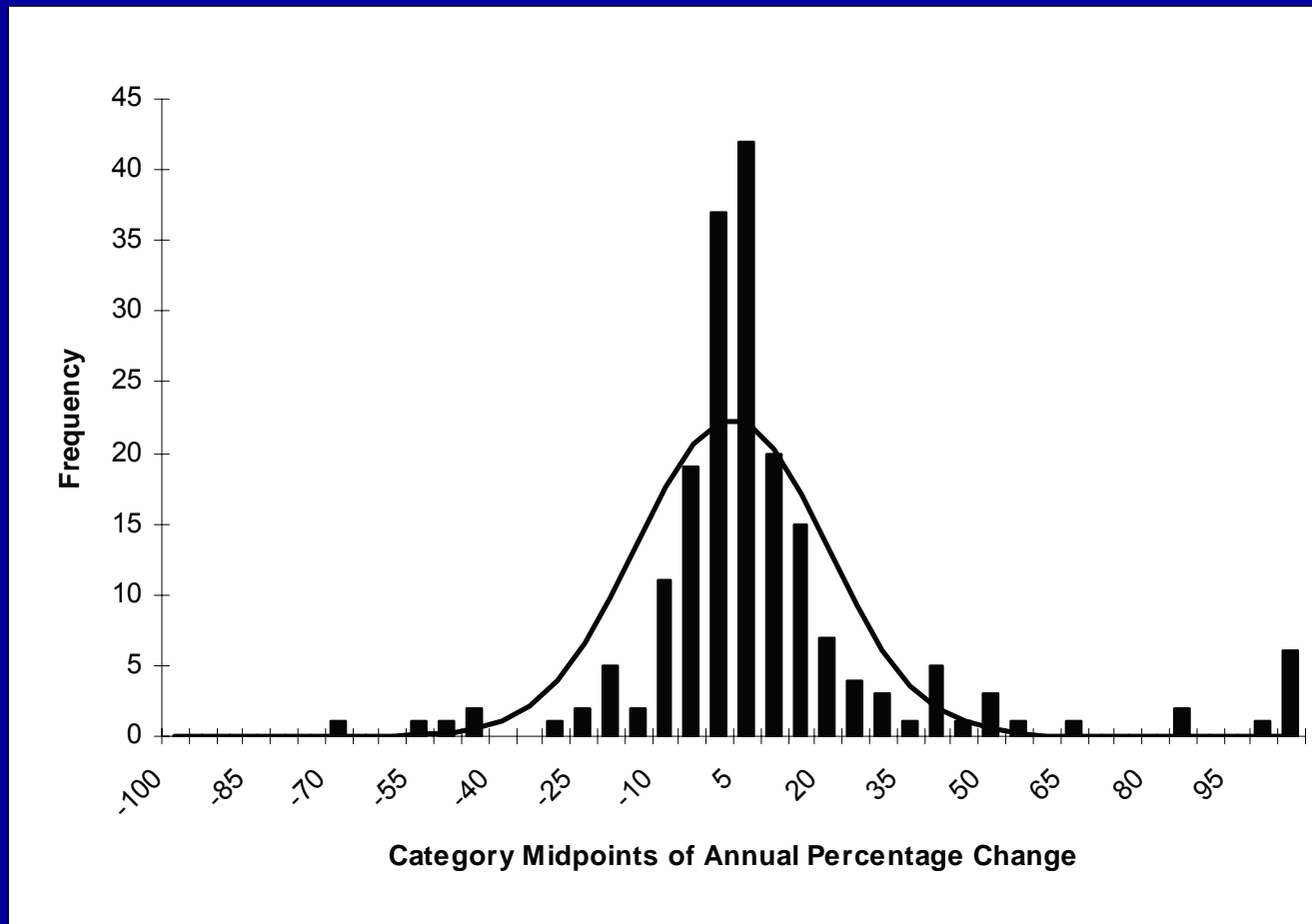


# Two Normal Distributions



Two Normal distributions with mean zero and standard deviation of 5 and 15.

# A Normal and a Leptokurtic Distribution of Similar Variance



# Two Strong Expectations

- Normal distribution is NEVER expected
  - Cognitive costs, bounded-rationality
- Increased kurtosis scores expected in some settings
  - Monitoring stages, low kurtosis
  - Policy output stages, higher kurtosis
  - Kurtosis should be proportionate to the friction, or decision-costs, imposed by the institution. Where costs are low, outputs closer to normal.
  - Provides a measure of the efficiency of an institution, therefore.

# The US Government, 1801-2000

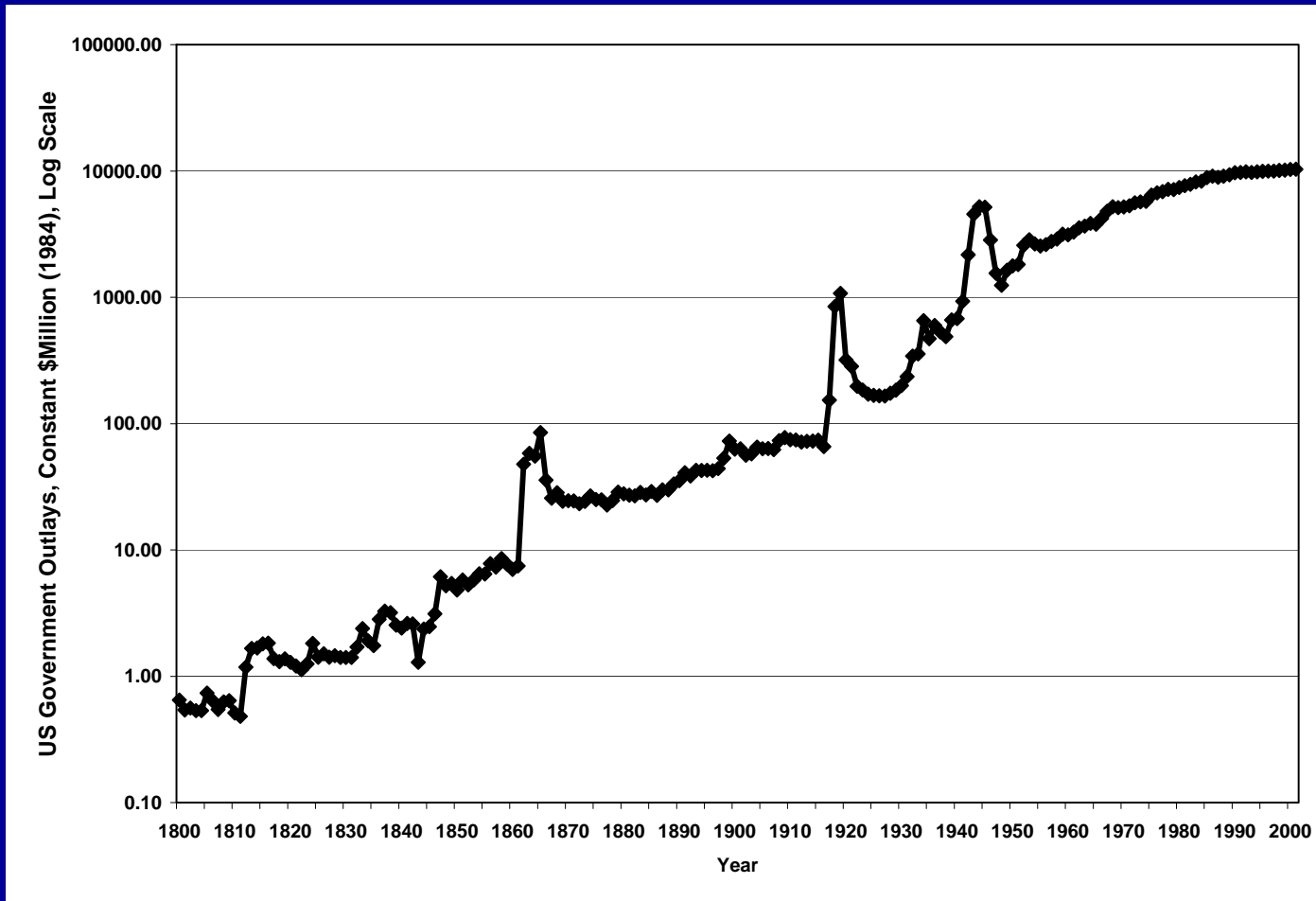


Figure 2.1. US Federal Budget Outlays, Annually from 1801 to 2000 (log scale).

# Changes in Spending: Volatile

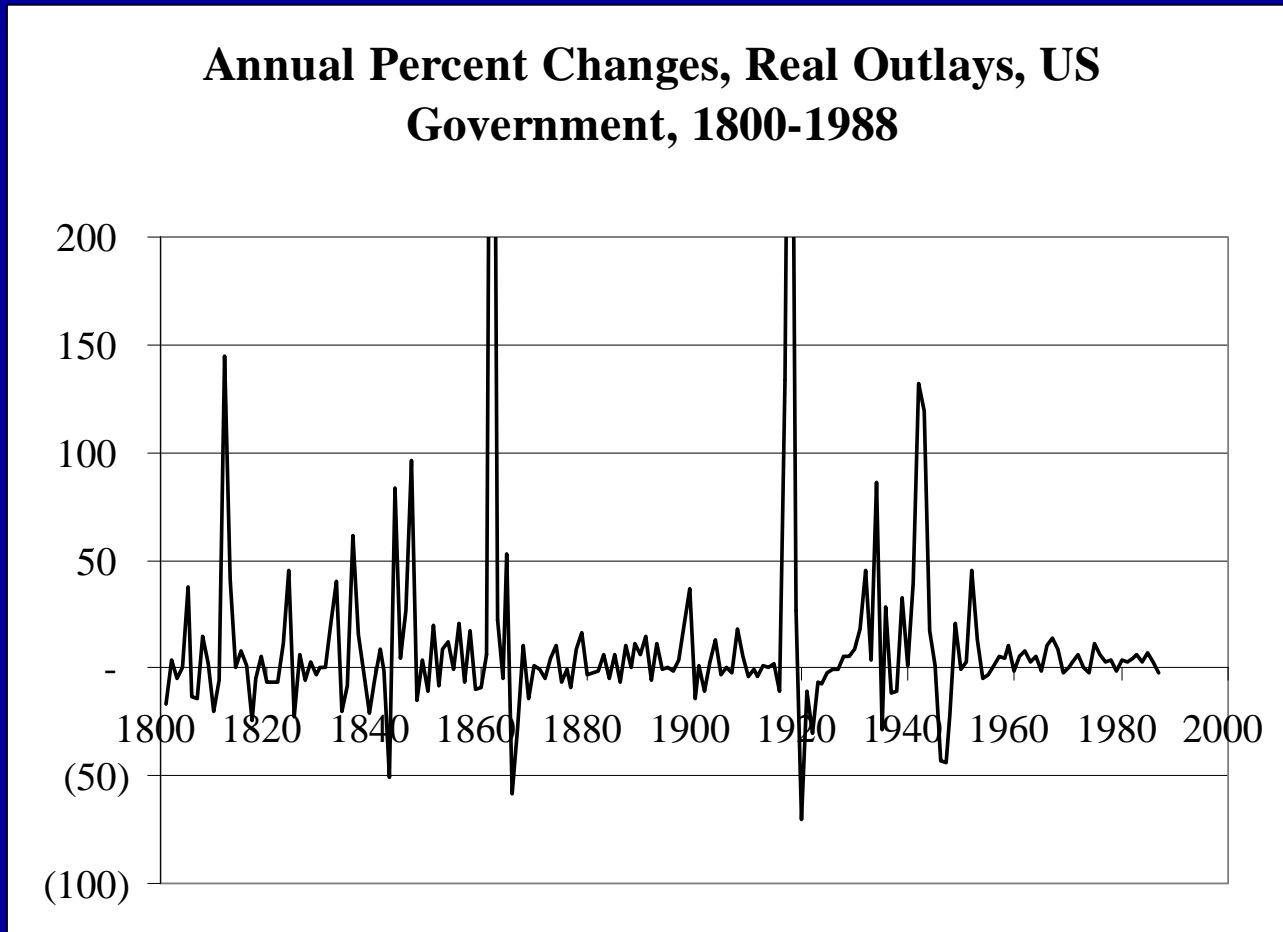


Figure 2.3. Percent Changes in Budget Outlays, Annually from 1800 to 1988.

# Defense: Extremely Volatile but Obvious: Wars Matter

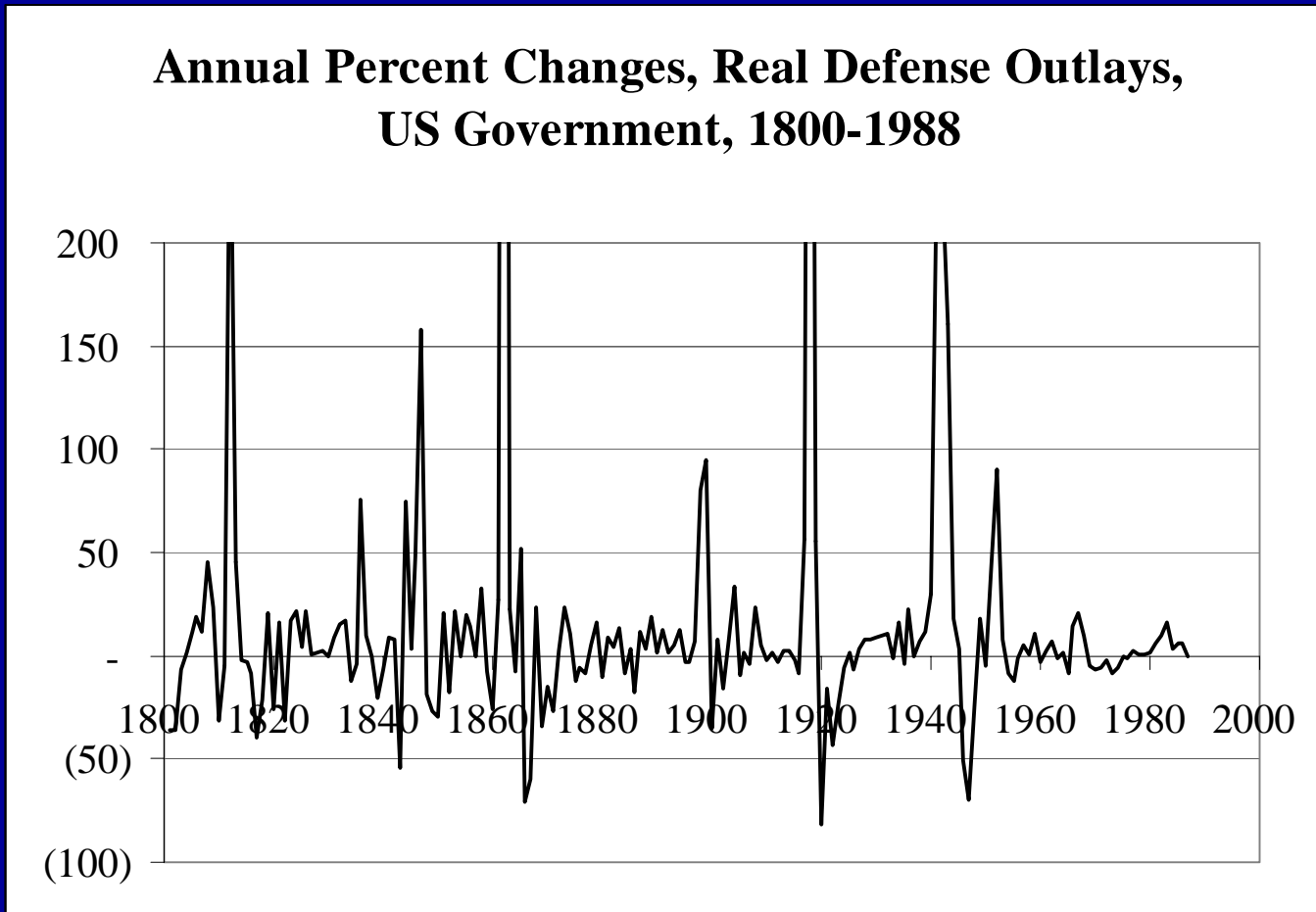


Figure 2.4. Percent Changes in Defense Budget Outlays, Annually from 1800 to 1988.

# But Domestic Spending is Also Punctuated, Leptokurtic

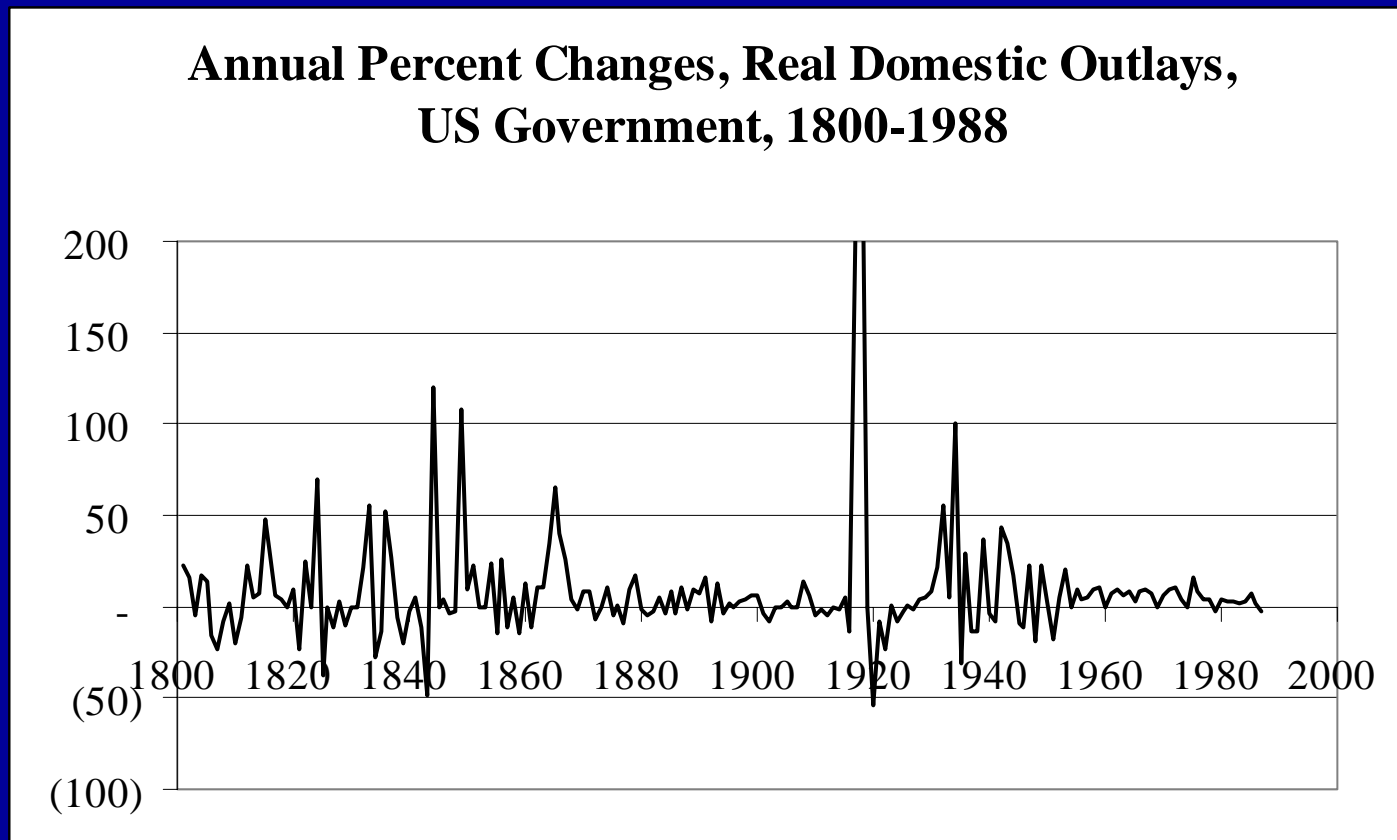


Figure 2.5. Percent Changes in Domestic Budget Outlays, Annually from 1800 to 1988.

# The Distribution of Budget Change, Defense and Domestic Outlays, 1800-1988

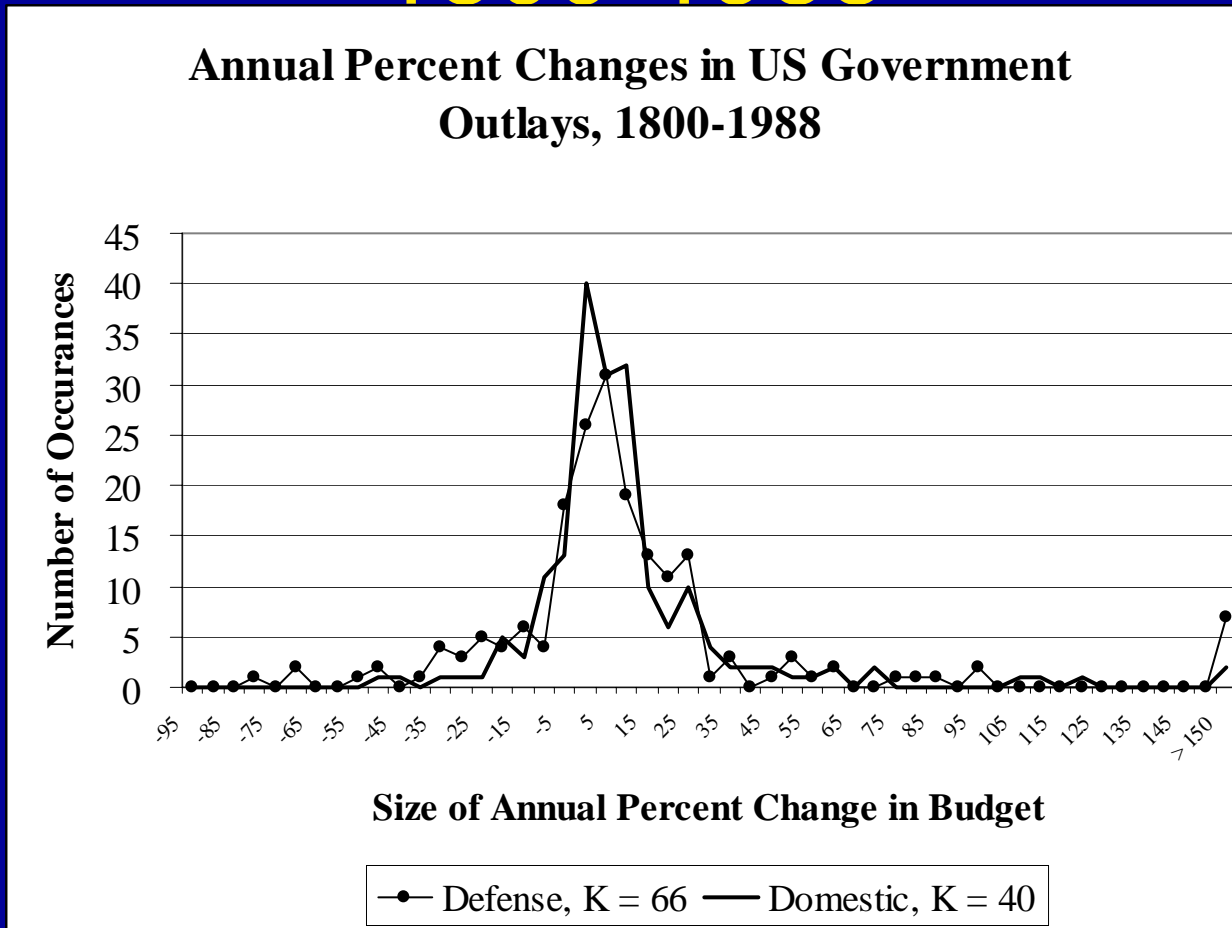


Figure 2.7. Annual Percent Changes in Budget Outlays, 1800 to 1988.



# The Reagan Budget Reallocations

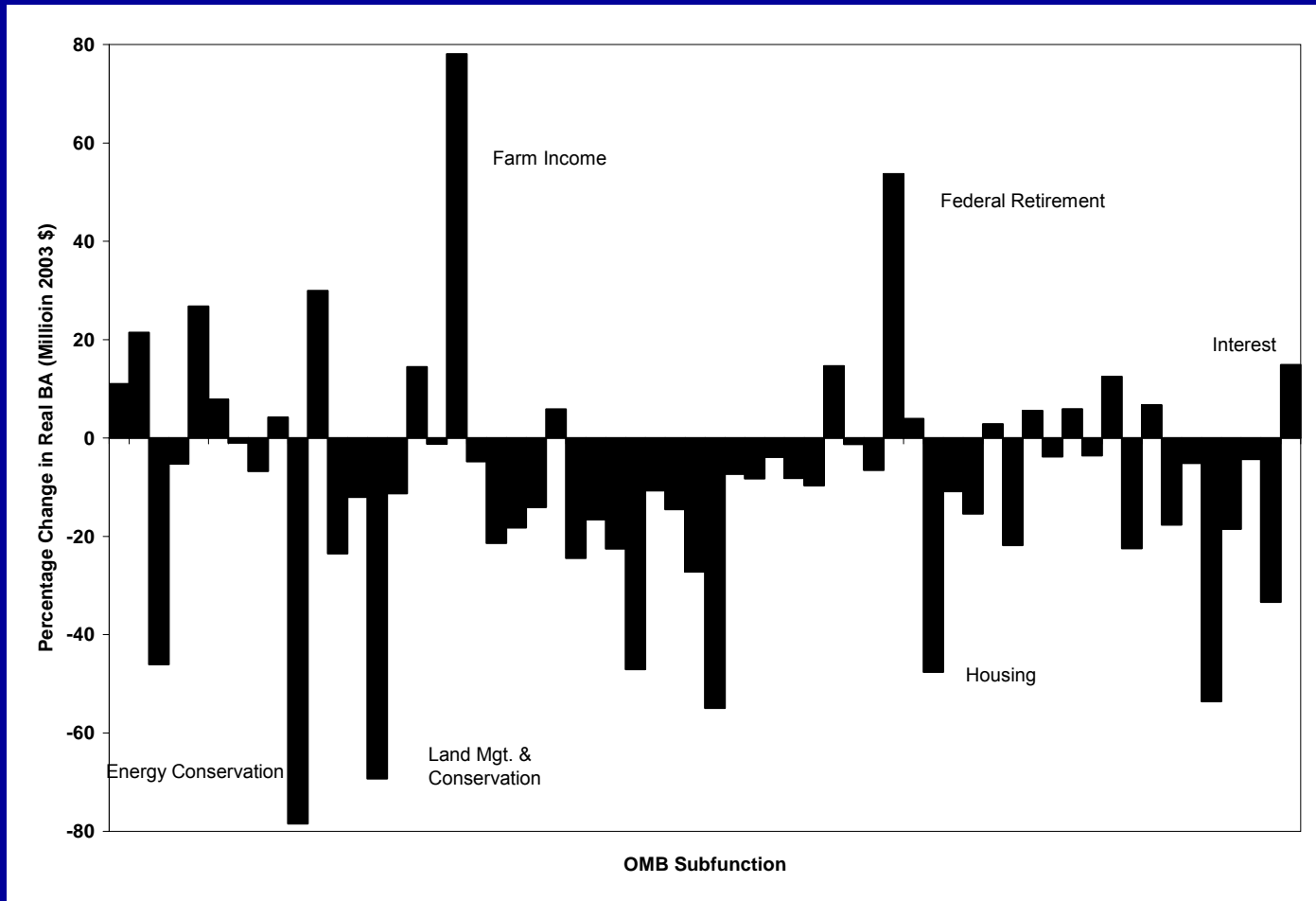


Figure 4.12. Spending Changes under Reagan, 1981-82.

# Eisenhower was no Incrementalist

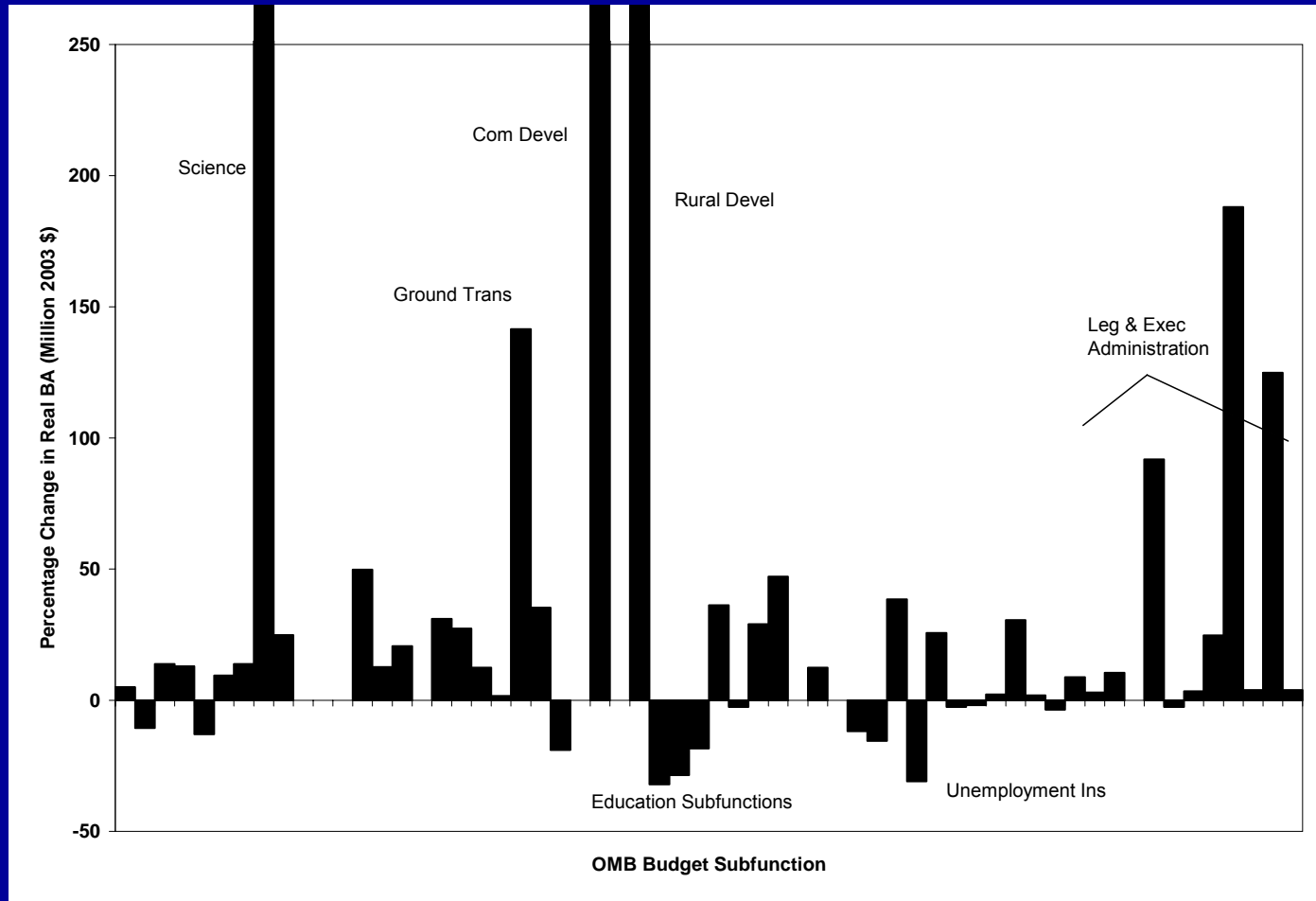
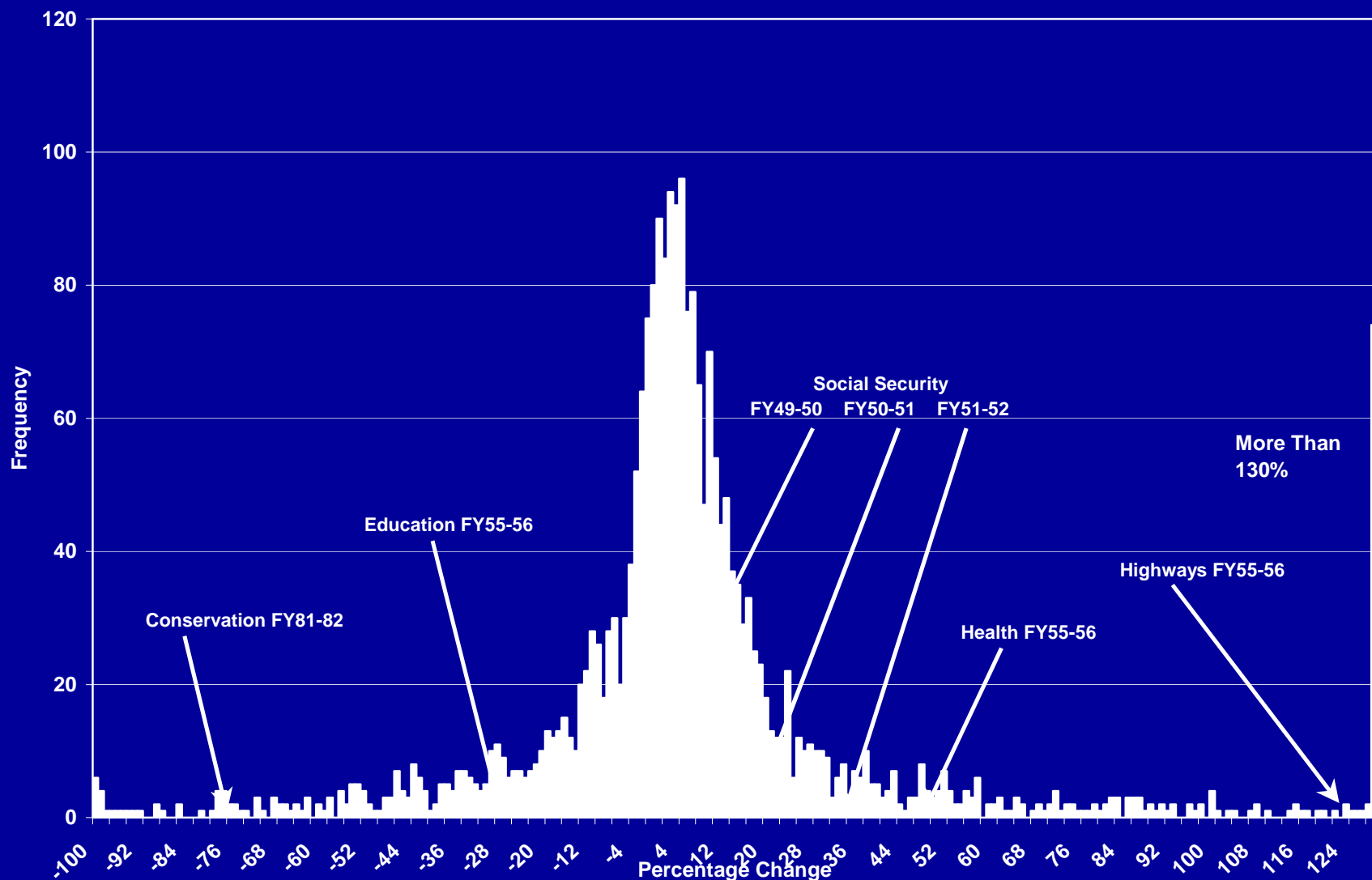


Figure 4.11. Spending Changes under Eisenhower, 1955-56.

# The Distribution of Annual Budget Changes, 1947-1999



# Markets: Not perfectly Normal

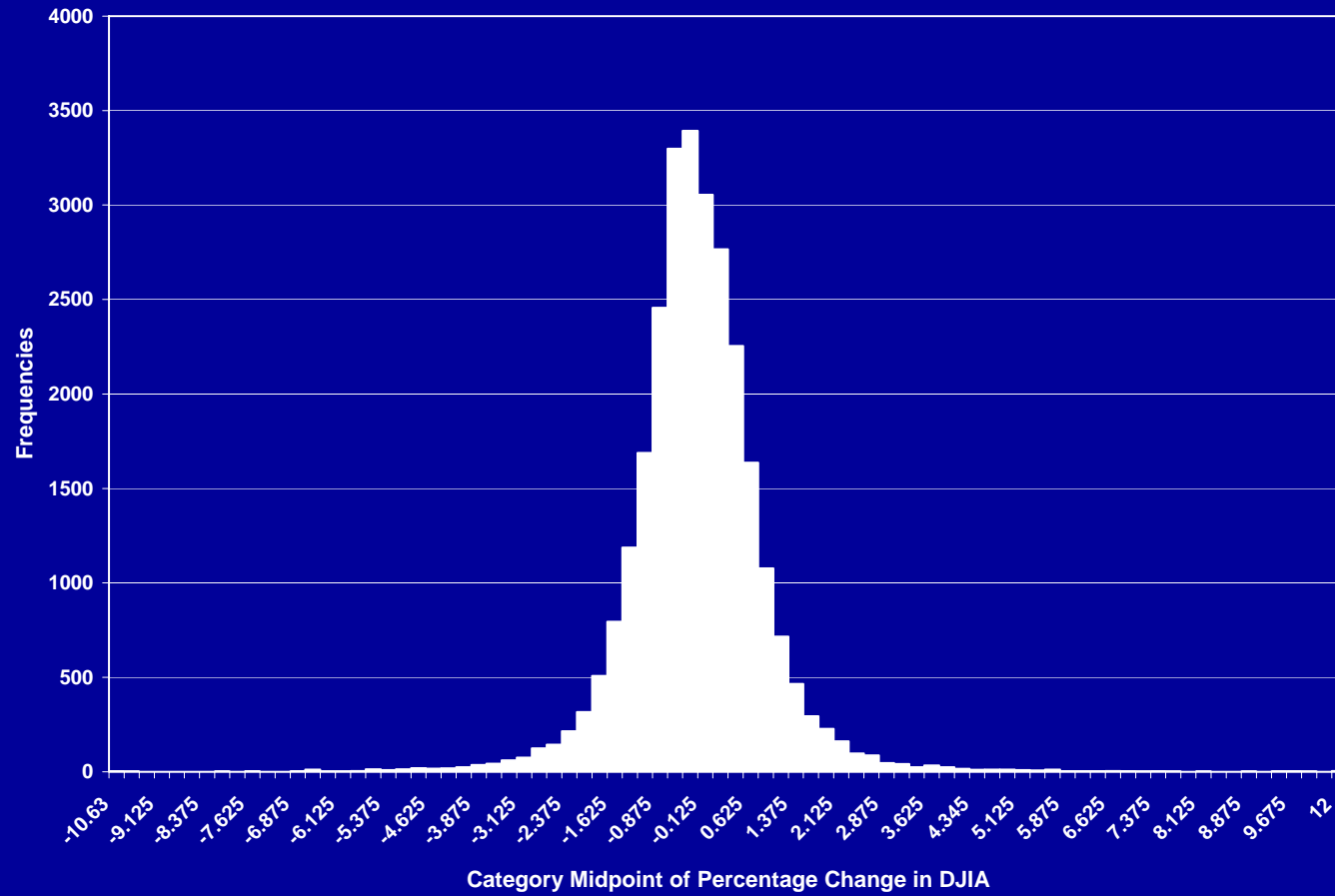


Figure 12.8. Dow-Jones Industrial Average, Daily returns (percents), 1896-1996.

# Election Results: Relatively Efficient

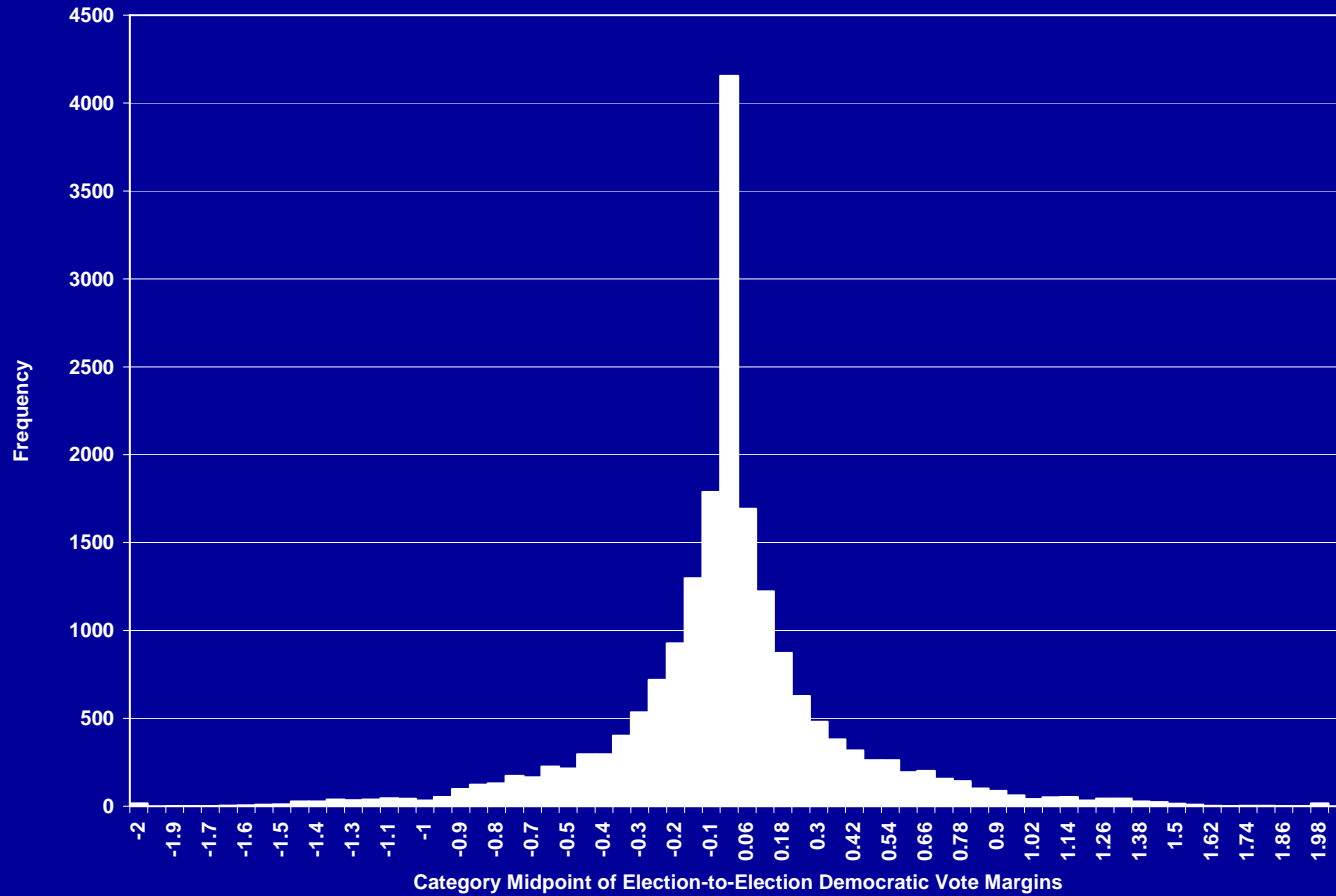


Figure 12.7. Election to election change in House vote margin by district, 1898-1992.

# Hearings: Moderately low-cost

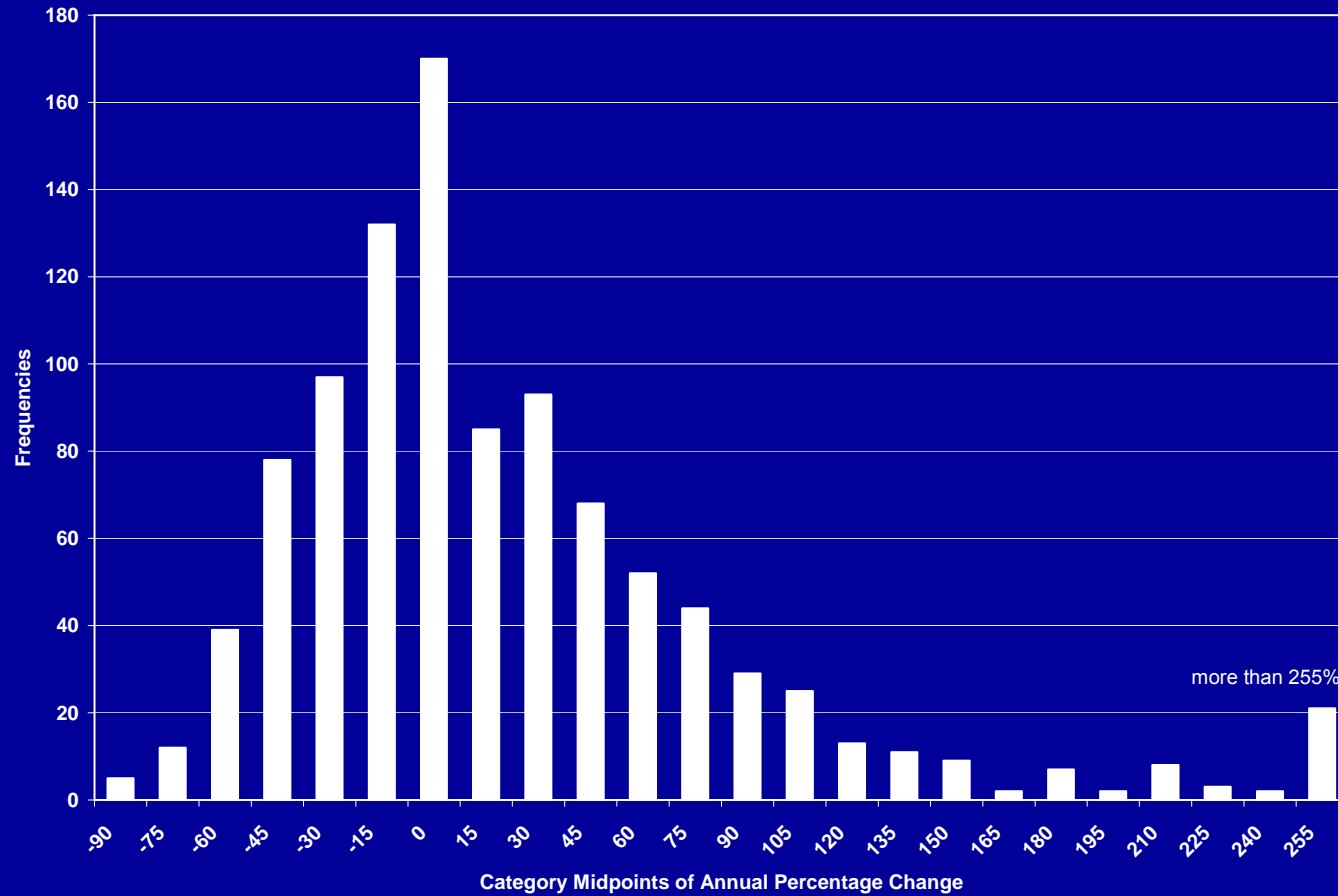


Figure 12.3. Yearly percentage change in Senate hearings by major topic, 1946-1999.

# Lawmaking: Moderately Costly

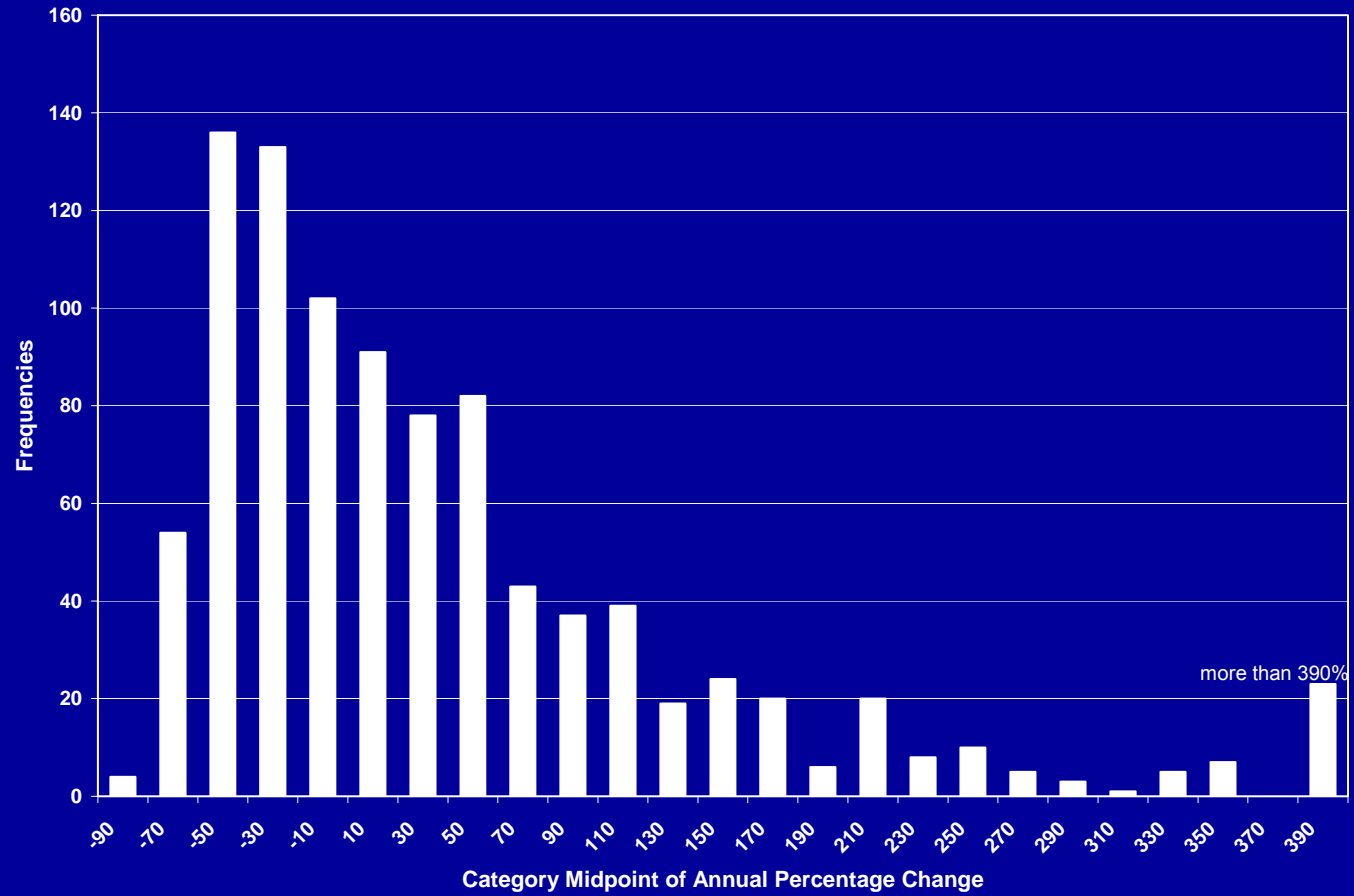


Figure 12.4. Yearly percentage change in statutes by major topic, 1948-1999.

# The US Budget since 1800: A High-Cost Policy Process

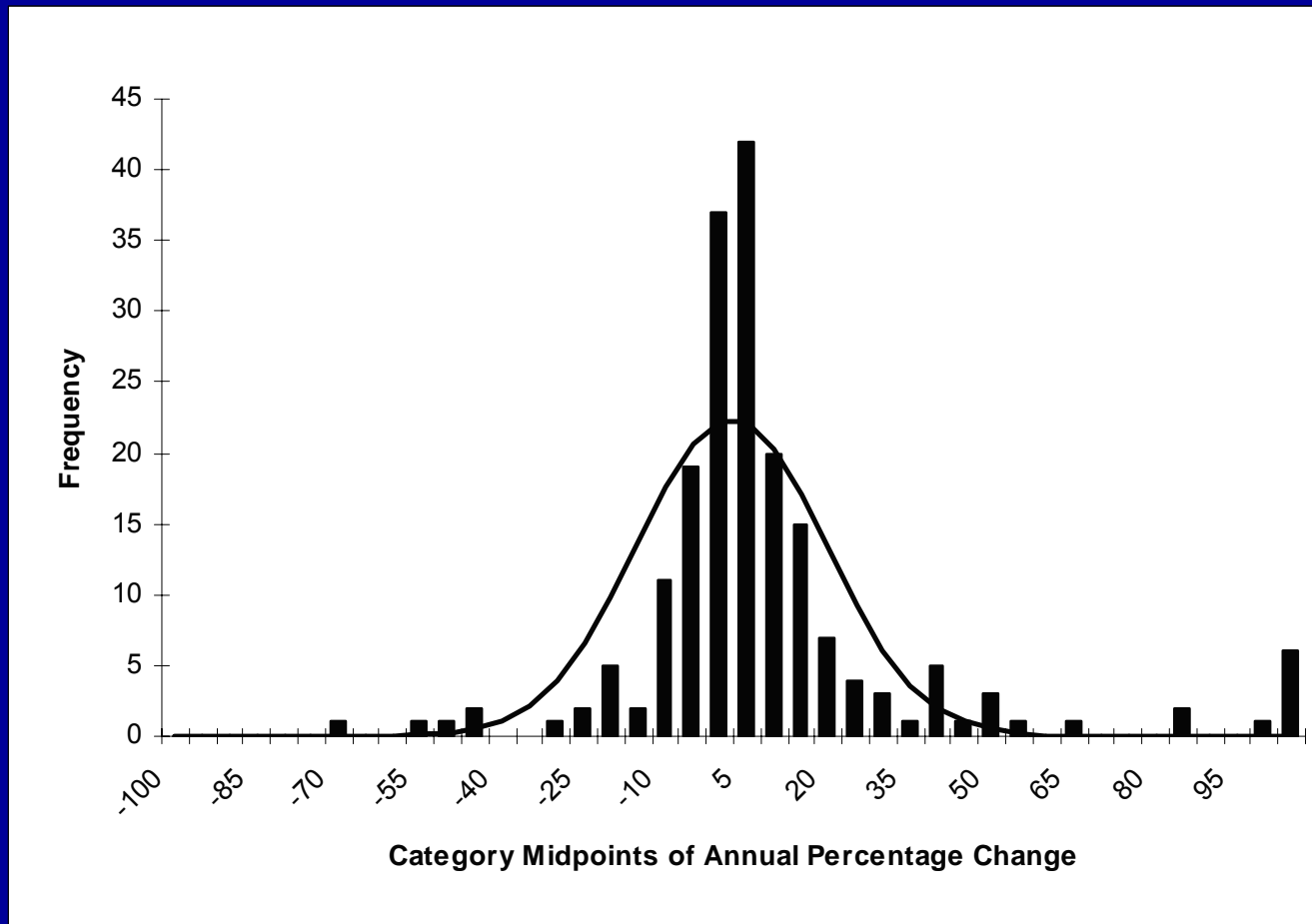
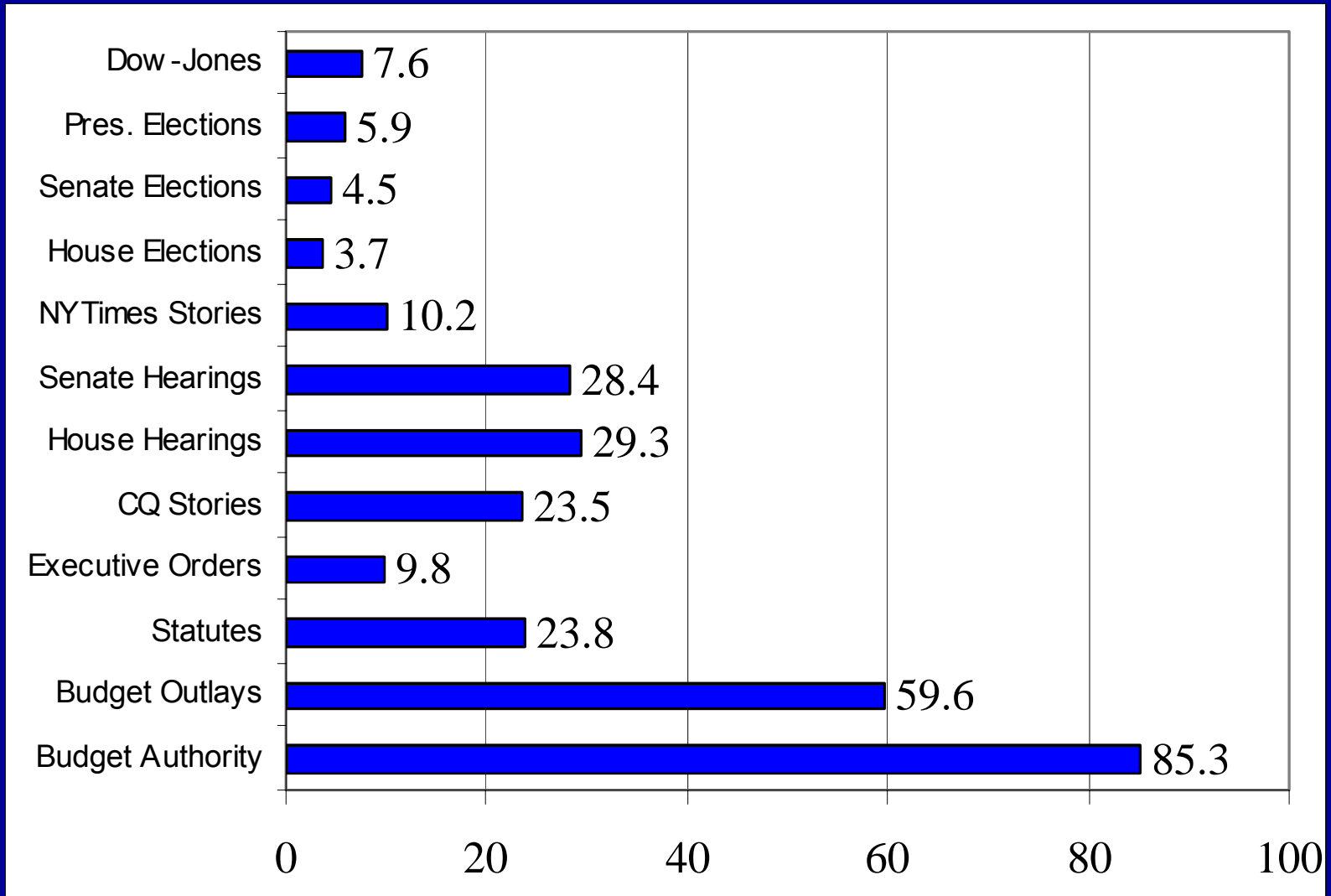


Figure 12.6. Annual change in Real US Budget Outlays, 1800-1994.



# Kurtosis Scores for 12 Processes



# Some Final Questions (answers obvious)

- Is government capable of dramatic change?
- Is government tied to the status quo?
- Is government efficient?
- Are inefficiencies due to mistakes and poor structures, or are they inherent in the cognitive limitations of humans and their institutions?
- Understanding government requires understanding the nature and causes of these inefficiencies.
- They are both cognitive and institutional. They are inevitable but may vary in size.

# What Else?

- This talk focuses on Budget
- Other elements of project
  - Change in structure of US policy Agenda
  - Growth of new issues
  - Implications of 13,000-fold increase in size, complexity of government
  - Value in information overlap, institutional jurisdictions becoming more ambiguous
  - Efforts to redefine issues, how difficult this is
  - Etc.

# What Next?

- Budget studies are easier and have been started, or published already in some cases:
  - Danish municipal budgets
  - US education spending by school districts
  - US state budgets, US Municipal budgets
  - All find P-E, but to varying degrees. Systems vary in efficiency.
  - Many institutional characteristics can easily be tested: forms of government, institutional control, etc. Very simple to test if certain forms produce smoother outputs.

# What Next?

- Expand outside of US national system
- Existing studies (that I know about)
  - Canada, Denmark, UK, Belgium, EU projects in progress
- Many open Q's here.
  - US system designed to have inefficient institutions
  - However, multiple sources of separate information (legislature, executive, states) may increase efficiency.
- Parliamentary systems:
  - Certainly cognitive costs would also be high
  - Would institutional costs be higher or lower? Hypothetically, lower.
  - Clarity of authority in French administrative structure: should make more efficiency.