Explaining Post-Settlement State Tobacco Control Appropriations

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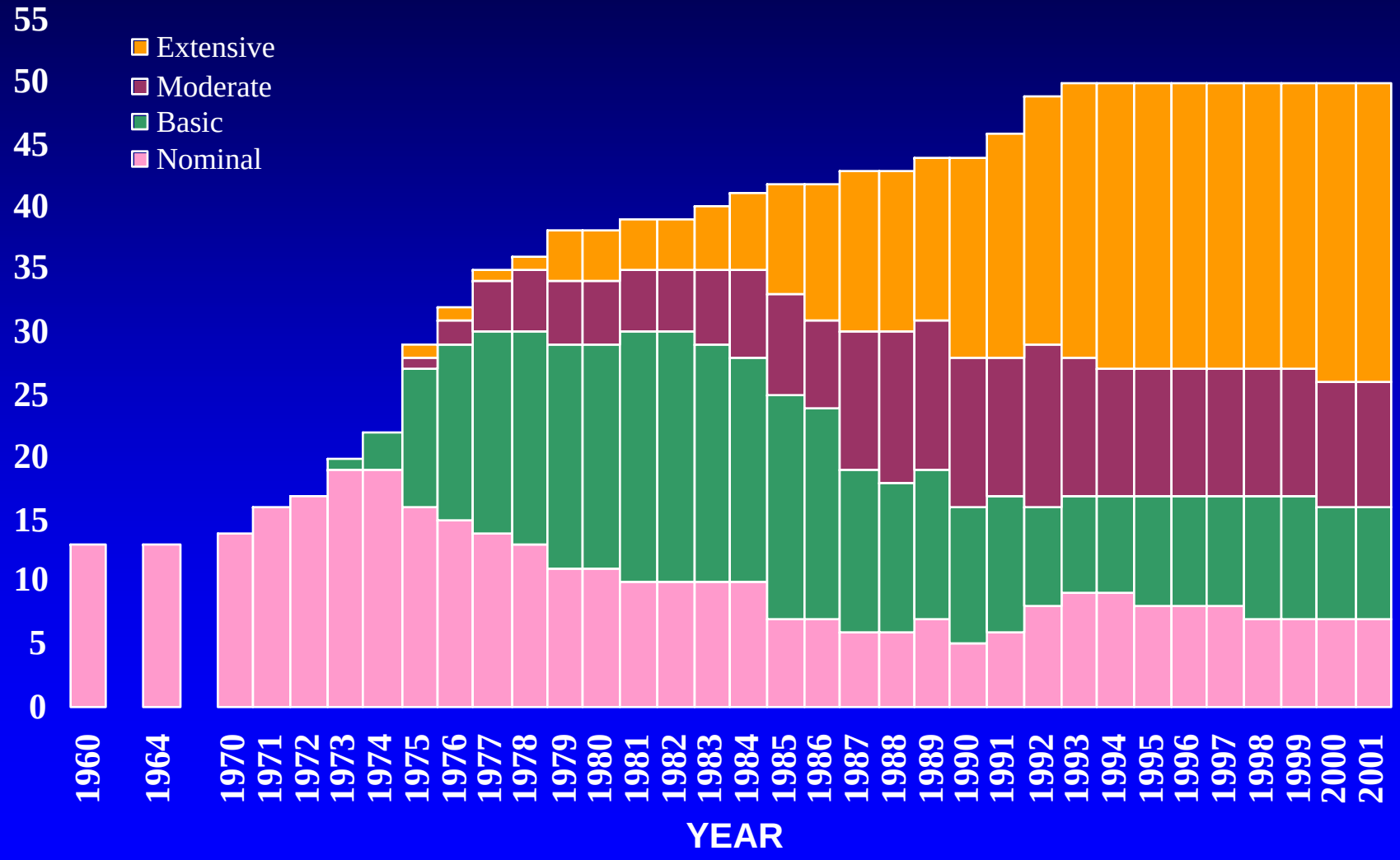
APHA

OVERVIEW

- When translating research into practice, funding is critical
- Constraints on state budgeting and policy change exist, public health advocates must understand this context
- Qualitative and quantitative research identifies important factors

Restrictiveness of State Laws Regulating Smoking in Public Places



Sources: 1989 SG Report, ALA, CDC, Roswell Park Cancer Institute

PUBLIC HEALTH PROBLEM

- Not reaching reduction goals for tobacco use
- Solid case for effectiveness of tobacco control
- Inadequate state funding for comprehensive tobacco control programs
- Purpose: To identify determinants of state prevention funding

DIFFERENT PERSPECTIVES

Nonpolitical Rationality

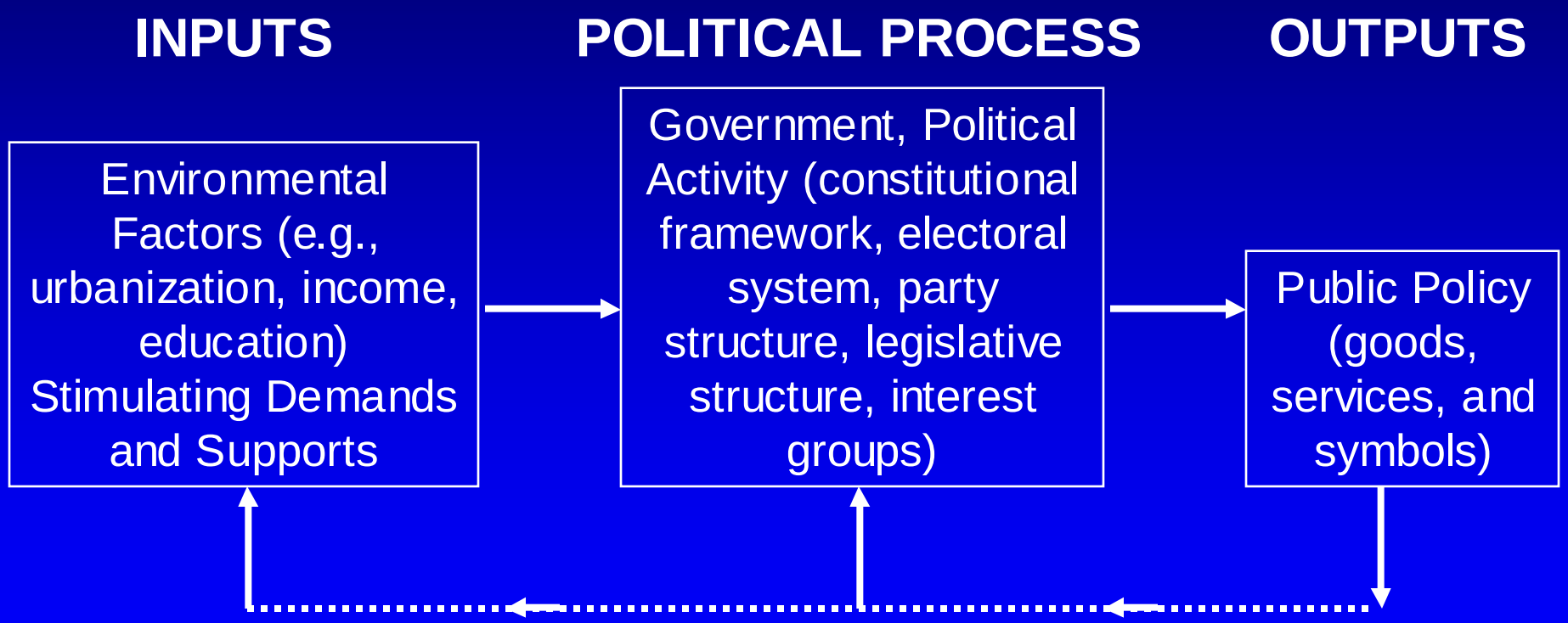
- Decision based on merits of the proposal
- Consider problem in its own terms and evaluate proposals according to how well they solve the problem
- Questioning cost-effectiveness or efficiency

Political Rationality

- Decision based on who supports and opposes proposal
- Action should not identify with any proposal or point of view
- Best proposal should be deferred, objected to, discussed until major opposition disappears
- Compromise between a good and bad proposal is rational

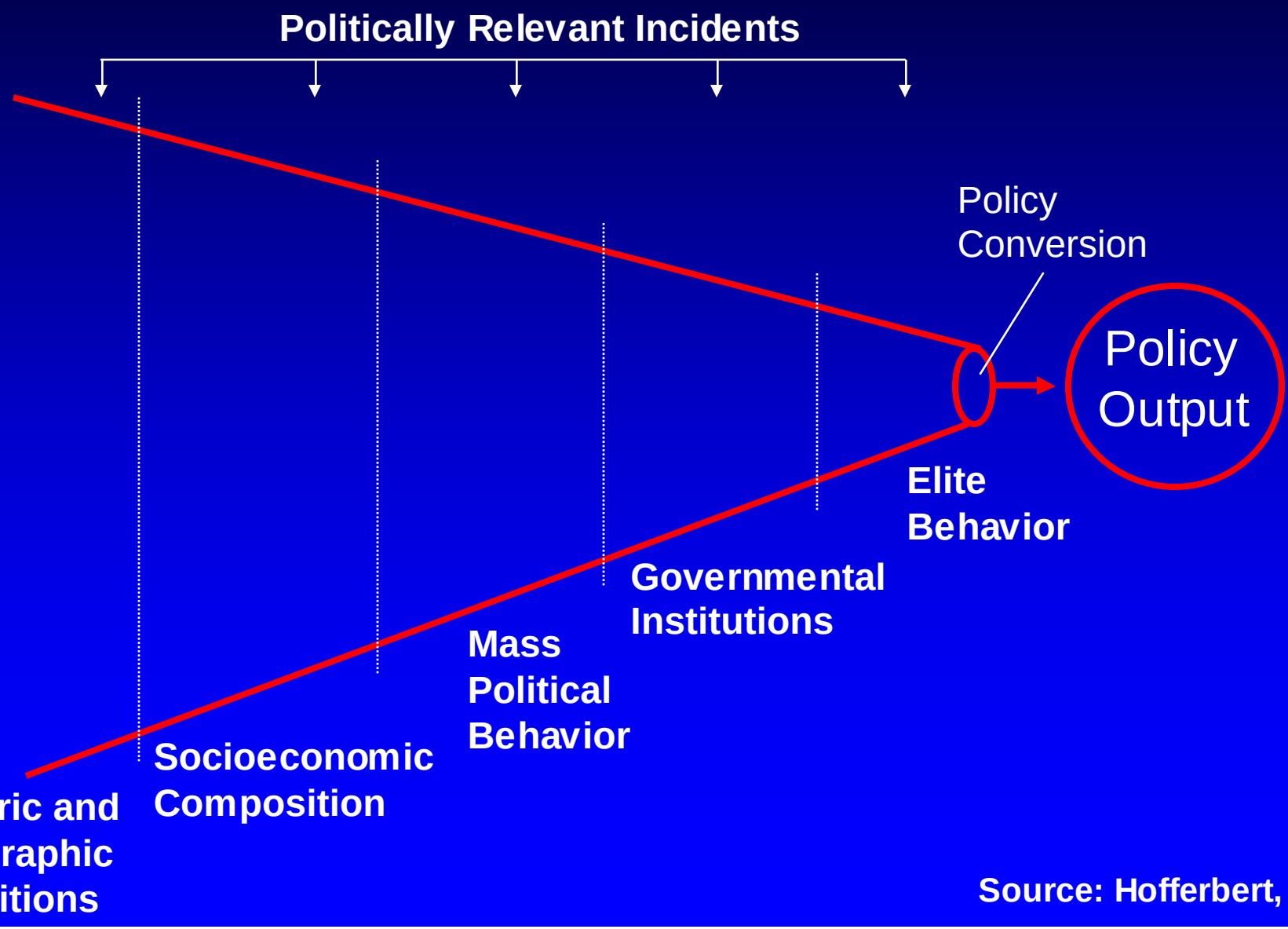
Source: Wildavsky, 2001; Stone, 2002

POLICY MODEL



Source: Hofferbert, 1974

HOFFERBERT MODEL



Source: Hofferbert, 1974

KINGDON MODEL

RESEARCH CONTEXT

- State settlements with the tobacco industry provide unique opportunity to study problem
- Appropriations decisions are made in a political and economic context
- Quantitative modeling may be premature

OVERVIEW OF METHODS

Study 1

Identify and Prioritize Factors

Develop Conceptual Framework

Study 2

Quantify Factors

Develop Regression Model

STUDY 1 METHODS

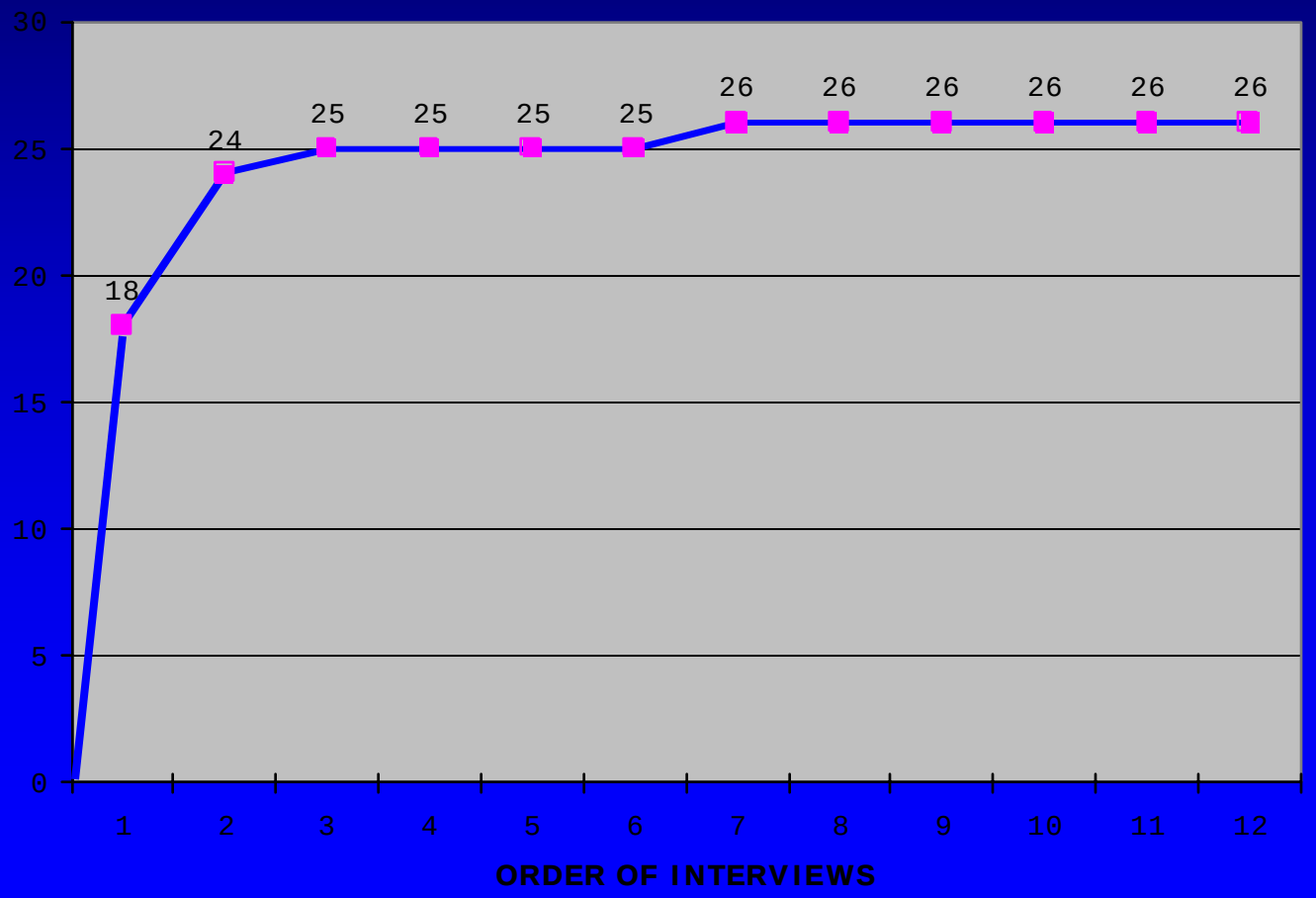
- Identified factors
- Prioritized factors
- Developed conceptual frameworks
    - All Factors
    - Key Factors

IDENTIFIED FACTORS

- Conducted 14 Interviews with Experts
  - Participants chosen from tracking organizations, then snowball sampling
  - 1 pilot, 14 recorded
  - Semi-structured, hour-long session
  - 8 received table, 6 did not
- Coded 12 Interviews
- Identified 26 Factors
- Checked Reliability
  - Coding scheme developed
  - 3 independent coders trained
  - Percent agreement calculated

Study 1

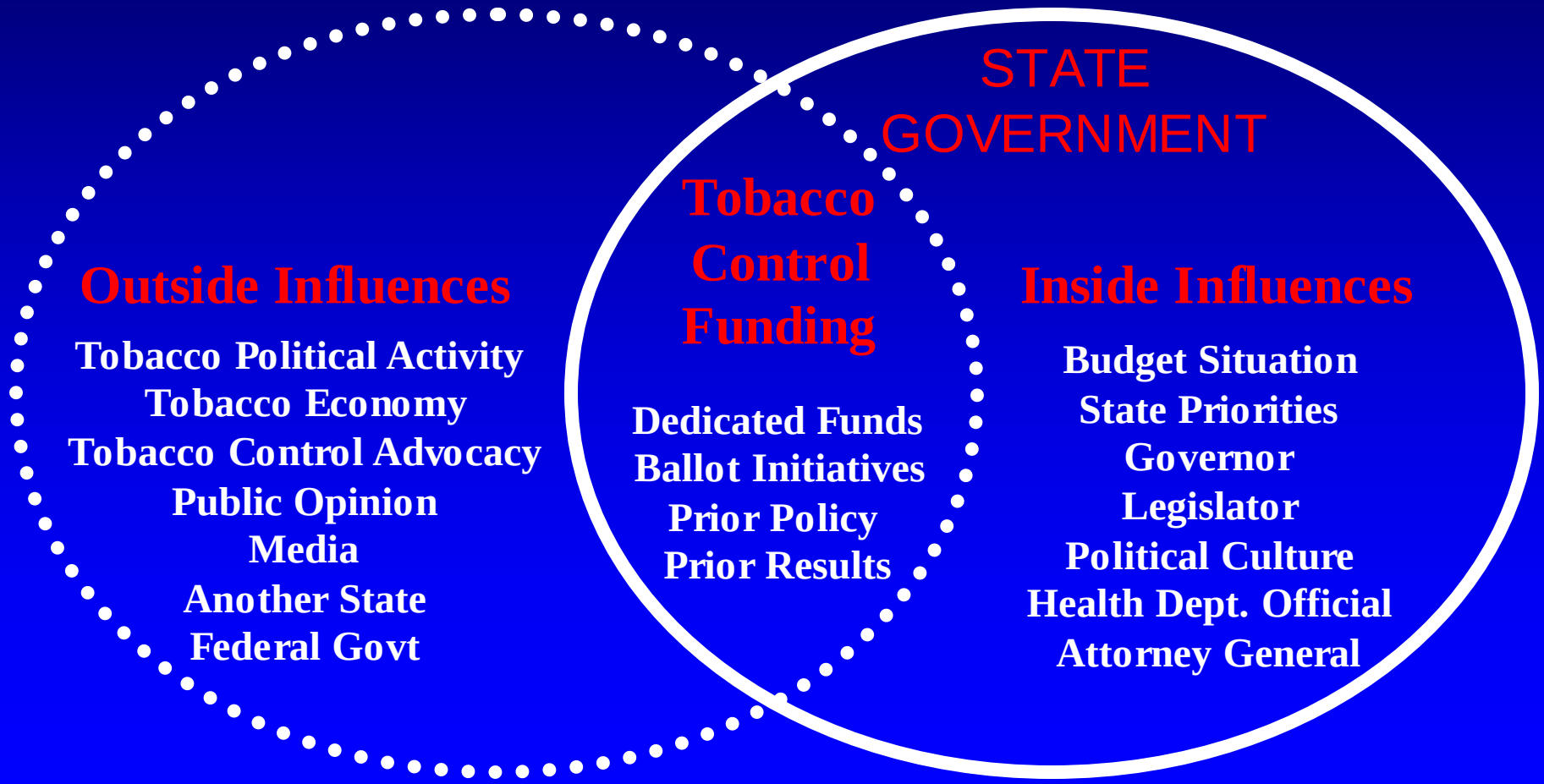
ACCUMULATION OF FACTORS ACROSS INTERVIEWS



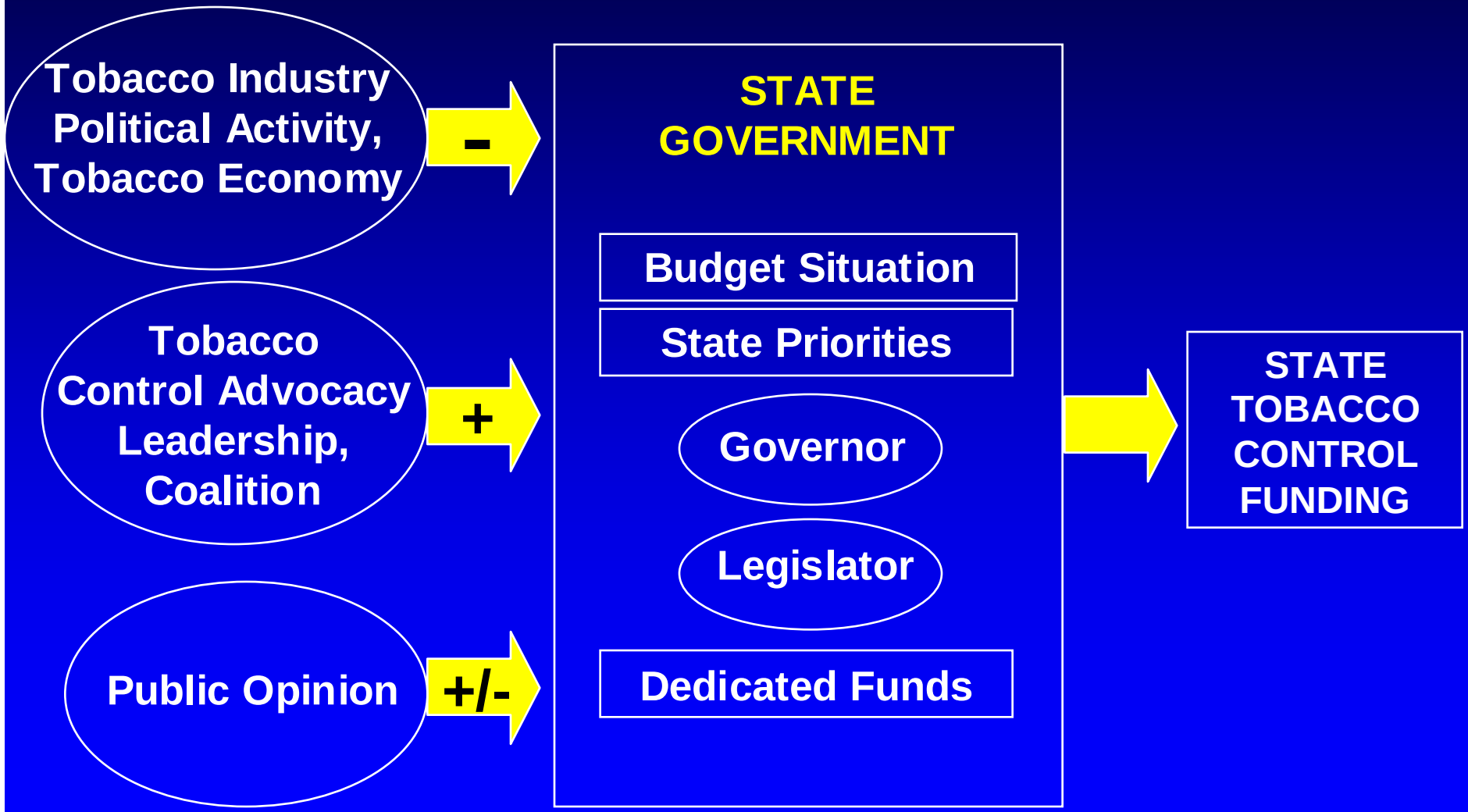
PRIORITIZED FACTORS

- Carried out Modified Delphi Process
  - List of 26 factors randomly ordered on 3 forms
  - Sent to 14 experts via email
  - Received 12 responses
- Measured Importance
  - Average rating on 8-point scale
  - Percent selected for top 10
  - Sum of inverted top 10 rankings
- Identified Key Factors
  - Cutoffs based on plots and median values
  - 11 of 26 above cutoff on all three measures

DEVELOPED FRAMEWORK



FRAMEWORK OF KEY FACTORS



STUDY 1 FINDINGS

- All factors clustered into 3 distinct groups
- Tobacco control advocacy was key but secondary to political and economic factors
- Key factors arrayed in a conceptual framework to guide research on state funding

STUDY 2 METHODS

- Research Design
- Data Selection
- Multiple Linear Regression
- Model Diagnostics

RESEARCH DESIGN

- Cross-sectional, observational
- Analytic, hypothesis testing
- State is unit of study, n=50
- Data aggregated across state
- Limited inference possible

OUTCOME OF INTEREST

$ appropriated for tobacco control in FY02 state budgets

State population in 2000

Sources: CDC 2002; Census Bureau, 2000

DATA SELECTION

- From 11 key factors, 7 quantifiable using existing data on all 50 states
- Connection between factors and measures supported by literature and expert opinion
- Data sources: CDC, ALA, NCSL, NASBO, Dept of Commerce, other researchers

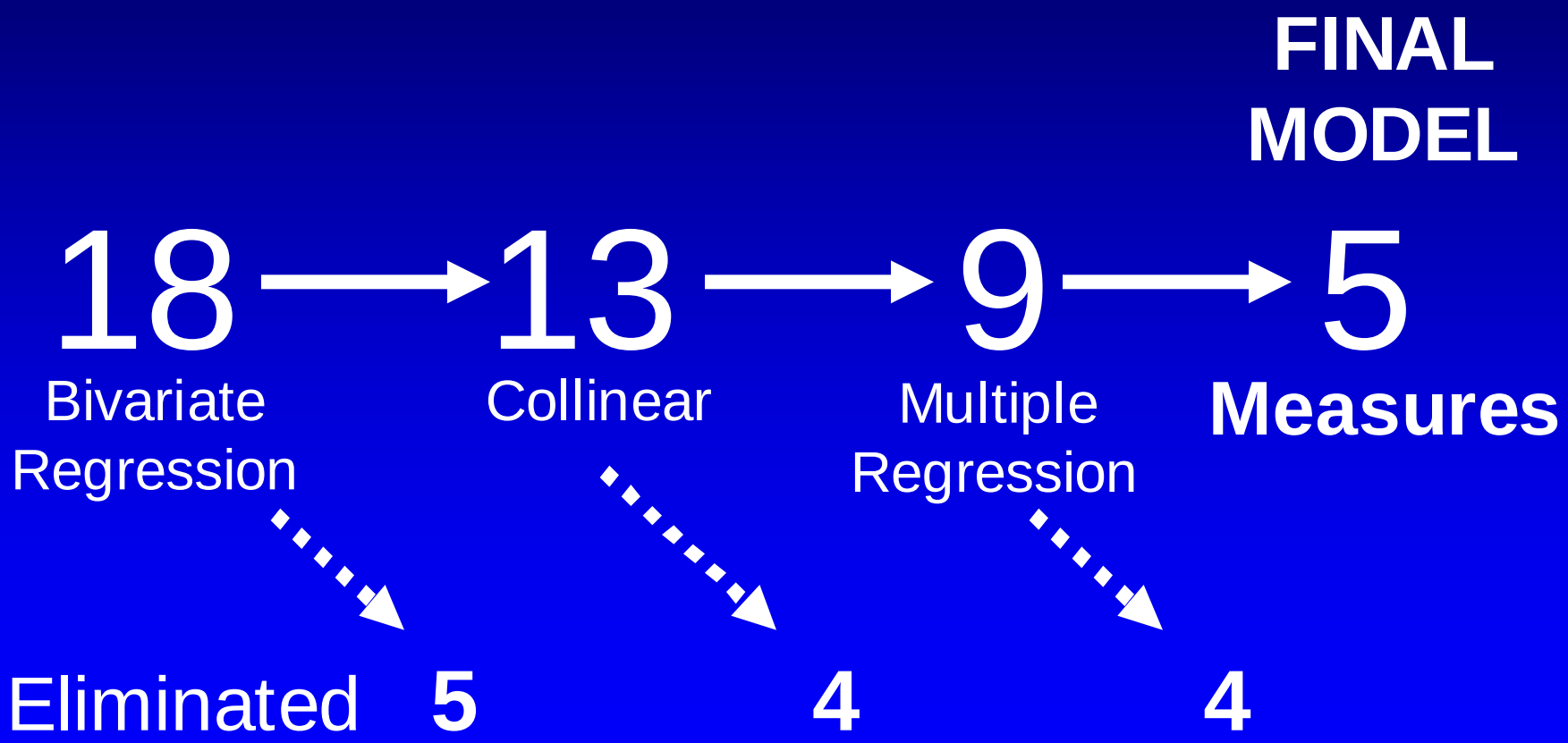
DATA SELECTION

7 FACTORS	18 MEASURES	HYPOTHESES
1. Budget Situation	3	- - +
2. State Priorities	3	+ + +
3. Role of Governor	2	+ +
4. Tobacco Political Influence	2	- -
5. Tobacco Economy	1	+
6. Tobacco Control Advocacy	2	+ +
7. Public Opinion	5	+ + - - -

QUANTITATIVE ANALYSES

- Univariate Analysis
  - Descriptive Statistics
  - Log Transformation
- Bivariate Linear Regression
- Correlation Analysis
- Multiple Linear Regression

REDUCING MEASURES



FINAL MODEL

Source	SS	df	MS		
Model	24.71	5	4.94	Prob > F	= 0.0000
Residual	20.89	44	0.47	R-squared	= 0.54
Total	45.60	49	0.93	Adj R-squared	= 0.49
				Root MSE	= 0.69

Number of obs = 50

F (5, 44) = 10.41

LOG FY02 PC	COEF	SE	p	95% CI	e^{β}
GSP	-0.580	.129	0.000	(-.84, -.31)	0.55
PREEMPT	-0.467	.204	0.027	(-.87, -.05)	0.62
LIBERAL	0.018	.007	0.017	(.003, .033)	1.02
GOVPARTY	0.407	.209	0.058	(-.014, .83)	1.50
GOVPOWER	0.481	.249	0.060	(-.02, .98)	1.61
CONSTANT	-1.058	.908	0.250	(-2.89, .77)	

Study 2

4 FACTORS WITH 5 MEASURES

Factor: Tobacco Economy

TOBACCO GROSS STATE PRODUCT (-45%)

Factor: Tobacco Industry Political Influence

PREEMPTIVE STATE LAW (-38%)

Factor: Public Opinion

CITIZEN LIBERALISM (+2%)

Factor: Role of Governor

GOVERNOR'S PARTY (+50%)

GOVERNOR'S AUTHORITY (+61%)

LIMITATIONS

- Dependent and independent variables are indirect measures of constructs of interest
- Limited ability to generalize beyond state level relationships
- Explanatory model instead of predictive

STUDY 2 FINDINGS

- Regression model consistent with qualitative findings
- Four of seven null hypotheses rejected
- High explanatory power with five measures
- More quantitative exploration needed

CONCLUSIONS

- Study 1:
  - Comprehensive framework developed
  - Expert consensus revealed 11 key factors in tobacco control funding decisions
- Study 2:
  - Quantitative analyses underscored the importance of 4 of the 7 factors
  - Limited quantitative data available to fully test framework

FUTURE RESEARCH

- Focus quantitative exploration on factors of interest and test explanatory and predictive value of model
- Examine whether initiation of funding is different from maintenance of funding
- Identify and test intervention methods to apply these findings

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Questions?