How Authoritarianism Intensifies Punctuated Equilibrium: The Dynamics of Policy Attention in Hong Kong

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The punctuated equilibrium theory contends that government attention allocation is universally leptokurtic in that long periods of stability are punctuated by bursts of rapid and radical change; the empirical evidence in support of this claim is however exclusively drawn from democratic systems. The absence of electoral politics and institutional decentralization in authoritarian regimes could presumably affect institutional friction; whether and how this might pose as a qualification to the thesis is of major interest. By analyzing four streams of government actions in Hong Kong from 1946 to 2007 straddling the colonial and postcolonial regimes, we have found that government processes are generally leptokurtic even under authoritarian regime institutions, with the degree of the dispersion of decision-making power across the streams of actions affecting the magnitude of punctuation. We have also found that punctuation was greater when the political system was more centralized but declined as the political system democratized.

Introduction

The concept of institutional friction is central to the causal conjectures in the punctuated equilibrium literature (Jones and Baumgartner 2012). In liberal democracies, government institutions allow dominant policy actors to obstruct change in the status quo, leading to episodic rather than incremental policy adjustments (Baumgartner and Jones 2010). In the sense that the dominant actors' obstruction forces policy to remain static until misalignment grows to alarming levels, institutional friction compares to how friction operates in physical and biological systems. Comparative studies suggest a positive relationship between institutional friction and volatility: More scattered decision making means greater "friction" and hence more episodic policy change (Jones et al. 2009). Following this logic, one might postulate that where the typical institutions for decentralized policymaking and institutional rivalry are absent, the pattern of punctuation and stasis could become less volatile.

We investigate whether and how such a postulate applies beyond liberal democracies, analyzing the data of four streams of government actions in Hong Kong from 1946 to 2007 straddling the colonial and postcolonial regimes to examine the dynamics of policy attention in an authoritarian political system. Cross-domain applicability might be significantly conditioned by the difference in basic principles of constitutional design. While the Madisonian preference for competition across government branches over the Westminster system, for example, entails quantitative variation in institutional friction, the difference between liberal democracy and authoritarian rule might represent qualitative difference in terms of the role of political competition within the system and how policy actors are engaged in the political process. Whereas competi-

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tion is the primary source of friction in liberal democracies, exclusive institutions in authoritarian regimes often prevent actors from even considering policy change and, hence, deprive them of opportunities of policy learning. While policy decentralization and competition in democratic systems are responsible for policy inertias and even deadlocks from time to time, they also work as a safety valve. When a new policy frame replaces the old one and triggers changes in attention allocation, policy tensions can be released, providing a negative feedback loop that prevents the system from going astray. In an authoritarian system, on the other hand, the lack of competition and a limited access to policymaking could easily allow policy conflicts and tensions to cumulate to a dangerous level. Such concentration of conflicts often brings about punctuations of significant proportions. We argue that institutional friction in an authoritarian regime operates very differently from that in a liberal democracy, often bringing about different policy agenda dynamics.

Institutional Friction and Punctuated Equilibrium

The literature on punctuated equilibrium is underlined by the central thesis that government attention allocation is inefficient; government response is often hindered by friction that prevents adequate policy attention from being drawn to cope with changes in the policy environment. The inefficiency is said to have both institutional and behavioral roots. The dynamical properties of attention allocation in governments are said to emerge from the way information is processed at the individual level (Jones 2001). Human cognition relies on heuristics to economize on the computational costs associated with ad hoc problem solving. Without significant external disruption, decision makers seldom adjust their heuristics and hence existing policy frames. Their ability to handle contradictory information is further impaired by social psychological factors such as groupthink and homophily.

Herbert Simon (1978) argued long ago that a major purpose of organization is to help individuals cope with the limitations of human cognition. Institutional features often mirror the architecture of choice of human beings, which often reinforce biases inherent in human decision making. Mechanisms that underline the inefficiency of agenda change in governments are often suggested in the literature. In established democracies, the political system is defined by a diffusion of power into so-called subsystems or subgovernments (Baumgartner and Jones 1991). The separation of power among subsystems and the specialization of policy venues enable parallel problem solving and hence reduce the demand for human cognition in decision making. These institutional features, however, prevent efficient policy attention and responses to external shocks. Decentralized institutions are also biased toward the preservation of the status quo because mobilizing policy actors across separate venues to introduce change to the status quo is a costly exercise in conflict expansion.

Policy subsystems are designed to deal with well-defined problems. To deliver preformulated policy solutions with minimal variance, such systems are technically focused, operationally standardized, and ideologically unified. While these features help contain conflicts and maximize efficiency, they often lead to low capacity for innovation and adaptation in the short run. Major events such as replacements of key officials following elections, successful lobbying by advocates against existing policy, and other typical political maneuvers in democratic politics may sometimes radically reshuffle the policy priorities of the government; in between these disruptions, the subsystems are usually incapable of initiating change of any meaningful scale (May, Sapotichne, and Workman 2009).

These mechanisms collectively give rise to disproportionate shifts in policy attention allocation in response to environmental changes. The pattern of government information processing is characterized by long periods of stability interspersed infrequently by large movements across equilibria (Jones and Baumgartner 2012). The resultant "stick-slip" dynamics entails disproportionate changes: "At any given time, the response to the pressure is out of synch with the level of pressure applied: friction causes the linkage between inputs and outputs of the system to be disproportionate—underresponse because of friction, then overresponse in response to built-up pressures" (Baumgartner et al. 2009).

The intense competition between conflicting policy frames is also a critical feature of information processing in democratic governments. Bryan Jones (2001, 103) argues that "in open democracies, if one problem space is constructed for voters by one candidate, a second candidate may put forward a second frame of reference. In effect, that democracy offers competing understandings of a problem space provides a mechanism for allocating attention to the panoply of problems that face a citizenry." Active and persistent policy advocacy and interest representation keep even the more idiosyncratic and marginal issues on the policy agenda, which has the effect of diversifying the contents of the agenda and the overall scope of issues being considered by the government.

Given these theoretical considerations, the dynamics of government information processing is arguably contingent on the various mechanisms and institutions that define modern democracies. Replications of the original U.S. studies in other democracies (e.g., Baumgartner, Foucault, and François 2006; Baumgartner et al. 2009; Breunig 2006; Jennings and John 2009) show that the thesis of punctuated equilibrium is applicable to political systems where these critical institutional features are also present; institutional friction brings about punctuation in government information processing.

Due to the absence of data representing government information processing in authoritarian regimes, however, it is unclear whether and how punctuated change in government and information processing operates when the source of institutional friction is different. In the next section, we examine the entailed theoretical possibilities of such a scenario. Based upon an expansion of the logic underlying the theory of government information processing, we argue that cognitive biases and institutions can generate even more drastic punctuated change in authoritarian regimes where a centralization of power and a limited access to policymaking attenuate the limitations of human cognition and hence bring about even higher levels of institutional friction.

Punctuation in Authoritarian Regimes

Jones, Sulkin, and Larsen (2003) report that "liberal democratic social processes apparently display less extreme behavior than natural phenomena" and attribute the difference to the role of purposive human intervention in "tuning a system toward regular disruption, suffering dislocations but avoiding the catastrophe" (167). In the political context, systems open to periodic changes through elections and advocacy experience more "regular disruptions." This proposition inspires us to think about what will happen to attention allocation if the institutional foundations allow an active containment of conflict and dissent, as in the case of authoritarian regimes.

The Dynamics of Attention Allocation in Authoritarian Regimes

Based on the logic of institutional friction, we conjecture that two dynamics underpin the impact of institutional design in authoritarian regimes on patterns of punctuation in attention allocation.

First, centralization in an authoritarian regime shuts out external disruptions to political processes and contains internal conflicts, thus allowing those in power to initiate change with little regard for the reaction of the opposition. Policymaking in a centralized political system comes with few access points for political forces outside of the establishment to interrupt the policy process. Without periodic elections and citizen participation, officials lack the political incentive and even the information to reallocate policy attention. Within the system, norms of ideological uniformity and consensus politics prevail, rendering the system hostile to conflicts, protests, or even the mere expression of skepticism. With most of the possible sources of conflict contained, the policy process operates in such a way that changes are automatically reduced to prolong stability through the mechanisms of negative feedback.

Second, the very recalcitrance of the authoritarian government could allow pressure for change to build up to dangerous levels. If friction grows strong enough to threaten the fundamental authority of the regime, those in power will undertake extensive policy reforms or risk widespread unrest. In authoritarian systems where policymakers have decided to make changes to reprioritize programs and resources, the concentration of power at the highest level of government allows the policymakers to make their desired changes quickly and forcefully.

As a result of the two dynamics, one would observe in authoritarian regimes a highly punctuated policy process in which the policymaking is too insulated to react until the built-up pressures can no longer be resisted. But once it happens, the policy response can be radical and extremely forceful. Compared to democratic governments, centralized policy institutions amplify the excesses of cognitive biases: Instead of encouraging frequent perturbations in the political order to mitigate distortion of problem definition, the suppression of competition and conflict exacerbates the reliance on heuristics and prolongs "underresponse" or stasis. Whereas the separation of power in democratic governments allows policy minorities to obstruct policy initiatives undertaken by the policy elite, resistance is relatively difficult to organize when decision-making power is concentrated.

Institutional Friction in Authoritarian Regimes

Authoritarian governments do not have comparable mechanisms for problem identification and selection through electoral competition; they also lack effective institutional infrastructure for policy advocacy, interest representation, and conflict expansion. Instead, policy issues are processed methodically within the bureaucratic process. If advocacy activities and open elections force the government to switch from one issue to another every now and then, the absence of such competition in authoritarian governments will leave the policy agenda unchanged for extended periods of time. Attention only falls on these marginal issues when the problems become too serious for the government to ignore. Without sustained advocacy to retain attention, these issues will be removed from the agenda again when the pressure dissipates.

The government will not respond to criticism—if it is ever aired—and will, in fact, act against it to avoid the perception of weakness. With the policymaking power concentrated in the hands of elites, opposition in the system is often insufficient to block or even simply temper any decision to shift away from the status quo toward a radically different equilibrium; this arrangement also leaves potential competitors in the policy process powerless to produce any change at all when those in charge do not detect pressure. As a result, change is even more punctuated in centralized decision-making processes where the traditional mechanisms of friction are absent.

Even though these characterizations of the pattern of attention allocation in authoritarian governments are based on a reinterpretation of the relationship between institutions and cognitive bias at the systems level, it would be a mistake to suggest that institutional friction is absent in authoritarian governments. Rather, it is the mechanics of its expression that varies. Admittedly, institutional friction in the democratic state works similarly to classify signals, so that more powerful actors in the system can produce change while those inside the subsystems lack comparable influence to alter policy. Yet, however powerful, even actors at the highest level of the political structure in a democratic system need to compete with others, including repeated challenges by policy advocates as well as "holdups" by competing policy venues. Due to decisional centralization and unified command, this type of competition does not exist in the authoritarian state. Advocacy is largely contained in a system of elite co-optation, and the exclusiveness of political leadership preserves the integrity of control at the top of the hierarchy. As such conditions do not exist in the cases in the literature, the entailed hypotheses can only be properly examined with evidence drawn from systems whose institutions approximate these structural restrictions on information processing and change.

Punctuation in an Authoritarian Regime: Policymaking in Hong Kong

While comparative studies in the past have looked at the potential role of institutions in punctuations, it has been noted that "the complex institutional matrix" makes it "difficult to speculate which institutional features in particular lead to lower or higher levels of punctuation" (Breunig and Koski 2006, 368). As a partially democratized system evolving from a long history of colonial rule (Lau and Kuan 2000), the Hong Kong government system belongs neither to the federalist tradition of the United States nor to the unitary or mixed parliamentary systems found in some of the European countries covered in the literature, such as Denmark and Belgium (Baumgartner et al. 2009), Germany (Breunig 2006), and the United Kingdom (Jennings and John 2009). The case of policy attention allocation in Hong Kong offers a unique opportunity to look at the dynamical properties of attention allocation in a variety of institutional settings, both in comparison with other political systems and within the case itself due to constitutional reforms.

We are cognizant that while the Hong Kong government system is characterized by key features of authoritarianism, it is by no means representative of all authoritarian systems that have different genres. In fact, the unique colonial root of Hong Kong makes it qualitatively different from many other contemporary authoritarian systems. Instead of trying to generalize the Hong Kong case to all authoritarian regimes, this article seeks to assess the applicability of the punctuated equilibrium theory to regimes characterized by a centralization of power and a limited access to policymaking, and also to draw upon the theory to help make sense of Hong Kong's policy dynamics.

The Constitutional Design of Hong Kong

The constitutional design of the postwar government of Hong Kong was effectively dictatorial, enabling the governor to exercise absolute control over the legislature, the civil service, and the political elite at large (Tsang 1988, 2007). Due to the political exigency to remain neutral in the conflict between the Communists in mainland China and the Kuomintang-controlled government in Taiwan as well as the evident lack of interest and vigorous participation in the municipal council elections, the colonial administration decided against major democratic reforms and to keep the postwar

institutional configurations more or less unchanged (Tsang 1988). The interaction between the colonial government and the local Chinese society was largely mediated through elite co-optation (King 1975). Under a system of advisory committees, consensual politics and closed deliberations prevailed against contentious politicking associated with developed democracies. The interdependencies between government officials, civil servants, and members of the community elite fostered a sense of unity against skeptics outside of the policy establishment (Scott and Burns 1984).

Even more interesting is the fact that the colonial constitution and the accompanying political order actually disappeared over time. In the 1960s, the colonial government put in place a system for public involvement in policymaking through citizen consultation, district-level elections, and elite engagement via policy committees after its rule was threatened by extensive social unrest and riots (King 1975). In the 1980s, the outgoing British administration initiated wide-ranging political reforms in anticipation of the handover to Chinese rule in 1997. In less than two decades, the Legislative Council (LegCo) evolved from a loyal assembly of senior civil servants and political appointees into a fully elected body controlled by lawmakers who do not necessarily support the policy agenda of the administration (Chung 2001). The rules of engagement also brought a more divergent set of interests into the policymaking process.

After the handover, the chief executive lost much of the governor's prerogative to override the bureaucracy (Lam 2005). Government ministers, as political appointees recruited from outside the bureaucracy, faced similar limitations in exercising the powers formally accorded to them (Burns 2002). While expanding the source of recruitment to increase diversification and bureaucratic representativeness, aggressive administrative reforms also undermined the solidarity of the senior civil service (Burns 2004). At the lower reaches of the bureaucracy, fewer individuals were appointed to multiple policy committees to facilitate cross-venue communication and develop close professional and personal relationships with those outside of their home venue (Chung 2001; Scott 2000). The political order at the end of this transformation exhibited unprecedented levels of fragmentation and contention (Cheung 2007). The drastic and substantial shift in the regime configuration and the associated rise in institutional friction are ideally matched with our question concerning the role of institutional friction. Major political changes in postwar Hong Kong from 1946 to 2007 are listed in Table 1.

Hypotheses

Given the unique features of the Hong Kong political system, it provides an excellent empirical setting to examine policy punctuation in an authoritarian regime. In particular, we focus on three hypotheses concerning the role of regime configuration, domain exposure, and issue marginality in government information processing.

The first hypothesis claims that:

> *Hypothesis 1: Institutional friction is higher in authoritarian regimes compared to democratized political systems.*

Existing research has case analyses from the federal system of the United States to the divergent government structures found in the Western world (Baumgartner, Foucault, and François 2006; Breunig and Koski 2006; Jones et al. 2009). Yet, the original conception of institutional friction remains particular to the democratic state, thus raising the question about the nature of policy punctuation when power separation, jurisdictional overlaps, and electoral politics are absent.

TABLE 1
Chronology of the Postwar Political Change in Hong Kong, 1946–2007

Year	Institutional Event
1946	End of World War II; postwar restitution of British rule
1951	First Urban Council elections; other constitutional reforms rejected
1967	Mass "Leftist" riots followed by overhaul of social service provision
1972	The LegCo membership expanded from 18 to 46
1982	Elective District Councils created to strengthen local government
1983	The Unofficials became the legislative majority
1985	First popular legislative elections
1993	LegCo ex-officio membership ended; no co-appointment to LegCo and Exco
1995	First full legislative elections
1997	Handover to Chinese rule
1998	First posthandover legislative elections
2001	Principal Official Accountability System introduced

Note: The colonial constitution was reinstituted after World War II (Tsang 1988). As a response to the widespread social unrest in the late 1960s, the local population became more directly involved in policymaking (King 1975). Aggressive democratization programs undertaken by the outgoing British administration during the 1980s and 1990s radicalized the political environment (Scott 2000). We divide the entire period from 1946 to 2007 into four epochs to reflect these major constitutional discontinuities.

We hypothesize that friction in authoritarian regimes is grounded upon exclusion and the centralization of decision-making power. Lacking the basic electoral and participative mechanisms to monitor and respond to the external environment, officials are slow to adjust their allocation of attention to changes in the environment. Compared to democratic systems, we expect a higher level of punctuation in authoritarian regimes. In particular, we expect that as an authoritarian regime becomes more open, it will experience increasingly lower friction, even though the friction levels remain high.

The second hypothesis proposes that:

Hypothesis 2: Institutional friction is progressively higher by policy stages.

The progressive friction hypothesis in Baumgartner et al. (2009) argues that policy stages incurring high coordination costs and heavy procedures tend to have higher levels of institutional friction. Policy input such as discussion and debate on social issues in the legislature, for example, does not involve any concrete coordinated action and hence is relatively less costly; budgetary resource allocation at the output stage, on the other hand, involves not only multiple government agencies and hence high coordination costs but also complicated bureaucratic rules. As policymaking moves along from input to process to output stages, institutional friction increases, bringing about greater volatility in policy attention.

The last hypothesis concerns the claim that:

Hypothesis 3: Marginal policy issues are frequently dropped from the government policy agenda.

Governments of liberal societies facing diverse regional, sector, and group interests need to maintain some degree of attention for all issues most of the time. In contrast, lower civic awareness and assertiveness in authoritarian regimes means that some nonessential issues receive attention only *very* sporadically. Hence, we expect even greater asymmetry in attention allocation to the extent that some issues will fall from the policy agenda altogether, and only issues more directly related to the core functions of government will remain consistently present on the agenda. Specifically, while

government agencies remain active and funded (therefore a budgetary presence), issues marginal to the government can completely and frequently disappear from policy deliberations. We refer to this phenomenon as issue "dropouts." With an emphasis on elite consensus and conflict containment, Hong Kong's political institutions are unfavorable to active policy representation that keeps a broad range of issues on the agenda (King 1975).

Data and Methodology

Data

A novel data set was compiled from the various documents published by the Hong Kong government from 1946 to 2007. These documents cover four domains of government action: legislative deliberations, the policy address delivered by the governor (pre-1997) and the chief executive (post-1997), the budget speech delivered by the financial secretary, and annual budgetary estimates proposed by policy bureaus and departments. The records of legislative debates were recovered from the *Hansard*, which is publicly available through the legislature's Web site (http://www.legco .gov.hk/english/). The policy address and the budget speech are annual policy statements in which the policy goals of the government are outlined and the corresponding fiscal arrangements are laid before the legislature for approval. Finally, the budget estimates are proposed by various government bureaus and departments and reviewed and finalized by the financial secretary. These data are available from annual reports and press releases. Table 2 provides a description of the data set.

The four data streams are meaningfully related to each other in function and order. The administration proposes policy programs in the policy address, which is followed by the fiscal details outlined in the budget speech. Legislative deliberations serve to examine and revise policy proposals by the executive branch. The budget estimates are drafted by the respective government bureaus upon legislative approval of the overall budget. These domains roughly correspond to the policymaking stages of input, process, and output. Issues and ideas are elaborated and debated in the legislative chamber; the government then responds to the legislative concerns by aligning its goals accordingly. Budget estimates are then generated by agencies tasked with the implementation of these policy goals. Substantively speaking, these streams can be aggregated to address questions about broad trends in attention allocation, although

TABLE 2
Data Description

Data Subset	Years	Number of Active Topics	Dropouts (% of All Observations)
Legislative sittings	1946–2007	29	556 (30)
Policy address	1946–2007	28	861 (46)
Budget speech	1946–2007	28	1,030 (55)
Budget estimates	1947–2007	25	213 (11)
Pooled (preelection)	1947–1985		2,232 (47)
Pooled (postelection)	1986–2007		1,043 (40)

Note: "Legislative sittings" tracks the agendas of LegCo meetings. "Policy address" and "budget speech" are policy statements delivered by the governor/chief executive and the financial secretary, respectively. "Budget estimates" are agency expenditures. The data set is then temporally subsetted by the first legislative elections in 1985. Topics are inactive if there is no attention allocated throughout the entire period. "Dropouts" are total numbers of years where no attention is allocated to an active topic.

each domain can also be examined separately to align with other comparative studies focusing on one specific stream of government action, such as government expenditure (Jones et al. 2009).

Policy Coding

The topic codebook was adopted from the Policy Agendas Project (the most updated version is available from http://www.policyagendas.org). Most of the original topics are applicable to Hong Kong, but some changes were made to avoid entry misclassification and to align with the local policy history (see the Appendix for details). First, the topics on "Energy and Power" (8), "Science, Technology, and Communications" (17), and "District Administration, Municipal Affairs, and Community Relations" (24) were renamed because some aspects in these areas are only prominent in the U.S. context. We also added "Constitutional Affairs and Relationship with Sovereign" (32), "Internal Security, Immigration, and Corruption Issues" (33), and "Postwar Resettlement and Reconstruction" (34) to reflect the unique aspects of the administrative and policy history of Hong Kong. Entries of government policy and agenda activities were sorted into one of 30 topics and 255 subtopics.

The entries come in different units depending on the domain. In the legislature, lawmakers debate motions, bills, and ordinances. Recorded in the *Hansard*, these debates are itemized in meeting agendas. Policy statements in the policy address and the budget speech are similarly itemized point by point; the governor (or the chief executive after 1997) and the financial secretary declare the policy and budgetary priorities annually, focusing on issues that are most relevant for the current legislative and fiscal year. Finally, the budgetary estimates are reported as program allocations. The raw values—a mix of count values (LegCo debates, policy address, budget speech) and continuous values (budget estimates)—are then converted into percentages and growth rates, with equations detailed in the next section.

We followed the protocol in the original Policy Agendas Project (Baumgartner and Jones 1991) to ensure high intercoder agreement. Coding was conducted manually by a team of graduate students from the University of Hong Kong under the supervision of two senior research officers who had had doctoral training in politics and public administration as well as practical experience as former/current civil servants. The coders first received training practice with instructions from the supervisors in person and afterward were provided with written instructions and examples. Cases of conflicted coding were handled by the project leaders.

Measuring Change in Attention Allocation

The four data streams are transformed to a "change score" using the same equation. We follow the common measure defined as

$$p_{it} = 100 \cdot \left(\frac{x_{it} - x_{it-1}}{x_{it-1}} \right)$$

where x_{it} and x_{it-1} are measures of the attention allocated to policy topic i at time t and $t-1$, respectively. All statistical estimates are computed from the product, p_{it}, of this equation rather than the raw quantities in the original observations, so that items originally measured in different units now become commensurate. Note that the measure is a "percentage–percentage" value, where x_{it} and x_{it-1} are the proportions to

the aggregate values $\sum x_{it}$ and $\sum x_{it-1}$ for all policy categories, respectively. The percentage–percentage method reflects the assumption of fixed aggregate attention resources across time. Relaxing this assumption with the "percentage–count values is known to produce similar estimates of institutional friction.

An alternative measure of attention change is the growth rate,

$$r_{it} = \ln\left(\frac{x_t}{x_{t-1}}\right)$$

which is robust against inflation of the kurtosis values due to a few very large values. We report estimates using the growth rate as conservative alternatives to the standard statistics of non-Gaussian distributions.

We provide an exception for cases where $x_{it-1} = x = 0$ (i.e., no attention allocated in consecutive years) because, if applied indiscriminately, the original equations will return indeterminate values and thus underestimate the level of overall punctuation. The algorithm is adjusted accordingly so that p_{it} and r_{it} are assigned the value of 0 in those instances.

Kurtosis as a Measure of Punctuation

If government attention allocation followed environmental change efficiently, we would find that the attention shifts aggregate to the normal distribution. In the presence of institutional friction, the shifts should instead converge to a leptokurtic distribution characterized by a superfluity of very small changes and a few abrupt shifts of dramatic proportions. The punctuated equilibrium theory contends that government attention change has a leptokurtic distribution. Such a distribution deviates from the Gaussian distribution predicted by both the theories of agenda incrementalism and of rational decision making and can be estimated using high-order moment statistics (Breunig and Jones 2011). The moment r is defined as

$$L_r = \frac{1}{r}\sum_{j=0}^{r-1} -1^j \binom{r-1}{j} E(X_{r-j:r})$$

where r is the moment, $F(X)$ is a distribution function of the random variable X and $X_{1:n} < X_{2:n} < X_{3:n} < \ldots < X_{n:n}$. While the traditional kurtosis measures may suffer from oversensitivity to outliers (Baumgartner et al. 2009), we report the normalized L-moment estimate $\tau_4 = \dfrac{L_4(F)}{L_2(F)}$ to increase robustness (Breunig and Jones 2011; Hosking 1992). We also report the standard moment estimate as they are better known. The leptokurtic distribution has an L-kurtosis value above 0.123 and a kurtosis value above 3, whereas they are approximately 0.123 and 3 under the normal distribution, respectively. We follow the example of Breunig and Jones (2011) and include only the L-moment τ_4 estimates of the growth rate. It is important, however, to note that growth rate may not be as accurate due to frequent issue "dropouts."

Finally, the kurtosis value estimates presented in the analysis are drawn from different subsets of data by period and domain depending on analytical focus. It would be impossible to pool the empirical observations in the original form for the detection of broad trends arising across domains because they come in a mix of count and continuous values specific to the nature of attention in the policy domains. With the transformation from absolute values to percentages, such aggregated estimates become

both mathematically possible and theoretically meaningful. Previous studies combine estimates from across states (Breunig and Koski 2006), local governments (Jones et al. 2009), and policy stages (Baumgartner et al. 2009) to analyze trends that cut across structural boundaries.

Findings

General Institutional Friction

The kurtosis estimates indicate high levels of institutional friction; arising, as Figure 1 shows, from the severe disproportionality in the pattern of change compared to the theoretical Gaussian distributions of equivalent mean and variance. For percent change, the kurtosis value is 20.341 and the L-kurtosis is 0.382. For growth rate, the L-kurtosis is 0.184. This means that even if we use the most conservative measure, kurtosis is still present after removing extreme observations. This finding conforms to thepunctuated equilibrium thesis that the pattern is universal even when applied to authoritarian regimes that, compared to their democratic counterparts, face a less politically mobilized public, fewer institutional hurdles for change due to centralization, and the lack of citizen participation and empowerment. Since the punctuated equilibrium thesis ulti-mately attributes the "slip-stick" dynamics in government actions to human cognition, this finding conforms to the expectation that both democratic and authoritarian govern-ments alike experience inefficiency in policy and agenda change.

Compared to the statistics from democratic countries in comparable time frames, the Hong Kong data reflect more extreme forms of stasis and volatility. In the domain of budgetary allocation, the L-kurtosis estimate (LK) is 0.70 for Hong Kong, which is substantially higher than the appropriations (LK = 0.49) and outlays (LK = 0.43) of the Danish government (1964–2004), the annual outlays (LK = 0.54) and budget authority (LK = 0.48) of the U.S. federal budget (1800–1987 for outlays and 1948–2004 for budget authority), the annual budget changes (LK = 0.42) of the German national government (1963–1989), the central government budget (LK = 0.37) of the United Kingdom (1963–1989), and the national budget series (LK = 0.57, or LK = 0.493 excluding the war years) of France (1820–2002) (figures drawn from Baumgartner, Foucault, and François 2006; Baumgartner et al. 2009; Breunig 2006; Jones et al. 2009). Budgetary changes in state governments in the United States have an overall average L-kurtosis of 0.402 (Breunig and Koski 2006), and the local governments in Denmark have a pooled L-kurtosis of 0.363 (Jones et al. 2009).

The contrast with the figures from other governments also applies to the other stages. Baumgartner et al. (2009) find that the U.S. equivalents to Hong Kong's "input" and "process" stages, including House and Senate bill introductions, executive orders, and statutes, have L-kurtosis values between 0.21 and 0.33. The Danish and Belgian figures similarly range from 0.26 to 0.35 and from 0.23 to 0.38, respectively. There is a considerable gap between these estimates and the Hong Kong figures at 0.42, 0.45, and 0.52 for the legislative deliberations, policy address, and budget speech, respectively.

Regime Configurations

Friction varies across institutional structures (Jones et al. 2009). As shown in Figure 2, Hong Kong's transformative experience from a colonial "administrative state" to a partly democratized system means that "epoch"-based estimates of attention punctua-tion can reveal the impact of regime configuration. Extant studies on the administrative history of Hong Kong identify several key moments of regime change since the Second

FIGURE 1
Density Plots for Agenda Change Measured in Percent Change and Growth Rate Compared to the Theoretical Gaussian Distribution with the Same Mean and Variance
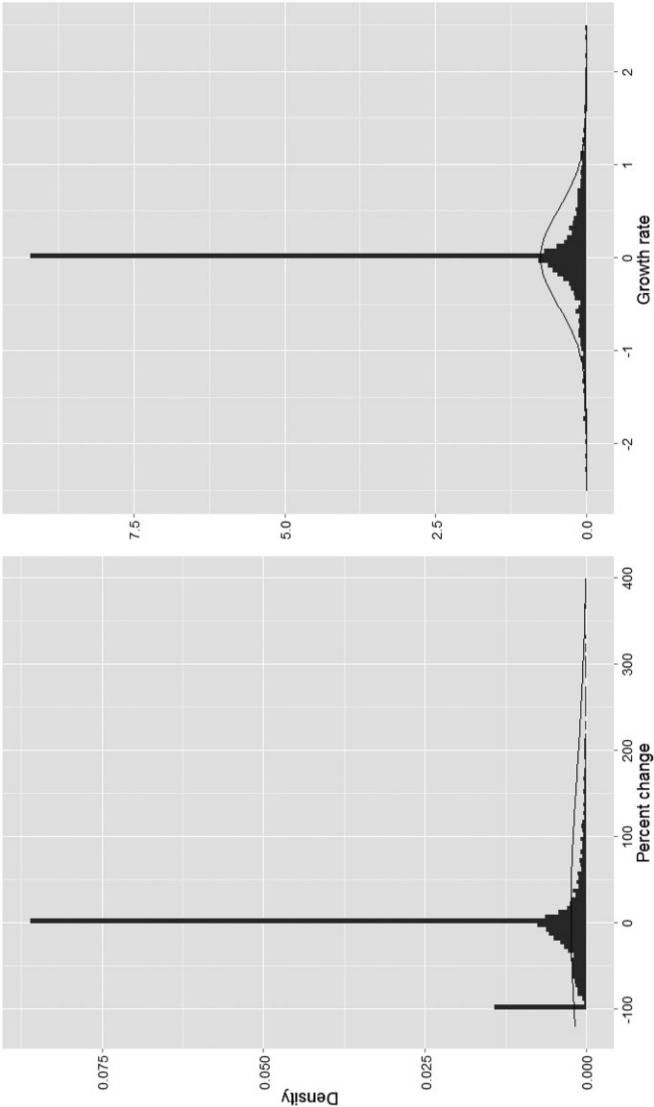
Note: The density curve is the normal distribution given the same mean and variance of the sample values. Both distributions have higher peaks and longer tails than the theoretical expectation. These features are indicative of the "slip-stick" dynamics reported in comparative studies of punctuated agenda change (Baumgartner et al. 2009).

FIGURE 2
Distribution of Percent Change and Growth Rate by Epoch
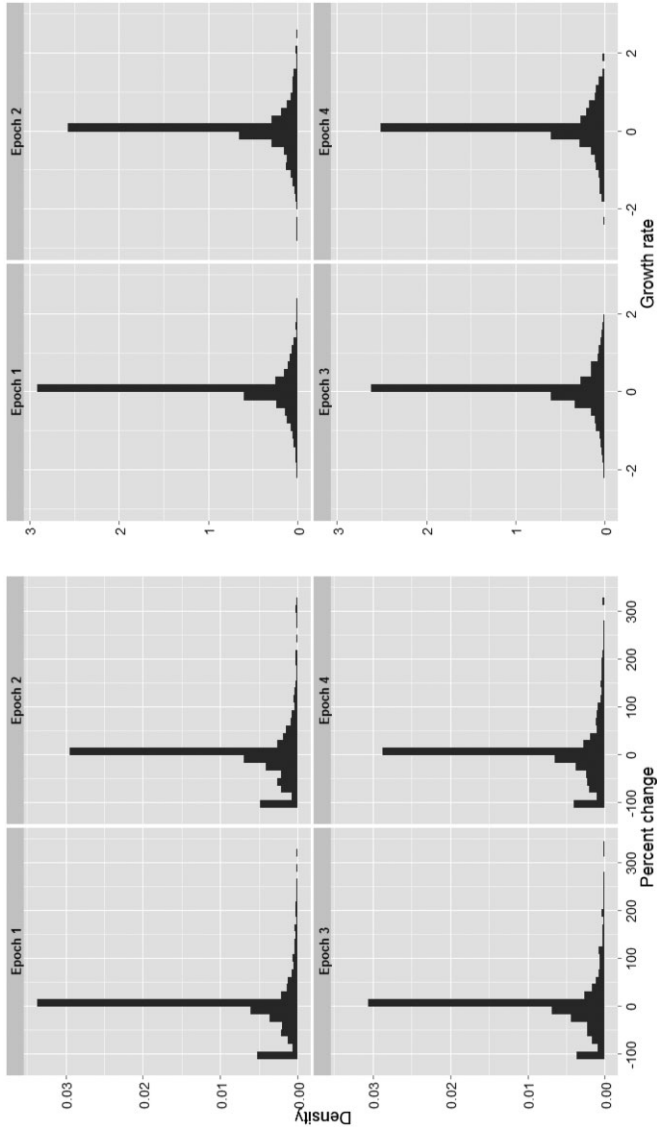
Note: Friction is highest (Epoch 1: 1946–1967) before the colonial government began to actively involve elites from the local community in policymaking and administration after the riots of 1967 (Epoch 2: 1968–1985). Friction was progressively reduced as the system became more democratized following the first legislative elections in 1985 (Epoch 3: 1986–1997) and the reforms before and after the handover in 1997 (Epoch 4: 1997–2007) to increase policy accountability and transparency.

TABLE 3
Kurtosis Values by Epoch

Measure	Estimate	1946–1967	1968–1984	1985–1997	1997–2007
Percent change	Kurtosis	24.902	21.864	18.937	13.176
	L-kurtosis	0.424	0.397	0.376	0.284
Growth rate	L-kurtosis	0.287	0.267	0.294	0.271

Note: Institutional friction declined against rising policy responsiveness following major political reforms. The MacLehose reforms following the Leftist riots in 1967 increased local representation in the policy process. The first legislative elections were held in 1985, shifting lawmaking power from ministers and appointees to elected officials. Finally, the post-handover government (after 1997) adopted further administrative changes that exposed bureaucratic processes to political conflict and public scrutiny.

World War. In Epoch 1 (1946–1967), the postwar government restored much of the prewar colonial constitution. While suggestions of extensive democratization were initially entertained in the late 1940s, the Grantham administration overruled these proposals in favor of "benevolent autocracy" in the interest of the continuation of British rule (Tsang 1988). In Epoch 2 (1968–1984), the MacLehose administration radically reformed the government's policy priorities in the aftermath of the 1967 leftist riots: New programs were adopted following extensive engagement with the business sector, the professions, and the community at large. However, these changes were strictly confined to "that part of the general machinery of government which provides services," while "the British Government's policy towards Hong Kong is that there shall be no fundamental constitutional changes for which there is, in any event, little or no popular pressure" (cited in Tsang 1988, 31).

In Epoch 3 (1985–1997), prehandover constitutional reforms brought democratic politics to the legislature, allowing interests from outside of the establishment to directly shape policy. Finally, Epoch 4 (1998–2007) saw the last wave of modernization of the civil service and the introduction of the Principal Official Accountability System in which political appointees, rather than career civil servants, head all major policy agencies. A new logic of administration now regulated the behavior of officials (Lam 2005), although their ability to respond to the public is limited by institutional maladaptation (Lee 1999). The four epochs can be considered as crude approximations of four regime configurations distinguishable by the abrupt removal of long-standing institutional foundations of authoritarian rule (Miners 1995; Scott 2000).

The kurtosis estimates, reported in Table 3, show just how the transition toward greater democracy heralded a system-wide decrease in institutional friction as suggested by Hypothesis 1. Attention allocation in the more authoritarian periods is characterized by prolonged stasis interspersed by extreme punctuations. If the colonial style of administration emphasized risk aversion, stability, and tradition, short-term policy adaptations calculated to dissipate public discontent characterized the politics in the postreform eras. Rather than allowing pressures to develop, officials frequently revised policy priorities as new demands were made known through citizen participation and popular elections. In sum, the fall in the scale of punctuations and the rise of medium-sized adjustment meant that the political system became more responsive in the short term and was also less likely to experience dramatic shifts in policy priorities in the long term.

The Policy Stages

Consistent with the punctuated equilibrium thesis and the empirical findings reported in the literature (Baumgartner et al. 2009), we detected variation in institutional friction

across "stages" of the policy process (Hypothesis 2). The thesis of "progressive institutional friction" contends that institutional costs are "higher in the parts of the policy process that require coordination among multiple actors or heavy bureaucratic procedures to be followed" (Baumgartner et al. 2009, 609). Input stages experience less punctuation relative to the output stages because external forces have more direct influence on attention allocation. As policymaking nears the output stage, participation restricted to experts and professional administrators insulates the process from most external sources of perturbation and instability.

Figure 3 and Table 4 show that friction in attention allocation indeed grows progressively as policymaking becomes increasingly removed from the external environment. These findings are in agreement with the original contention that transaction costs and bureaucratic red tape contribute to punctuated allocation. At the input stage, both LegCo debates and the policy address responded more immediately to changes in the society. As representatives of a wide range of interests, LegCo members were motivated to compete for agenda space and signal their preferences (Chung 2001). Similarly, the high visibility of the policy address gave the governor an incentive to comment on current issues and concerns; major policy changes often were first confirmed or announced here (Mok 2005). Higher responsiveness explains the smoother pattern of attention allocation in the input stage.

While fewer actors were involved in the process stage, the preparation and delivery of the budget speech was thought to be tightly controlled (Miners 1995). However, the financial secretary had to work out the budget speech based on the requests submitted by individual agencies and to follow a set of regulations and conventions requiring the exercise of fiscal conservatism (Rabushka 1976). Because of the procedural restrictions on the financial secretary's freedom in redistributing attention to emerging issues and problems, the pattern of change became more punctuated in the process stage in comparison to attention allocation in the input stages.

As actors multiply, change becomes easily hampered by the sheer cost of coordination and mobilization, that is, higher decision and transaction costs (Jones, Sulkin, and Larsen 2003). At the output stage, budgeting appears to experience the most extreme punctuation because of this reason. Budget estimates were pooled from the submissions by various parties within the government, including government agencies, departments, policy committees, and advisory boards (Miners 1995). Fiscal decision making was therefore constrained by institutional entrenchment most of the time, and the culture of fiscal conservatism only exacerbated the avoidance of drastic changes (Goodstadt 2005).

Issue Dropouts

Accordingly to Hypothesis 3, some issues are expected to fall from the agenda frequently due to the absence of active policy representation. Since Hong Kong does not share the same tradition of policy advocacy prevalent in established democracies, there is insufficient support for nonessential policy issues to stay on the government agenda. Colonial co-optation of the local elite favored the confinement of conflict to competitive politics (King 1975). Issues that do not critically affect social order and the economy were mostly dealt with inside policy subsystems. This practice resulted in issue "dropouts" when the main theaters of agenda setting only sporadically allocated attention to such issues while ignoring them for relatively long intervals. The descriptive statistics in Table 2 show that attention leaves from policy issues entirely at varying frequencies across the four policy domains.

FIGURE 3
The Distribution of Percent Change and Growth Rate across Government Domains
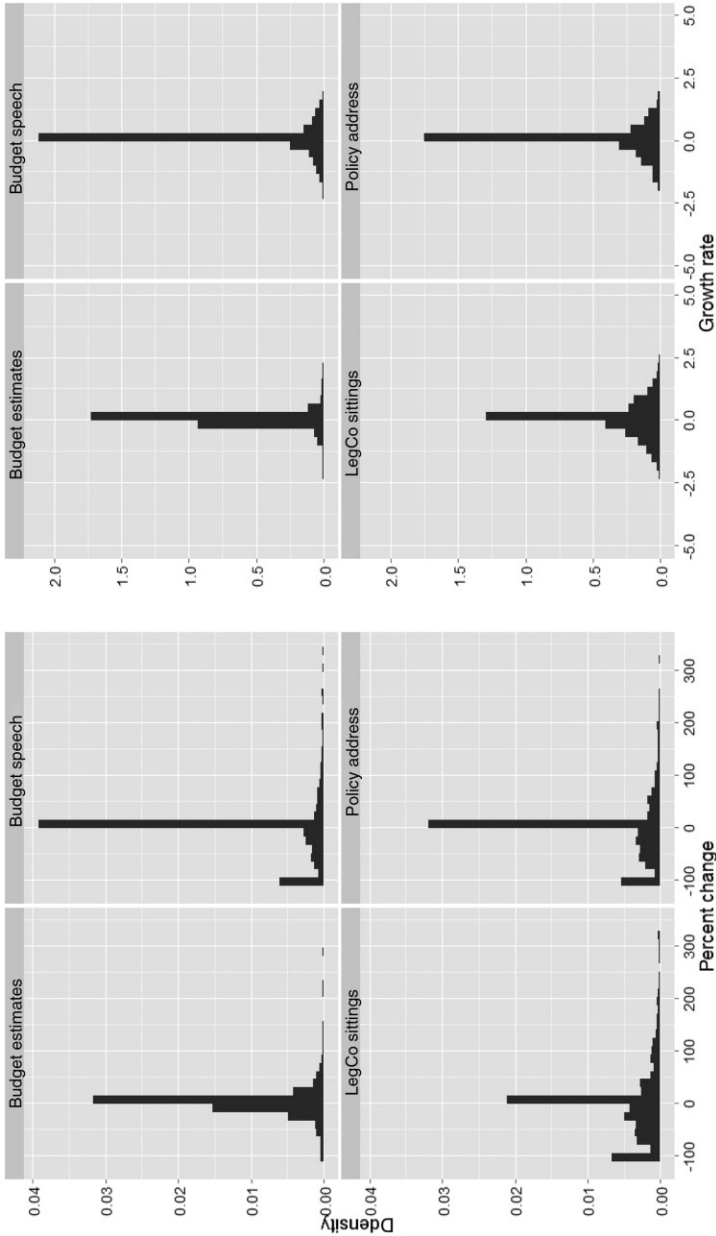
Note: Budget estimation experiences substantially more friction than the other stages of policymaking.

TABLE 4
Kurtosis Estimates by Policy Stages, All Years

Measure	Stage	Domain	*L*-Kurtosis
Percent change	Input	LegCo sittings	0.423
		Policy address	0.446
	Process	Budget speech	0.524
	Output	Budget estimates	0.695
Growth rate	Input	LegCo sittings	0.319
		Policy address	0.440
	Process	Budget speech	0.594
	Output	Budget estimates	0.520

Note: The budgetary streams, including budget speech and budget estimates, are the most punctuated. The estimates for the input and process stages are also substantially higher than the figures reported from other countries.

The statistics reported in Table 2 further reveal that dropouts occur at a much lower frequency in the budgetary estimates. As seen in Figure 4, issue dropouts are especially severe in the policy address and budget speech. With underdeveloped interest representation, officials can completely put aside policy issues once the debate within the political process is over. Issue dropouts signify that the advocacy effort is either discontinued or contained once government attention goes elsewhere. The incentive to include more issues on the policy agendas in democratic governments is more pronounced because of electoral pressures and civic assertiveness, which explains why there is no report of extensive issue dropouts in other cases focusing on comparable policy stages (e.g., Jennings and John 2009).

The decline in the number of dropouts in the posthandover period suggests that widened representation of minority constituencies through contentious and electoral politics helped sustain more issues on the policy agendas (see the pre- and posthandover comparison in Table 2). Issue dropouts are further exacerbated by the scale of the Hong Kong government as a local administration. As a local government, the overall demand for and interest in nonessential issues is insufficient to engage a sizable policy public, advocates, and officials to keep many issues on government agendas. Local governments are insufficiently modular to accommodate opposing groups in independent venues (Pralle 2006).

Discussion

The case study of the instability in attention allocation in Hong Kong has important theoretical implications. First, it shows that the punctuated equilibrium thesis is applicable to political systems divorced from the institutional and cultural traditions of the Western democracies. Regime configuration appears to influence policy processing in a counterintuitive way—the lack of democratic institutions commonly associated with friction actually lowers responsiveness and contributes to more volatile shifts after extended periods of stasis, that is, greater policy punctuation and instability. The findings collectively raise the theoretical relevance of government information processing theory by characterizing authoritarian politics in terms of policy attention dynamics. Structured to maximize power concentration, hierarchical control, and strong internal unity, authoritarian regimes actually produce higher levels of punctuation.

FIGURE 4
Attention Allocated to Education, Housing, Law, and Science
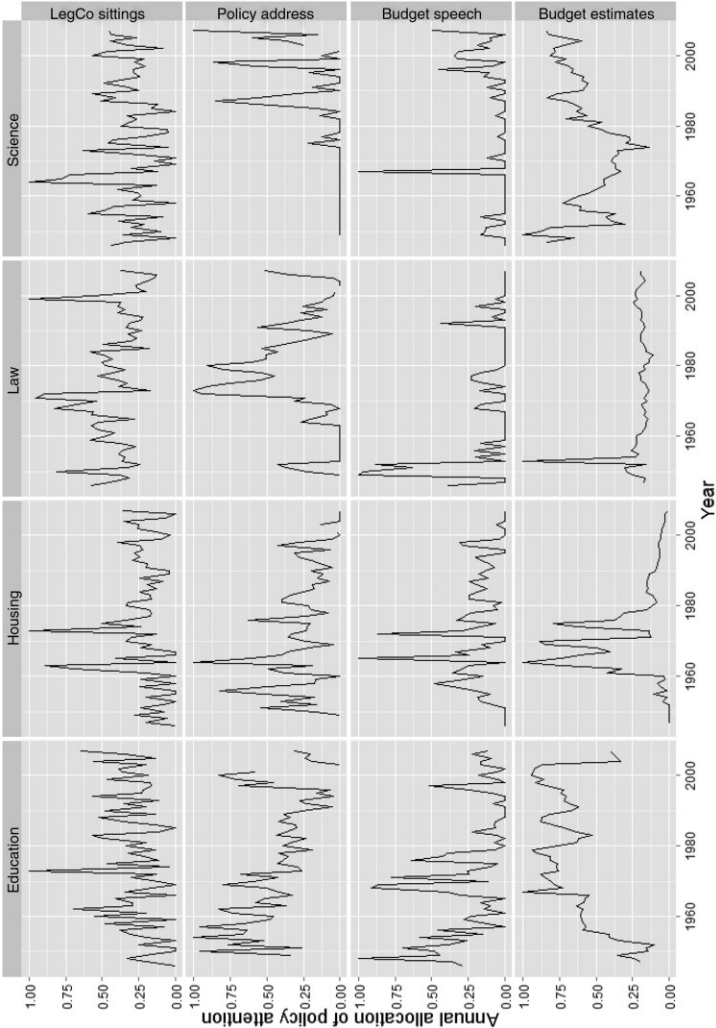
Note: Issues drop out from the policy agenda from time to time in the Hong Kong data. Dropouts are particularly pronounced in the policy address and budget speech streams. To aid visualization, the measure of attention here is normalized by the share of attention each topic received annually against series maxima.

Second, there is no organized representation in authoritarian regimes to challenge current policy and bring failures into view. A compliant, co-opted political elite would not challenge the policy consensus, while potential skeptics are deprived of the necessary institutional access and resources to run an effective advocacy. If democratic governments are prevented from making proportionate changes by internal conflicts and "holdouts" by veto players, authoritarian governments are even less capable of incrementalism precisely because such conflicts are actively suppressed.

Third, political competition sustains attention across issues. Actors debate about issues and seek to maintain some level of visibility in the process at all times (Kingdon 2002). In authoritarian governments, policy actors do not even "talk about" issues if they are judged to be irrelevant to the current agenda. The lack of competition and confrontation in government processes represents an even more potent negative feedback mechanism than information costs in liberal democracies. The direct implication is that the issue dropouts offer an alternative characterization of policy instability in authoritarian regimes.

Conclusion

The analysis suggests that policy punctuation emerges from very complex interactions between institutions and cognitive biases, so that centralization appears to generate more rather than less punctuation in authoritarian regimes. Future research should seek to explore these hypothetical propositions in order to move toward a better understanding of the punctuation in government attention allocation as an emergent, multilevel process emerging from micro-level behaviors and to find out whether that process changes structurally with specific institutional conditions.

This article also shows how the comparative approach may advance the theory of information processing by introducing variance in factors that do not otherwise change across currently available cases. Hong Kong's criticality rests with its developmental history as a democratizing system as well as its separation from the democratic traditions and culture of the Western democracies. Sampling from authoritarian systems can provide stronger tests of external validity of punctuated equilibrium as the theory, itself named after a universal phenomenon across natural and social systems (Prindle 2012), deals with very fundamental conditions of politics rather than those unique to the democratic polity.

Furthermore, associating punctuated equilibrium with the broad questions of political institutions and democracy can increase the value of the theory of government information processing to the literature on political institutions (North, Wallis, and Weingast 2009). It adds to the scholarship on governance by highlighting how democracy, despite its apparent chaos and inefficiency, may in fact reduce policy punctuation and instability by sustaining frequent competition and challenges to the status quo. While it delays changes in the short run, the active suppression of opposition in authoritarian states may in fact sow the seeds for fewer but far more drastic moments of instability in the policy process.

Finally, while Hong Kong's administration and political organization under British rule exhibited critical features found in other authoritarian states, colonial paternalism is qualitatively different from contemporary one-party states: The Hong Kong elites enjoyed extensive autonomy under British rule (Rabushka 1976) and societal penetration by the state was minimal (Lau and Kuan 1988). These differences could lead to important departures in the detection and processing of information by government and, subsequently, the overall dynamics of attention allocation. Future research should

draw evidence from other regimes to examine the generalizability of the findings here to other contemporary forms of authoritarianism.

Acknowledgments

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Appendix

Policy Agendas Project (PAP) Codebook, Hong Kong 1946–2007

Topic	Number of Observations			
	LegCo Sittings	Policy Address	Budget Speech	Budget Estimates (mil$)
1. Macroeconomic	1,915	435	3,962	21,707
2. Civil rights, minority issues, and civil liberties	99	47	1	0
3. Health	945	305	86	261,320
4. Agriculture	90	28	6	20,438
5. Labor, employment, and immigration	871	263	86	17,314
6. Education	349	525	152	824,556
7. Environment	309	214	18	53,355
8. Energy and power[a]	67	21	51	2,010
10. Transport	1,289	241	263	123,652
12. Law, crime, and family issues	2,604	329	50	118,363
13. Social welfare	228	333	148	447,055
14. Community development and housing issues	265	272	188	28,736
15. Banking, finance, and domestic commerce	1,644	166	454	29,638
16. Defense	72	15	30	2,512
17. Science, technology, and communications[a]	306	64	53	36,342
18. Foreign trade	115	282	341	0
19. International affairs and foreign aid	63	25	2	5,205
20. Government operations	945	277	502	1,112,917
21. Public lands and water management	733	268	499	348,446
24. District administration, municipal affairs, and community relations[a]	279	109	17	97,734
26. Weather and natural disasters	7	9	1	0
27. Fires	68	8	4	66,462
28. Arts and entertainment	77	47	11	37,625
29. Sports and entertainment	68	46	11	969
30. Death notices	0	0	0	0
31. Churches and religion	93	0	0	0
32. Constitutional affairs and relationship with sovereign[b]	495	352	47	26,113
33. Internal security, immigration, and corruption issues[b]	821	197	7	465,691
34. Postwar resettlement and reconstruction[b]	150	47	30	19,351
99. Other, miscellaneous, and human interest	471	1	4	890,385

Note: Editions based on the 2009 version of the PAP codebook. Legislative Council (LegCo) sittings, policy address, and budget speech are listed in count values, and the budget estimates are sums of inflation-adjusted values in million dollars (HKD).
[a]Topics 8, 17, and 24 are renamed from "Energy," "Space, Science, Technology, and Communications," and "State and Local Government Administration" in the U.S. codebook.
[b]Topics 32, 33, and 34 are new.