University of Southampton

School of Economic, Social & Political Sciences

Politics and International Relations

Policy Agendas and Regime Liberalisation:

The Case of Hong Kong 1975-2016

by

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Thesis for the degree of
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Abstract

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This thesis considers how political liberalisation, as a dynamic process, affects policy processes in authoritarian regimes. Prior studies observed either the bargaining process or the information exchange process but not both. These studies consider them as two distinct and competing theoretical perspectives. First, the bargaining perspective asserts that the process of political liberalisation, with the introduction of more inclusive and competitive elections, increases the bargaining costs and make policymaking more difficult. Second, political liberalisation increases the social and political freedom and it enhances information exchange that facilitates policymaking. However, these two processes contradict with each other and create a theoretical puzzle that requires a systematic theoretical and empirical investigation.

Building on the punctuated equilibrium theory, this thesis offers a novel bargaining/information exchange hybrid theoretical model to explain policy processes during a period of political liberalisation. Rather than treating the two

perspectives as competing explanations, this thesis integrates them by recognising the duality of the electoral system—it is a source of political bargaining as well as a source of information exchange. The liberalisation of the electoral system increases the likelihood of transforming the authoritarian regime from a one-party or one-party-dominant system to a multiparty system. An increased number of political parties in the policy processes intensifies the bargaining process but also increases the information exchange. As such, the changes in bargaining and information exchange processes happen simultaneously as regimes liberalise. The hybrid model contributes to advancement in the field with this refined way of thinking about policymaking during a period of political liberalisation. It captures the complexity and non-linearity of the social and political world.

Using a novel and original time-series dataset of legislative bills of the Hong Kong Legislative Council, the analysis adopts the policy content coding system of the Comparative Agendas Project (CAP) to measure legislative attention from 1975 to 2016. Policy processes are measured by legislative speed (i.e., the duration of the legislative process), distribution of policy change (i.e., changes in policy contents in the legislative bills) and issue diversity of the policy agenda (i.e., the concentration of policymakers' attention across different policy issues). Political liberalisation is measured by the degree of inclusive and competitive elections, while the number of political parties is measured by the effective number of political parties. This thesis uses stochastic process methods to measure distributions of policy change, determining whether policymaking is characterised by a pattern of mostly stable and occasional periods of rapid and radical policy change. Further, it uses time-series analysis and event history analysis to estimate the impact of the number of political parties on policy processes.

This thesis has a number of important findings. First, an increase in the number of political parties brings in more information and greater bargaining costs.

This effectively slows down the legislative process. Second, it finds that the distribution of policy change is punctuated—characterised by long periods of stasis but also a more frequent occurrence of radical changes—rather than incremental change in Hong Kong's legislative agenda and it confirms the expectation of the punctuated equilibrium theory. However, as the regime liberalises, the distribution of policy change becomes less punctuated, meaning that there are more frequent and moderate policy adjustments. It suggests that a greater number of political parties facilitates policy change and can be explained by the information model. However, comparing Hong Kong's distribution of policy change with other advanced democracies provides support for the bargaining model. These puzzling findings show a more inclusive bargaining/information exchange hybrid model is needed to explain policymaking in countries with different degrees of political liberalisation. Third, the study of issue diversity of the policy agenda shows an "inverted-U" curve as the number of political parties increases. It implies that autocrats pay more attention to a wider range of policy topics when the number of political parties increases from a low level whereas the attention to different policy topics shrinks when the number of political parties escalates to an extremely high number. The empirical evidence provides unambiguous support for the bargaining/information exchange hybrid model.

Overall, this thesis builds on the punctuated equilibrium theory by offering a novel bargaining/information exchange hybrid model to understand policymaking and tests it systematically with new empirical evidence. It contributes to the understanding of policymaking in authoritarian regimes. It also provides an important insight into the duality of political and other social processes in comparative politics.

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Declaration of Authorship

Print name: **Nick Hin-Kin Or**

Title of thesis:
Policy Agendas and Regime Liberalisation: The case of Hong Kong 1975-2016

I declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research.
I confirm that:

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Chapter 1

Introduction

Public policy process matters, as it is at the heart of politics. It affects governments, businesses, citizens and societies and their interactions. There is a substantial field of research concerned with policymaking in advanced democracies (Baumgartner & Jones, 1993; Davis, Dempster, & Wildavsky, 1966; Etzioni, 1967; Lasswell, 1956; Lindblom, 1959; Sabatier, 1988; Simon, 1947; Stone, 1989; see Balla, Lodge, & Page, 2015 for a review) but we know little about policymaking in authoritarian regimes. Due to different institutional arrangements, recent advances in autocratic policymaking suggests that there is a distinct logic that cannot simply be explained by the theories developed in advanced democracies. However, we have not generated enough knowledge about policymaking in authoritarian regimes through systematic research. Svolik (2012) surveyed different types of political regimes worldwide between 1960 and 2008. He found that over half of the country-years are under authoritarian regimes. If public policy process matters, there is a need to address this relative lack of attention to the public policy process in authoritarian regimes. The goal of this thesis is to provide a refined way of thinking about policymaking in authoritarian regimes and test it systematically with new empirical data.

The study of public policy processes (or policy processes hereafter) can be

broadly defined as the procedures and rules of policymaking. These procedures and rules include a wide range of policymaking activities such as problem definition (how to understand a policy problem), agenda-setting (what policy issues to concern with), decision-making (how to choose a policy option out of many alternatives) as well as implementation (how a policy is designed and implemented). Policy processes are complex and are interrelated. Each of these policy processes affects one another and do not necessarily follow a linear sequence. How a problem is defined affects what policymakers and other political actors pay attention to. It subsequently affects and limits the policy options and how to implement it once an option is chosen.

The goal of the design of the policy processes is to construct efficient institutions to deal with overwhelming policy problems and challenges from the complex and uncertain environments. It is also known as *adaptive systems* that try to mitigate the limitation of individuals in policymaking and decision-making processes (Epp, 2017; Epp & Baumgartner, 2017; Fagan, Jones, & Wlezien, 2017; Jones & Baumgartner, 2005; Miller & Page, 2007). Individuals are boundedly rational[1] (Simon, 1947, 1957) and have limited cognitive capacity and attention (Jones, 2001). It means that individuals can neither have the complete information about their environments nor pay full attention to all policy issues. Meanwhile, because of limited cognitive capacity, policymakers suffer from information overload (Walgrave & Dejaeghere, 2017). Individuals thus have to decide and prioritise what issues to deal with and when to respond (Barabási, 2005). To mitigate these shortcomings, policymakers design and set up adaptive systems or institutions (such as specialising agencies to deal with specific issues) so that they can receive and process a larger amount of policy-relevant information and policy issues, and deal

[1]According to Simon (1956), individual is said to be bounded rational when they cannot deal with the complete and massive amount of policy-relevant information; and the only way to deal with it is to be *highly selective*.

with more policy problems and challenges. The setup of perfectly adaptive systems is unlikely in reality. Yet, how to design efficient policy processes to cope with the complex and uncertain environments remain an important question to our society.

Policy processes, as adaptive systems, are closely related to the political process. As such, the design of the political institutions affects the policy processes. For example, in democratic systems (such as the UK and the US), the public can exercise their influence on the policy processes by casting their votes. The behaviour of the policymakers is tied with the outcome of the elections. In this way, the public has some influences on the policy processes through elections. The policy contents are more likely to reflect what the public wants. In contrast, the public in authoritarian regimes (such as China and Malaysia) has limited influence on policymaking. The non-open, unequal and unfair elections do not allow the public to channel their voices effectively to the key policymakers. This illustrates that different arrangements in the political institutions have substantial impacts on the policy processes and policy contents. A policy is thus the outcome of the interactions between political institutions, political actors, events and the environments. It is a product of the struggles of politics. This thesis examines the effect of political systems on policy processes. As such, this study helps us understand the complex political processes within a political system and contribute to the scholarship of political science.

As we shall cover in greater details, there are two distinct but competing perspectives in the study of policy processes. The bargaining perspective has been a dominant theory to explain various policy and political processes. Recent studies in public policy have turned their eyes to the information perspective as another explanation for policy processes. However, the two perspectives have distinct mechanisms and also lead to different theoretical expectations for policy processes.

To understand autocratic policymaking, this thesis provides a refined way of

thinking about policymaking. Policymaking can be characterised as an interchanging process of political struggles and information exchanges. Whenever there is a political struggle, there is information exchange about policy issues. In turn, when political actors exchange information about policy issues, they would inevitably discover policy problems that lead to political struggles. In this thesis, I present an original dataset and fine-grained analyses to illuminate this process.

The next section will briefly present these two perspectives and highlight the theoretical puzzle. The aim of this thesis is to offer a novel way to solve this puzzle.

1.1 The theoretical puzzle

Politics is about who gets what, how and why (Lasswell, 1936). Policymaking is a political process and also a means to distribute resources and values within a society (Easton, 1957, 1965). The determination of the distribution of resources and values depends on the power dynamics of different stakeholders. The more powerful figures are likely to get what they want and less likely to get what they do not want (Bachrach & Baratz, 1962). The formulation of policies is thus a bargaining process. It involves the interaction of different political actors holding different power, interests and ideologies. The making of policy requires achieving an agreeable position among different stakeholders in the end.

The design of the political institutions fundamentally shapes and structures the bargaining process. More centralised political systems, for instance, have a greater control of the policy processes. More decentralised systems grant more policymaking power and autonomy to more individuals and governmental and non-governmental agencies, and thus it requires a greater effort to secure consensus among different stakeholders.

The bargaining perspective is deeply embedded in numerous important works

related to policy processes. For instance, incrementalism, one of the most widely applied theories in policy studies, is built on the bargaining perspective. Lindblom (1959), Wildavsky (1964) and Davis et al. (1966) develop incrementalism as a theory of policy change and explain that policy change is incremental (that is, small and gradual) under a pluralistic political system in the US. An important feature of the pluralistic political system is that powers are dispersed and interests are diverse (Dahl, 1982). These power and interests compete with each other in the policy processes. A radical change in policy is less likely because it is prone to be rejected in the negotiation process under a pluralistic political system. Instead, policymakers tend to take gradual, if not unnoticeable, steps in policy change to increase the likelihood of securing consensus among these competing interests.

Baumgartner and Jones's (1993, 2009; also Jones & Baumgartner, 2005) punctuated equilibrium theory aims to provide a more comprehensive theory of policy change. They notice that policy changes are mostly incremental but there are also occasional periods of large and radical changes. This pattern is a consequence of disproportionate information processing, suggesting that policymakers do not allocate attention to policy issues proportional to the strength of the signal (e.g., the severity or salience of the policy problems) (Padgett, 1980). Instead, because of limited cognitive capacity, policymakers have to prioritise their attention. They usually pay disproportionately far more attention to a few issues with the strength of the signals above a certain threshold, but ignore the rest of them that are under the threshold.

Jones & Baumgartner (2005) argue that "[p]olitical institutions impose costs on policy action" (2005, p. 147) and "do not allow for continuous adjustment to the environment" (2005, p. 148). These costs are labelled as *institutional friction* and can be the decision cost in collective action, information cost, transaction cost or cognitive cost. These costs make the political institutions become a less efficient

adaptive systems of the policy processes.

The results of the disproportionate information processing under the constraint of institutional friction is a long period of *stasis*—that is, without or small policy changes—but also some periods of *punctuations*—that is, massive policy adjustments—in policy change. Baumgartner & Jones (1993, also in 2009), drawing the concept from evolutionary biology, labelled these patterns of stases and punctuations as "punctuated equilibrium" (for visualisation, see figure 2.2) and has been widely studied and applied in different countries, contexts and political systems (Alexandrova, Carammia, & Timmermans, 2012; Baumgartner, Breunig, et al., 2009; Baumgartner et al., 2017, 2006a; Breunig & Koski, 2012; Breunig, Koski, & Mortensen, 2010; Chan & Zhao, 2016; Dowding, Hindmoor, Iles, & John, 2010; Epp, 2015; Epp & Baumgartner, 2017; Jensen, 2009; John & Bevan, 2012; John & Margetts, 2003; Lam & Chan, 2015; Sebők & Berki, 2018; Yoon, 2015).

Despite Jones & Baumgartner (2005; also in Baumgartner & Jones, 2015) also including information as an explanation of the policy processes, bargaining process is still an important and fundamental source of friction in the policy processes as demonstrated in a number of studies (Baumgartner et al., 2009a; Baumgartner, Brouard, Grossman, Lazardeux, & Moody, 2013; Breunig, 2006; Fagan et al., 2017; Walgrave & Varone, 2008). Breunig (2006), for instance, finds that a greater ideological distance between political parties in Germany and the United Kingdom leads to a greater degree of punctuations in the budgetary process. Fagan et al. (2017) find that more decentralised governments and a larger number of political parties lead to a greater degree of punctuation in budgets. Similarly, notable theories that explains policy outcomes such as the divided government and political gridlock (Edwards, Barrett, & Peake, 1997; Mayhew, 1991) and veto player theory (Congleton, 2004; Tsebelis, 2002) all assume bargaining process is at the heart of the policy processes.

A clear message from the above discussion is that the bargaining process limits policy change and it tends to result in a long period of stasis and occasional periods of punctuations in policy change. These theories and findings, however, draw from advanced democracies. It raises a question on whether the same bargaining perspective can be applied to understanding policy processes in non-democracies.

Compared to democracies, authoritarian regimes have more centralised political structure and less democratic elements and institutions. Most authoritarian regimes feature a single-party or single-party-dominant system. Autocrats experience less struggle of politics in policy processes. Authoritarian legislatures also have long been regarded as "rubber's stamps" or "parodies" (Blondel, 1973; Truex, 2014), meaning that these legislatures are willing to pass whatever legislation the autocrats put on the table.

Recent studies in authoritarian regimes focus on information perspective and assert that autocrat's main challenge in governance is the lack of complete and reliable policy-relevant information (Gao, 2016; Lorentzen, 2013; Malesky & Schuler, 2011; Pan & Chen, 2018; Truex, 2016). Similarly, recent studies in authoritarian regimes using the agenda-setting approach follow the same assumption. These studies argue and find that authoritarian regimes lack effective electoral and participative systems to monitor specific policy problems or changes in the information about the state of the world, and thus they are slower to initiate the policy processes and make change compared to those more democratic systems (Baumgartner et al., 2017; Chan & Zhao, 2016; Lam & Chan, 2015). An important mechanism driving these findings is the *information disadvantage* (Chan & Zhao, 2016). It asserts that authoritarian regimes have inferior access to policy-relevant information than the advanced democracies. Without knowing and identifying the policy problems (that is, the lack of policy attention), autocrats cannot respond to the policy issues and thus leave the problems unattended.

All of these unaddressed problems do not simply fade off and disappear. Some of these problems induce and accumulate grievances in the society as the issues remain unattended. Some problems burst out and the government has no choice but to resolve them with a major revision to the existing policy status quo. Chan & Zhao (2016) use the number of labour disputes per capita (that is, the occurrence of labour disputes after adjusted with the size of the population of each province) as a proxy of policy-relevant information that indicates the threat to regime survival. They then analyse how the number of labour disputes per capita correlates with the changes in government spending in 28 provinces in China. They found that in provinces with less occurrence of labour disputes, the changes in government spending are more punctuated, that is a longer period of stasis but also a more frequent occurrence of rapid and radical changes. The information disadvantage mechanism in authoritarian regimes results in a series of error accumulations and big corrections in policies, and thus researchers observe the patterns of a longer period of stasis and some incidents of punctuations in policy change.

It raises a question on whether the information perspective explains autocratic policymaking better than bargaining perspective in other countries. To verify this, Baumgartner et al. (2017) test Chan and Zhao's (2016) thesis by examining more transitioning regimes, namely, Brazil, Turkey, Malta and Russia. They set up *information advantage* hypothesis and a competing hypothesis called *institutional efficiency*. Information disadvantage and information advantage are the two sides of the same coin. They are the same mechanism but the two notions apply to different contexts. They both assert that autocrats are inferior in collecting and receiving policy-relevant information because of the design of the authoritarian institutions. Whereas, by setting up more democratic institutions, policymakers become more capable in collecting and receiving policy-relevant information and thus become more efficient adaptive systems of policy processes.

Institutional efficiency hypothesis, in contrast, builds on the assumption that autocracy faces less institutional constraints and an easier bargaining process. They have a lower threshold and can respond to tinier signals from the environments. As such, they make policies more efficiently and adaptively when compared to democracies. Baumgartner et al. (2017) find support to the information advantage hypothesis rather than the institutional efficiency hypothesis. It means that more democratic systems enjoy greater information advantage through the electoral and participatory arrangements in the political design and receive more policy-relevant information from the environment than autocracies.

The original notion of institutional friction is developed for advanced democracies. With a centralised and top-down policymaking structure, and the absence of competitive electoral politics, information disadvantage is developed as an alternative explanation to the bargaining component of the institutional friction (Chan & Zhao, 2016). It is a unique feature of policymaking in authoritarian regimes and is a simple yet powerful mechanism to explain why researchers observe a longer period of stasis and more occurrence of punctuations in policy change in authoritarian regimes than in advanced democracies.

In brief, according to the bargaining perspective, the setup of more democratised and decentralised institutions increase the bargaining costs. Additional costs imposed on institutions lift up the threshold of information processing. As such, policymakers become less responsive and adaptive to incoming signals from the environments. However, according to the information perspective, the setup of more democratised and decentralised institutions enhance information exposure and exchange. It reduces the information costs imposed on institutions and lifts up the threshold of information processing. Policymakers thus become more responsive and efficient in adapting incoming signals from the environments.

The rise of information exchange perspective challenges the validity of

bargaining perspective in explaining policymaking in authoritarian regimes. It raises a theoretical puzzle that challenges our conventional understanding of policy processes. The next section discusses a refined way of thinking to address and resolve this theoretical tension.

1.2 The need for a hybrid model

Researchers in agenda-setting treat the bargaining and information exchange processes as two distinct processes. As discussed, Baumgartner et al. (2017) set up competing hypotheses from these two perspectives with data from multiple countries, and found evidence to support the information perspective rather than bargaining perspective (2017, p. 801). However, if one treats these two perspectives as mutually exclusive, it is tempting to accept one but reject the other. This research design sets out an expectation that the two perspectives are mutually exclusive. As Dowding and Martin mention, "[w]hen we have a theory of the policy process... we tend to look for confirming evidence and downplay other forces." (Dowding & Martin, 2016, p. 16). This is risky in theory development because it is prone to confirmation bias.

To resolve the theoretical tension, it is important to recognise the role of bargaining process in autocratic policymaking. There are, indeed, theoretical and empirical reasons to believe bargaining process is effectively at work in authoritarian regimes along with the information exchange process. Researchers of democratic regimes have indeed accumulated a wealth of knowledge telling us that policymaking, as a political process, is a bargaining process (e.g., Lasswell, 1956; Fagan et al., 2017; Tsebelis, 2002). A clear implication is that the setup of more democratised and decentralised systems constrain policymaking more. Although we find new evidence to support the information perspective on policy change in

authoritarian regimes, the bargaining perspective is not necessarily wrong in this context. The research design dictates a big part of the theoretical expectation.

In fact, researchers in authoritarian regimes and institutions have found that the bargaining process also takes place in autocratic policymaking. Proponents of selectorate theory assert that autocrats only have to negotiate with a small number of powerful elites (Bueno de Mesquita, Smith, Siverson, & Morrow, 2003; for an overview of the theoretical development and its critique, see Gallagher & Hanson, 2015). These powerful elites have relatively homogenous interests but autocrats still have to deal with differences within these powerful elites (Zimmerman, 2014). In a way, autocrats resolve conflicts with powerful elites by showing their credible commitment to the ruling elites. They set up institutions that facilitate the sharing of power and political appointments (Gandhi, 2008; Magaloni, 2008; Svolik, 2012). In exchange, autocrats want the credible commitment and loyalty from these powerful elites, so that they can ensure the stability and survival of their political power.

Thus, the bargaining process is an important feature of authoritarian politics, just like its prominent role in democratic politics. The setup of the authoritarian legislature is to maintain the regime survival by creating a venue for policy discussion (He & Warren, 2011; Truex, 2017) and policy concessions between the autocrats and the ruling elites (and political opposition in some cases) (Boix & Svolik, 2013; Gandhi & Przeworski, 2006; Svolik, 2012). It creates an authoritarian version of "checks and balances" like in the context of democracies so that the ruling elites (and political opposition) can trust and therefore comply with the autocrats. If the logic of setting up more democratised and decentralised institutions is known for the "checks and balances", it is surprising to see bargaining perspectives do not explain the policy processes when the political institutions become more democratised.

To resolve this theoretical tension, we need a novel and refined perspective. Instead of treating the bargaining and information perspectives as mutually exclusive, this thesis merges them into a bargaining/information hybrid theory of the policy processes. I argue that both bargaining and information exchange processes are effectively at work but at different magnitudes during a process of political liberalisation, which can be understood as more inclusive and competitive elections (Coppedge, Alvarez, & Maldonado, 2008; Dahl, 1973). The setup of *electoral systems*, as the participatory systems, provides the policy processes with a venue of bargaining as it is where the struggle of politics happens. The setup of electoral systems, as the monitoring systems, is also a source of information, where the public and their representative express their views and exchange information. It means that the electoral systems possess the duality of bargaining and information exchange. In brief, this thesis proposes the two distinct mechanisms—bargaining and information exchange—originated from a single source—electoral systems—that explain the policy processes.

Different political regimes have different electoral systems. On one end, authoritarian regimes have a very low level of political inclusiveness and competitiveness in the electoral systems out of all possible political regimes we know in human history[2]. The electoral systems have a very limited influence. The political structure is centralised. The political leaders tightly hold the most power. The policy processes are usually top-down and the will of the political leaders have a strong influence on the policy outcomes. Repression of political opposition could exist. The public and the media have limited opportunity to express their view on policy affairs. Thus, the level of political inclusion and competition in authoritarian regimes is low.

On the other end, democracies represent systems with a very high level of

[2]I include dictatorship as a form of authoritarian regimes

political inclusiveness and competitiveness out of all possible political regimes the human being has experimented so far. Electoral systems are central to the democratic politics and the expression of public preferences. The political structure is far more decentralised when compared to authoritarian regimes. The political leaders are elected by elections and are accountable to the public. They are powerful but they are also constrained by the democratic institutions under the monitoring of the public, their representatives and the media. The wisdom of the crowds has an important role for policymaking (Epp, 2017). In this way, the policy process is more bottom-up. The public has more freedom to express their view on policy affairs and there is usually an institutionalised channel to direct these voices into the policy processes. As such, the level of political inclusion and competition in democracies is high.

Obviously, this is a simplified view of how different political regimes have different levels of political inclusion and competition. If autocrats totally isolated themselves from the public preferences in their policy formulation, the public would become discontented. The accumulation of discontent could cause major political unrests, and it creates threats to regime survival. With this goal in mind, successful and intelligent autocrats try to maintain *political representation within bounds* (Truex, 2016). It means that autocrats could maintain a good level of political representation to some politically non-sensitive policy issues and problems such as the welfare and economic developments. They allow the public to comment on policy issues by petition (Distelhorst & Hou, 2017) and to some degree they also listen to the demands of the protestors (Lee & Zhang, 2013). In contrast, they deny the escalation of politically sensitive issues such as the sovereignty issues, political scandals and potential large-scale political unrests (King, Pan, & Roberts, 2013; Roberts, 2018). Besides, autocrats use elections to gain information about their public support, the performance and popularity of the lower rank officials and the

capacity of the political opposition (Malesky & Schuler, 2011). In some situations, autocrats also listen and respond, and maintain some degree of political inclusion and competitiveness in their policymaking and electoral systems.

This thesis argues that policy processes can be characterised as the interchanging process of bargaining and information exchange. The magnitudes of the bargaining effect and information effect on policy processes vary in different electoral systems. A less inclusive and competitive electoral system (with other factors such as social cleavages and information processing capacity of the political institutions being equal) would have a lower level of bargaining costs and information exchange. In this system, policymakers are not accountable to the electoral and/or legislative arenas. They do not have to deal with the disagreements in the legislative arena in order to pass and implement their policies. It also means that the policymakers do not receive policy-relevant information from electoral and/or legislative arena, but have to use its own machinery to dig into the policy problems from the environments.

In contrast, a more inclusive and competitive electoral system (with other factors being equal) would have a higher level of bargaining costs and information exchange. Policymakers are accountable to the electoral and/or legislative arenas. Because of more electoral incentives, they have to carefully accommodate the view of their electorates in their policies and agendas. The electoral and/or legislative arenas would represent more diverse constituent interests and thus policymakers are required to make a greater effort to secure consensus and support for their policies among the stakeholders. It also means that they can gain policy-relevant information from this bargaining and negotiation process (e.g., what the members of different constituencies want or are unhappy about).

Electoral rules define who can participate in the elections and vote, and also determine who cannot. Besides, they have an important implication for the electoral

outcomes. Maurice Duverger's (1964) influential work on political parties (also known as the Duverger's Law) asserts that the design of the electoral systems determines the number of political parties in the party systems. The number of political parties does not simply reflect the "mechanical" component of the electoral design (that is, the rules of the elections) but also the strategic actions of the voters (the "psychological" component in Duverger's term). For example, voters in plurality voting tend to over-represent the large parties and under-represent the small parties. It thus results in a smaller number of political parties and leads to a stronger party system. Voters in proportional representation (PR) system, however, favours smaller parties and thus increases the total number of political parties, results in a weaker party system. Prior studies also find that the number of political parties increases as the social cleavages of the society grow and deepen (Clark & Golder, 2006; Cox, 1997). The number of political parties in the legislature does not simply reflect the effect of the electoral design, but also represents what the voters want and the redistribution of the political power. From the information-processing perspective, the number of political parties determined by the electoral systems informs the policymakers what should be included in the policies (i.e., the information component) and also tell policymakers what to do to secure consensus between different political actors (i.e., the bargaining component).

Obviously, the political party is not the only group of political actors that determine policy processes. Prior research shows that different political actors have influences on the policy processes, such as the bureaucrats (Baekgaard, Blom-Hansen, & Serritzlew, 2015; May, Workman, & Jones, 2008) and the court (Owens, 2010). During a period of political liberalisation, interest groups (Bunea & Thomson, 2015) and the civil society (Wright, 1999) become more vocal and can have substantial influences on policy processes. Besides, various political actors of different sectors and classes can unite and form powerful coalitions to advocate their

policy positions (Ingold, 2011; Wahman, 2011).

Still, it is theoretically interesting to focus on the political parties as an explantory factor. In fact, numerous research focuses only on the effect of political parties on policy change (Bevan & Greene, 2016, 2018; König, Tsebelis, & Debus, 2010; Tsebelis, 2002). It is because these studies based on the assumption that many of the social demands from the interest groups and the civil society create social cleavages. These social cleavages are reflected in the electoral arena and determine the number of political parties in the legislature (Clark & Golder, 2006; Cox, 1997; Ferrara, 2011; Neto & Cox, 1997).

More importantly, recent studies also find that political parties have an influential role in policy change and agenda-setting. In the UK, Bevan & Greene (2016) found that the size of the majority party affects the stability of the policy agenda—the degree of change of the whole policy portfolio by policy area each year. In a comparative study of six European democracies, they also found that the number of political parties in the coalition affects the stability of the policy agenda (Bevan & Greene, 2018). Following the same idea, this research argues that political parties have a role in the policy processes in authoritarian regimes.

In authoritarian regimes, when election does not exist (or the electoral system is closed), the dual process of bargaining and information exchange are blocked—there are no meaningful bargaining and information exchange. The ruling party (even though the formation of political parties is not allowed) can be seen as a single party. When regimes liberalise, the elections become more inclusive and competitive. It increases the number of political parties in the electoral systems, and thus initiate the dual process of bargaining and information exchange.

In brief, my bargaining and information exchange model argues that the change of electoral systems and its electoral outcomes have impacts on policy processes. In particular, the number of political parties determined by the liberalising electoral

systems is a source of bargaining and information that influence the policy processes. Different number of political parties have varying levels of difficulty in the bargaining process and also transmit varying levels of information to the policymakers. As mentioned earlier, whenever there is a political struggle, there is information exchange about policy issues. In turn, when political actors exchange information about policy issues, they would inevitably discover more policy problems that lead to political struggles. The number of political parties determined by the electoral systems is the source of this duality.

In addition to the duality of bargaining and information exchange processes, my model explains changes in policy processes with the assumption that the marginal benefit of information exchange decreases and the marginal cost of the bargaining process increases as the electoral systems become more inclusive and competitive that results in a larger number of political parties. It will be explained in a greater detail in chapter 2.

1.3 The scope and the core assumptions

This thesis considers policy processes in liberalising political systems. This thesis presents a number of empirical analyses of a novel dataset on how the dynamics of liberalising political systems influence policymaking processes. It answers important yet rarely addressed theoretical questions in the fields of political science and policy studies. This section defines the scope of this thesis and explains why it is narrowed. It also explains a few important assumptions in this research.

1.3.1 Theoretical approaches

Within and across the fields of political science and policy studies, there are many competing models of policymaking and policy change. For example, Kingdon's

(1984) classic theory of policy streams and windows of opportunity explains how various policy ideas compete and come into the mind of policymakers and explain the policy choice. Incrementalism argues that distributions of policy change are small and incremental (Dahl & Lindblom, 1953; Lindblom, 1979), or in Davis, Dempster and Wildavsky's terms, "stable over periods of time, linear and stochastic" (1966, p. 529). Punctuated equilibrium theory develops on the theory of incrementalism and argues that incremental policy change only captures part of the stories. In fact, the patterns of policy change are predominately stable but are also characterised by occasional periods of large and rapid changes (Baumgartner & Jones, 1993; Jones & Baumgartner, 2005). There are also another stream of works that look at how the composition of government, such as partisanship, change policy outcomes (e.g., Mayhew, 1991; Adler & Wilkerson, 2012; Tsebelis, 2002)[3]. In recent years, a growing body of research has sought to explain how authoritarian regimes setup democratic institutions and examined the consequences (Gandhi, 2008; Malesky & Schuler, 2010; Svolik2012; Truex, 2016).

My thesis incorporates insights from all these different approaches and develops a unifying framework to understand policymaking processes in liberalising political systems. In brief, the following main themes and approaches help us to understand policymaking processes in liberalising political systems:

1. Information and policy agendas are fundamental and are at the centre of policy processes in every political system. Policymakers have to collect information, then formulate and prioritise agendas in response to a complex and uncertain environment. By the same token, policymaking in liberalising political systems also relies on information processing. Policymakers pay a disproportionate amount of attention to some issues while neglecting others.

[3]Apart from those mentioned, other notable approaches include: Sabatier & Jenkins-Smith (1993) developed the Advocacy Coalition Framework that incorporates different policy subsystems, exogenous factors (e.g., value and ideology) and endogenous factors (e.g., economic shocks) to explain policy change.

2. Policymaking is a collective decision process. When regimes liberalise, the decision-making process involves more, and a wider set of, stakeholders and interests. This could include pro-government actors but it can also be the political opposition, which results in a very different collective decision structure. Political liberalisation changes the decision-making structure and subsequently changes the policymaking processes.
3. Policymaking in authoritarian regimes is not identical to policymaking in democracies. The reason for this is that autocrats have a different logic for setting up democratic institutions than democratic governments. The use of democratic institutions in authoritarian regimes is for regime survival by silencing political opposition through the process of power-sharing and co-optation. To understand policymaking in authoritarian regimes, it is necessary to consider theories in authoritarian regimes.

This thesis combines theories from the theories of policy agendas and decision-making and integrates them with the literature on authoritarian regimes. It contributes new insights to each of these fields by asking rarely addressed question: how do authoritarian regimes make policy when regimes liberalise? Novel to the authoritarian regimes literature, this thesis adopts the information-processing perspective to analyze how liberalising political systems make policies.

Unlike most legislative studies that look at micro-behaviour of political processes, this thesis focuses on macro-politics. Most legislative studies are interested in the political behaviour of individual lawmakers like voting, committee membership or the formation of coalitions within the legislatures (Krehbiel1991; Tsebelis, 2002; Benton & Russell, 2013; Cox & McCubbins, 2005; Saeki, 2009). These studies are useful in addressing how individual lawmakers act but they cannot answer questions such as how legislatures as a system choose which policy issues to focus on or to ignore. The study of macro-politics enables us to uncover

how institutions perform as a system (Adler & Lapinski, 2006; Erikson, Mackuen, & Stimson, 2002). To address how regime change influences policy change, the study of macro-politics in legislatures is more appropriate.

1.3.2 Focus on legislative process

My bargaining/information hybrid model of policy processes argues that the electoral systems provide the source of bargaining and information exchange that determine the policy processes. The legislative process is the right place to test my hybrid model because the legislature is where the representatives elected through the elections express their policy ideas, preferences and disagreements to the policymakers. It is also the venue of the struggle of politics as well as information exchange. In the legislative process, a policy is initiated in the form of a bill and then later turns into legislation if it is accepted by the legislature.

While existing research on policymaking in authoritarian regimes mostly use budget data (Baumgartner et al., 2017; Chan & Zhao, 2016; Sebők & Berki, 2018), this thesis provides in-depth examination on the legislative processes and legislative outputs in a liberalising authoritarian legislature. The advantage of studying legislative process over budgets is that legislation enables a more direct establishment of the relationship between political liberalisation (more competitive and inclusive legislative elections) and policymaking processes, while the budget process may be confounded by other factors such as economic conditions and budget constraints. This thesis is therefore arguably better positioned to answer the question of how political liberalisation affects policymaking processes than existing studies.

1.3.3 Defining policy processes

This thesis explains policy processes and focuses on the legislative process. As mentioned, policy processes can be defined as the procedures and rules of policymaking, including a wide range of policymaking activities but not limited to problem definition, agenda-setting, decision-making as well as policy implementation. Each of these activities is also complexly related to one another. Given its wide scope and complexity, it is not possible to address all dimensions of the policy processes. By policy processes, I refer to five main dimensions in this thesis stated in Table 1.1.

Each of these policy processes refers to different aspects of the policy processes. The distribution of policy change represents the degree of change from two consecutive time points. Large and small policy changes indicate the extent to which the policymakers can shift their focus on policy agendas or control their policy outputs. In Jones and Baumgartner's term (2005), it measures whether policymakers could produce policies to respond to the signals (e.g., the severity of policy problems) from the environments proportionately (or disproportionately). The volume of policy outputs, the success rate of the policy outputs and the duration of the policy processes represent the productivity of the policy processes. It shows how many policies are produced, how likely the policies are passed and how long it takes to go through the whole process. The issue diversity of the policy agenda looks at a portfolio of policies rather than a single policy as a unit. It looks at the concentration (or dispersion) of attention given to some policy areas in a given time period. It is about policymakers' ability to spread out or narrow their attention to different policy areas.

As we shall see later in this thesis, the process of political liberalisation changes the electoral systems and results in a different number of political parties. As such, it changes the effect of the bargaining and information exchange processes on policy

processes.

Table 1.1: Defining policy processes

	Policy Process	Explanation
1	Volume of policy outputs	The number of legislative bills passed
2	Success rate of policy outputs	Whether a bill is passed or failed
3	Duration of the policy process	The period taken to produce the legislation
4	Distribution of policy change	The degree to which the changes in the content of the policy agenda are large or small
5	Issue diversity of the policy agenda	The concentration of a few or many issues processed by policymakers in the form of bills

1.3.4 Defining political liberalisation

Political liberalisation means governments are willing to relax political restrictions imposed on non-governmental political actors including the media, political opposition and citizens (Brown, 2011; Dahl, 1973; Dahl, Shapiro, & Cheibub, 2003). It can exist in the form of opening up political systems with a greater degree of public participation, or relaxing the restrictions on the media in reporting and investigating political affairs. In this thesis, I take a narrow definition of political liberalisation: more inclusive and competitive elections. One direct consequence of political liberalisation, obviously, is that autocrats have less control and political advantage over political affairs. Yet, in this process, the autocrats do not necessarily lose all power and control. Apart from full democracies, theorists identify two important forms of more liberalised authoritarianisms—hegemonic authoritarianism and competitive authoritarianism (Bogaards, 2009; Brownlee, 2007; Diamond, 2002; Donno, 2013). In hegemonic authoritarian regimes, autocrats still have absolute electoral dominance so as to ensure their full grip of power. In competitive authoritarian regimes, opposition parties provide greater competition to autocrats

in electoral arenas and can provide a genuine threat to autocrats' ruling power.

But no matter which path the regimes follow, the process of political liberalisation injects the systems with more democratic elements and accountability. It changes the institutional arrangement and power distribution within the systems, and brings in a new mentality to the regimes. For instance, elected lawmakers in legislatures are more likely to speak on behalf of their constituencies. If autocrats propose policies that could harm the interests of members of the constituencies, their representatives are likely to speak up, ask for major amendments or reject these policy proposals in order to protect their interests. It makes the policy bargaining process much harder. Moreover, similar to democratic systems, elected lawmakers have more frequent contacts with members of their constituencies than members of authoritarian governments (Blondel, 1973; Loewenberg & Patterson, 1979), thus it is more likely that lawmakers would bring in localised knowledge (with respect to the constituency) and opinions that might otherwise be unavailable to the autocrats. In this way, the process of political liberalisation increases the information diversity received by authoritarian governments and generates an impetus for change in policymaking processes. This process of institutional change also leads to a different distribution of policy change or in Jones and Baumgartner's term (2005) punctuated equilibrium—a combination of mostly incremental and occasional periods of large and rapid policy change.

1.3.5 Information assumption

The information assumption is that policy-relevant information plays a key role in policymaking in authoritarian regimes (and liberalising regimes). I have reviewed some of the studies that explain why authoritarian regimes require policy-relevant information. This section expands on the earlier discussion and explains how policy-relevant information affect policy processes by looking at the pyschological

and organisational processes developed in advanced democracies.

The information-processing perspective focuses on how policymakers face the challenge of an information environment that is complex (i.e., policymaking involves far too many dimensions to be considered), uncertain (i.e., policymakers are not sure whether issues have changed) and ambiguous (i.e., policymakers do not understand the meaning of issues) (D. Chong, 2013; Simon, 1947, 1957).

The complexity, uncertainty and ambiguity in the policymaking environment generate a tremendous amount of policy-relevant information available to the government. Policymaking is a product of complex interactions of multiple actors within the system of policymaking—it can be in the form of voting, lobbying, protest or others. Policymakers may not be able to evaluate the strategic positions of each of these multiple actors correctly, and it could lead to uncertainty in strategic actions. Also, policy processes involve many stages, such as agenda-setting, policy formulation, policy implementation and policy evaluation (Wildavsky, 1979). Each of these stages could deviate from one another and do not necessarily follow linearly. Due to the complexity and uncertainty, the implementation of a policy could lead to unintended outcomes (Stone, 1989). Random and impactful exogenous shocks or external events such as natural disasters or a nuclear plant explosion could have a destabilising and disruptive effect on governments and their policymaking. Due to this complexity and unpredictability, designing good policies remains a difficult task.

To respond to such challenges and arrive at good policy solutions, good information—useful information that helps to achieve policy goals—and good decision-making processes—procedures for identifying the best policy alternatives—are crucial. Condorcet's classic Jury Theorem provides a normative illustration on this matter. It asserts that the probability of getting an appropriate policy solution increases as the number of informed decision-makers increases. The

probability then approaches to one when the number of informed decision-makers is close to infinity. Although it relies on a set of unrealistic assumptions[4] (for more discussion, see Ladha (1992)), the core lesson is that good policy solutions require good information and an effective decision-making process.

Information is a key element for policymaking. A good piece of information (e.g., accurate and comprehensive economic data) may not lead to a good policy (e.g., an effective plan for economic growth). However, a policy is more likely to fail or be ineffective if policymakers miss out key information (O'Toole, 1986; Sabatier, 1986; Sabatier & Mazmanian, 1980). For instance, if autocrats fail to learn about the actual economic conditions, the regime cannot formulate appropriate macroeconomic measures to boost or intervene in the economy. If autocrats fail to identify policy problems and respond appropriately, they are more likely to suffer. They could suffer from economic losses for their poor economic policy, or may even face civil unrest if grievances grow. Yet, individuals and institutions are inherently boundedly rational (Simon, 1947, 1957). No one can possess and process complete information. Thus, policymakers want to obtain as much useful information as possible. However, information is a form of resource like money, oil and time—it has a cost and it is limited. Acquiring additional useful information requires paying additional costs. It does not come free.

In advanced democracies, to get the accurate information effectively and efficiently, political actors have to organise institutions to search and channel information to the decision-makers. There is a range of possible sources of information generated from formal institutions and civil society. For example, bureaucrats provide policy recommendations by analyzing policies and evaluating programme effectiveness (Larkey, 1979; O'Toole, 1986). Official statistics agencies

[4]Condorcet's jury theorem requires a number of core assumptions to be valid: (i) individuals always reveal their signal about the true state of the world, (ii) signals are costless to obtain, (iii) individuals have the same goal of making a correct decision, and (iv) individuals do not exchange their information before voting.

collect comprehensive and reliable statistics in areas such as economic, finance and demography so that the policymakers can use evidence to formulate policies effectively (Boswell, 2012; Cenko & Pulvirenti, 2015). Elections are important tools for democratic governments to assess what the voters (citizens) want or do not want (Bertelli & John, 2012; Bevan & Jennings, 2014). Mass media are a provider of policy-relevant information through news reporting and investigation and also set the public agenda by directing government, politicians and the public what to read and what to think about (McCombs & Shaw, 1972; Walgrave et al., 2008; Jones2010; Boydstun, 2013). Public opinion provides government and politicians key signals to evaluate and assess the performance of governments and especially what the voters think (Soroka & Wlezien, 2010; Stimson, 1991), and also informs what the public want to include in the party and legislative agendas (John, 2011; Penner, Blidook, & Soroka, 2006).

Similarly, receiving reliable and comprehensive information is a challenge for authoritarian regimes (Gao, 2016; Pan & Chen, 2018). To overcome this, authoritarian governments also capture policy-relevant information through the bureaucracies and local officials (Landry, 2008), consultative institutions (He & Warren, 2011; Truex, 2017) and elections (Gandhi, 2008; Miller, 2015). Authoritarian regimes also gauge and manage public opinion carefully so that autocrats can have a clearer picture of what the people are thinking about and at the same time direct them to act in desirable ways (King et al., 2013; Roberts, 2018; Stockmann & Gallagher, 2011). All these institutional and societal sources are key information sources, but their existence and operations require a certain degree of political liberalisation so that information can flow and exchange freely and be supplied to policymakers.

In democracies, many argue that information is abundant and overwhelming, and could originate from multiple internal sources such as bureaucracies, cabinet

members and other political parties, or external sources such as media, businesses, think tanks, and advocacy groups (Jones & Baumgartner, 2005; Walgrave & Dejaeghere, 2017). However, in illiberal environments, such as under authoritarian regimes, there are more constraints on the flow and exchange of information. Freedom of speech and expression are subject to greater restraints. Political and civil organisations may be repressed because the autocrats want to ensure its dominion of power and regime survival.

When regimes liberalise, the constraints on information flow become more relaxed. More sources of information can inform their analysis and opinions on policy issues and political affairs. Thus information costs become lower in policymaking. In brief, information is more costly to acquire and limited in an illiberal environment but becomes cheaper and far more accessible in a more liberal environment.

But does information change policy and preferences? Information could have effects on preference and policy change at both individual level and at institutional level. Various findings from political psychology on individual voters show that the degree of knowledge one possesses and the amount of incoming new information could change one's preference (Taber & Young, 2013). For example, Bartels (1996) shows from his dataset of six elections from 1972 to 1992 that presidential preferences of fully informed voters are significantly different from that of uninformed voters. Althaus (1998) reveals that fully informed citizens are more supportive of more government services and higher taxes, but are more opposed to the expansion of governmental power and intervention than uninformed citizens. Apart from citizens' level of general knowledge, Gilens (2001) uses survey data and experiments to show that provision of specific and relevant information, rather than general political knowledge, alter policy preferences. However, Gilens also finds that people with a high levels of general knowledge are more ready to update their

positions when they receive new information.

While these studies focus on individual voters and citizens, there may be a gap to answer how information affects policymakers. Oh and Rich (1996; also Oh, 1997) conducted surveys on policymakers to examine the effect of information on their policymaking. Their study finds that more incoming information affects the outcome of policymaking. The effect of information on policy and preference seems evident.

Even so, not all information would have the same quantity of effect on policy change at the system level. Jones (2001), borrowing insights from Simon's (1972) work on organisational behaviour and from behavioural economics (Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 1979), developed a behavioural model of organisations. This argues that organisations process information and make decisions through serial and parallel processes. Although, by parallel processing, organisations can create multiple agencies to handle multiple simultaneous issues at a time under pre-defined regulations and guidelines, yet some issues still require full attention from top executives—serial processing. Individual officials have a finite capacity to consider information and make decisions. Organisations are designed to overcome this limitation so that multiple issues can be considered at the same time through the division of labour and serial processing. To some extent, organisations alleviate the information processing burden of individuals, but also inevitably suffer from a limited attention span because communication between sub-organisations is limited and usually inefficient (Jones, 2001, pp. 131–59). This means that institutions process policy-relevant information disproportionately (Jones & Baumgartner, 2005)—some policy issues receive more attention and some receive less; some issues are neglected and some are over-reacted to. For example, Boswell (2012) compares the issues of asylum (constantly monitored through the bureaucratic collection of data) and illegal immigration (where there is no such monitoring data). She finds that policymakers mostly ignore

the rarely monitored policy but react with a high degree of attention to the issue only when media detect and report the issues frequently. For the constantly monitored issue, however, policymakers pay more regular attention to the issue regardless of media attention. On the other hand, negatively framed information such as scandals and disasters attract more attention from policymakers because institutions have been designed to prioritise negative information, just like the human brain (Soroka, 2014). It suggests that the way issue is framed affects whether the incoming information would change policymakers' preference. Sometimes, policy bubbles—in the form of excessive policy provisions over a long period of time—might be generated with disproportionately high attention, strong emotions and valence on the issues (Cox & Béland, 2013; B. D. Jones et al., 2014; Maor, 2014a). Similarly, on other occasions, negative policy bubbles—in the form of a suppressed level of policy provisions over a sustained period—might occur when there are disproportionately low attention and over-satisfaction with the status quo (Maor, 2014b, 2016).

After reviewing how individuals and organisations process information and make policies from the perspectives of psychology and organisational behaviour, the following section addresses and examines the bounded rationality and the scarcity of attention in liberalising political systems, which are important assumptions to generate new findings and insights in the study of policymaking.

1.3.6 Bounded rationality and attention scarcity assumption

Information is essential and crucial for policymaking. However, policymakers (including autocrats) are boundedly rational and have limited attention, meaning that they cannot deal with the complete and massive amount of policy-relevant information; and the only way to deal with it is to be *highly selective* (Simon, 1956).

This section explains why I make this assumption below by reviewing relevant works.

Most prior research on authoritarian regimes assumes that autocrats are rational (e.g., Olson, 2000; Gandhi, 2008; Schofield & Levinson, 2008; Svolik, 2012). These works use game-theoretic models to advance our understanding of how and why authoritarian regimes might create democratic institutions to sustain the longevity of their power. However, a more realistic picture of autocrats, like democratic governments, is that they are also subject to the bounded rationality and scarcity of attention (Jones, 2002; Malhotra & Carnes, 2008; Simon, 1985). The idea of bounded rationality, developed by Herbert Simon, suggests that searching for all possible policy options and information is impossible. Decision-makers have limited capacity, so seeking out policy options and alternatives for consideration incurs additional information costs. The scarcity of attention means that, due to cognitive limitation, policymakers have limited attention and can only focus on a limited number of policy issues at a time. When autocrats make policy, they are also subject to limited attention and resources and they have to focus selectively on certain policy problems while ignoring some others. This work, joining the works of Lam & Chan (2015), Truex (2016) and Baumgartner et al. (2017), applies bounded rationality and the scarcity of attention to examine policymaking in liberalising political systems.

In a boundedly rational environment, policymakers have to be selective in the process of policy-relevant information (Baumgartner & Jones, 2015). The policymakers have to decide which piece of information is relevant. As mentioned, although good policy (e.g., effective and appropriate macroeconomic measures) does not necessarily follow from good information (e.g., accurate economic data), the reverse is likely to be correct. That is, poor information will tend to lead to ineffective policy or even policy failure. The same applies to authoritarian

governments. For instance, when autocrats formulate policy to oppress political opposition, they face problems such as a lack of reliable information (Gao, 2016; Pan & Chen, 2018) and uncertainty in a complex environment (Schedler, 2013). Alternatively, autocrats may have to consider whether the enactment of more inclusive elections would be beneficial to their rule, or would on the other hand enhance the opposition's capacity to overturn the government. Faced with a lack of reliable information, autocrats may be uncertain about the optimal policy choice among many alternatives. This could lead to the adoption of ineffective policies. To cope with complexity and uncertainty, autocrats, just like democratic governments, require good and timely information but are bound by their limited attention and information processing power.

The use of rational choice theory to understand political behaviour, either at an individual or institution level, has been familiar to many political scientists and economists. The rational choice theory has been regarded as both normative—the actor(s) should behave as theory prescribes—and empirical—whether actor(s) will behave as the theory predicts. The rational choice theory assumes that rationality is "perfect, unbounded or substantive" (E. K. M. Chong, 2013, p. 96) and "logical, reasoned and neutral" (John, 1998, p. 33). The application of the rational choice theory is also labelled as the notion of comprehensive rationality or omniscient rationality (Simon, 1995). Conventionally, economists argue that rational choice theory is an economic approach to human behaviour that is applicable to every situation because the market is everywhere (Becker, 1976). In a perfect rational setting of decision-making, individual or institution should fulfil a number of conditions (D. Chong, 2013; Redlawsk & Lau, 2013): individuals or institutions (1) have a clear, complete and stable set of goals or preferences, (2) are able to rank and prioritise the set of goals or preferences, (3) are able to separate values from facts, (4) collect relevant information for decision-making based on the significance

of goals or preferences, (5) should act and decide with linear, logical and separable steps, (6) are able to choose the choices and actions that could have maximum expected utility. These assumptions were widespread in many studies of political behaviour and policymaking such as median voter theory (Downs, 1957), collective action theory (Olson, 1965) and institutional rational choice (Ostrom, 2007).

Herbert Simon famously identified the distinction between rationality, irrationality and non-rationality (Simon, 1947, 1955, 1956, 1957, 1972, 1985, 1995, 2000). Bounded rationality is not a form of irrationality. Rather, Simon saw it as a form of rationality under constrained conditions such as cognitive limitations and a lack of relevant information. Bounded rationality provides a paradigm that individuals use cognitive and informational shortcuts to get a "satificing"—good enough but not necessarily optimal—solution to issues or problems. In this sense, bounded rationality is a form of limited rationality rather than irrationality.

Recent advances in the study of the authoritarian institutions have heavily drawn on rational choice theory and the assumption of comprehensive rationality. The application of rational choice theory to authoritarian regimes provides empirical evidence of the degree to which the creation of various democratic institutions can fulfil the expectations of rational choice theory. These works use formal modelling and propose identifiable and stable utility functions based on the preferences of autocrats, using the utility function to predict the rational behaviours of autocrats (Schofield & Levinson, 2008). The works of Magaloni (2006), Gandhi (2008) and Svolik (2012) are exemplars in the field. In all respects, these works have provided convincing explanations to address the longstanding puzzle of how and why autocrats create democratic institutions such as elections and legislatures in authoritarian regimes and have generated many insights. Yet, these studies give little consideration to how autocrats allocate their limited attention and make policy.

Certainly, the knowledge generated from the formal modelling of authoritarian regimes offers a breakthrough in the understanding of authoritarian regimes. However, these works do not account for the individual and institutional cognitive limitations that have been raised in recent works in behavioural economics and public policy (John et al., 2013; Kahneman et al., 1982; Thaler & Sunstein, 2009; Tversky & Kahneman, 1974). The discovery of psychological and heuristic biases in recent decades provides a strong impetus to move beyond the paradigm of comprehensive rationality to bounded rationality and cognitive limitations of individuals. By the same token, the study of the authoritarian institutions and liberalising political systems should also include the assumption of bounded rationality. In this thesis, I see autocrats as boundedly rational.

Identifying and defining policy problems involve the process of searching and filtering information (Baumgartner & Jones, 2015; Rochefort & Cobb, 1994; Weiss, 1989). Every problem and policy solution can have many dimensions, be it economic, social, political, technical, environmental or otherwise. Because of the scarcity of attention, when governments search for information, it is impossible to process every dimension in every policy area. Governments have to decide what to search for and what to filter out. Policymakers rely on expert knowledge to formulate policies (Esterling, 2004; May, Koski, & Stramp, 2015) including bureaucracy (Rourke, 1991) and scientific experts (Weingart, 1999). However, considering information too narrowly may cause one to miss out important dimensions of public policy (e.g., in the following example of construction problem without paying due regard to the environment). Inevitably, policymakers have to decide either to focus deeply on only a handful of specialised or trusted sources or to explore a wider array of information. Take the construction of a highway as an example. It could be regarded as a construction and engineering problem that may be of interest to engineers and other related experts. But local residences and

environmental groups may also have concerns over where it is built and whether an environmentally friendly construction method is used. When governments formulate policies by ignoring these dimensions, they may stir up grievances in the public that could risk the legitimacy and ruling stability of the regime. Therefore, it is important for autocrats to include diverse and large volumes of information for policymaking. Yet, due to limited information processing power, the diversity and volume of information have to be manageable for realistic and boundedly rational policymaking.

Due to systematic differences between them, authoritarian regimes receive far less information for policymaking than democracies. In democracies, governments can acquire information from legislatures, media, civil organisations and even protests facilitated by the freedom of expression and organisation (for media agenda-setting, see Walgrave et al., 2008; Boydstun, 2013; Jones & Wolfe, 2010; for agenda-setting power of protest, see Walgrave & Vliegenthart, 2012; for public opinion, see Soroka, 2003; Soroka & Wlezien, 2010). Citizens and media are free to express and report diverse opinions on various subjects. Information is freely supplied to the policymakers in democratic regimes. However, democratic governments still require organising institutions to channel policy-relevant information into the policy processes. Sometimes governments may want to gather information or opinions as diverse as possible because it may contain a key but obscure information. This information search exercise is costly and time-consuming.

For authoritarian regimes, where freedoms of expression and organisation are limited, it is even harder to assess and acquire diverse information and opinions (Lorentzen, 2014; Siebert, Peterson, & Schramm, 1956; Stockmann & Gallagher, 2011). Authoritarian regimes tend to repress views and opinions that are unfavourable to the government. For instance, freedoms of the press and information in authoritarian regimes are generally more constrained than in

democracies. The regimes actively cooperate and engage with the media outlets and journalists to direct what should be reported to the public (Repnikova, 2017). Truly competitive elections are rarely found in authoritarian regimes and thus there is no free and open platform to express alternative political opinions and ideas (Svolik, 2012). Without institutions that allow and facilitate free expressions, diverse policy-relevant information is less likely to channel through media, elections, and legislatures. Of course, autocrats could also create large machineries and networks to gather information, for example, as seen in the rise of networked authoritarianism in China (MacKinnon, 2011) and the use of the "calibrated coercion" to balance the free flow and exchange of information and the political stability of the People's Action Party in Singapore (George, 2007). However, the supply of information is still systematically more constrained compared with democratic systems. Thus autocrats are more likely to receive narrower information and opinions for policymaking.

Autocrats suffer from a systematic disadvantage of information exposure due to the paradox of good information. On one hand, autocrats want good information for policymaking. As mentioned earlier, having good information (e.g., accurate economic data) is an essential (though not sufficient) condition for effective policymaking (e.g., for choosing effective and appropriate macroeconomic policy tools). On the other hand, autocrats have incentives to discourage the free flow and exchange of diverse information. This is because some policy-relevant information could be politically sensitive—it may undermine ruling legitimacy and governability. For example, when corruption becomes a serious problem in a territory, autocrats may still want to downplay the seriousness of the issue. The reason to suppress the issue is that the disclosure of serious corruption might stir up grievances and lead to large-scale and powerful political movements in civil society. Such threats to regime stability and survival are something every autocrat would want to avoid. In

summary, autocrats want good information for policymaking but paradoxically their survival hinges on the existence of illiberal constraints on the flow and exchange of information.

The above arguments suggest that, like democratic governments, autocrats also face the challenges of bounded rationality and complexity in policymaking. In particular, autocrats suffer from an information disadvantage compared with democratic regimes (Chan & Zhao, 2016), meaning that they cannot receive the benefits of obtaining diverse and independent sources of information—recall Page's (2008) diversity benefits argument. It is therefore important to explore and study how autocrats search for policy-relevant information and make decisions for policymaking under these informational constraints. To date, this has not been subject to enough consideration in the literature. Applying disproportionate information processing theory to the study of policymaking in authoritarian regimes offers a novel theoretical approach with the prospect of also providing a more realistic empirical picture of authoritarian politics.

In summary, the study of the authoritarian regimes has to date been heavily focused on rational choice explanations. However, the paradigm of bounded rationality has not been sufficiently considered in the literature. This thesis seeks to examine policymaking in authoritarian regimes through the lens of bounded rationality. To do so, this thesis looks at how autocrats process information for policymaking. It assumes that political actors and institutions have limited attention and bounded rationality. Following the above discussion of the scarcity of attention and information, the subsequent section briefly discusses policy change in liberalising political systems by integrating these perspectives of authoritarian regimes literature.

1.4 Research overview

The main thesis of this research is to offer a novel hybrid model of policy processes and explains that the dynamic process of political liberalisation, as defined as more inclusive and competitive electoral systems, affect policy processes through two mechanisms of bargaining and information exchange. Prior research observes either the bargaining mechanism or information exchange mechanism but not both. This thesis offers an explanation for this: when the two mechanisms yield the same expectations, researchers tend to consider one of the mechanism but ignore the others. When the two mechanisms yield opposite expectations, researchers tend to expect them as rival theories. Prior research does not consider the duality of the two mechanisms and thus fail to appreciate the functioning of the two mechanisms at the same time. This thesis would then examine different dimensions of policy processes, and demonstrate under what condition the duality of bargaining and information exchange processes would manifest and when it does not.

1.4.1 Observable implications and tests

The bargaining and information exchange mechanisms affect different policy processes differently. This research examines different dimensions of policy processes as defined in Table 1.1 and summarise how my hybrid theory provides different observable implications for different policy processes in Table 1.2. For full explanations, please refer to each of the empirical chapters.

1.4.2 Case selection: Hong Kong's legislative bills

The remainder of this thesis will test the hypotheses and observable implications of my theoretical claims (Chapters 5 to 7). The political liberalisation of the Hong Kong Legislative Council (LegCo) is selected as the case for analysis. Obviously,

Table 1.2: Observable implications of the hybrid theory of policy processes and correspindng empirical tests.

	Observable Implication	Empirical Test
1	Policy processes at a higher level of political liberalisation will be less productive in terms of the speed of policymaking.	Event history analysis on the duration of legislation.
2	Policy changes in authoritarian regimes will be mostly incremental but there are also occasional periods of large and radical changes	Stochastic process methods on the distribution of policy change.
3	As regimes liberalise, autocrats will adjust the policies more proportionately.	Stochastic process methods on the distribution of policy change.
4	As regimes liberalise, autocrats will expand their attention to issues across wider policy areas. After it reaches the maximum point, autocrats will then narrow their attention to a small number of issues.	Non-linear time series regression on issue diversity of the policy agenda.

Hong Kong is not a typical case of authoritarian regimes (Gerring, 2006; Rohlfing, 2012)—the Hong Kong legislature is neither a parliamentary nor presidential system but is usually regarded as a hybrid system after 1992 (or a semi-presidential system); it is not a sovereign state; it does not has its own military; it is a city; it is a financial hub without a high level of natural resources; it is much wealthier than the average authoritarian regime; Hong Kong is not a common case for comparative analysis.

Yet, the case of Hong Kong has the potential to offer a theoretically valuable contribution to the understanding of policymaking in transitioning authoritarian legislatures. This is for a number of reasons. First, Hong Kong's gradual, and often embattled, political liberalisation process started in 1991 and is still ongoing (Ma, 2007; Sing, 2004; A. Y. So, 1999). The lengthy and gradual process of political liberalisation allows political scientists to observe its dynamics and effects in greater detail than sharp transitions that occurred in other cases such as the Czech Republic after the Velvet Revolution and the Spainish transition in the late 1970s.

Second, legislative activities are well documented and recorded by the Hong Kong LegCo and this provides high-quality data for systematic examination. This makes further scrutiny and replication of the research possible. Third, unlike many authoritarian regimes, Hong Kong has experienced a long period of press freedom, civil liberty and association since the colonial era. This provides more open and transparent information for rulers to make policies than many other autocrats. It suggests that the level of information supply from the press and civil society may be relatively stable over the period of study. Therefore, the case of Hong Kong has the advantage to highlight the change of internal information provision from formal institutional sources such as government agencies, lawmakers and elections, while avoiding the confounding effect of external information provision from the media, independent think tanks and citizens.

Obviously, a limitation of this research is that it relies on a single case. The findings may not enable general inferences about the validity of the theories considered but will provide an important and first test that is instructive for the development of a research agenda on the hybrid theory of policy processes in liberalising authoritarian regimes. As such, the thesis offers an important test of the effect of political liberalisation on policymaking processes in authoritarian regimes through the bargaining and information exchange process.

Also, the unique factors of Hong Kong's democratisation and open and free environment suggest that Hong Kong is an important case for examining the effect of political liberalisation in a setting with a high and stable level of information supply. The theory developed from this case study has important implications to the study of policy processes and the study of the authoritarian regimes.

1.4.3 CAP and its coding systems

This thesis uses primary data to answer my research questions. These sources include a novel legislative bills dataset compiled from the LegCo website `http://legco.gov.hk/`. The policy content of the legislative bills is coded according to the policy content coding system of the Comparative Agendas Project (CAP) `http://www.comparativeagendas.net/`. The coding system contains 21 major areas of public policy (e.g. health, energy, transport) and has been applied to 23 national, supranational and subnational states, including the United States (e.g., Baumgartner & Jones, 2002; Adler & Wilkerson, 2012; Jones, Sulkin, & Larsen, 2003), the United Kingdom (e.g., Jennings & John, 2009; Bevan, John, & Jennings, 2011; John & Jennings, 2010), France (Baumgartner et al., 2009b, 2013), the European Union (e.g., Princen, 2007; Alexandrova et al., 2012; Carammia, Princen, & Timmermans, 2016), and Australia (Dowding et al., 2010; Dowding, Hindmoor, & Martin, 2013; Dowding & Martin, 2016). More introduction of the CAP coding system can be found in Chapter 4.

1.4.4 The plan of this thesis

In this chapter, I have introduced the foundations of my theoretical argument: political liberalisation creates more punctuated equilibrium in policy change, reduces the volume of legislative outputs, lengthens the duration of the policymaking process and diversifies the policy attention up to a certain level and then reverses. I argue that the dual process of bargaining and information exchange through the setup of electoral systems could explain these changes. To support my arguments, the following chapters of the thesis will be structured as follows:

Chapter 2 provides a more in-depth account of the theoretical discussions of policy change in authoritarian and liberalising regimes. It first describes the important features of authoritarian regimes and democracies, and articulates the

differences. Then, I discuss various perspectives on policymaking in various regime types. Finally, it explains the hybrid theory of policy processes in greater detail with formal notations and discusses how it may apply to the study of the authoritarian legislature in a gradually liberalising context.

Chapter 3 provides an overview of Hong Kong's political development from the colonial rules under the British governments and after the handover. It also highlights the main features of Hong Kong's political systems.

Chapter 4 discusses data and methods to be used in the study. It presents descriptive statistics for some of the key measures of legislative productivity and agendas. These over-time measures relate to institutional activities and arrangements, such as the volume of legislative outputs, speed of legislation, the effective number of political parties, the proportion of elected seats and the issue diversity of the policy agenda of the legislature.

Chapters 5 to 7 undertake empirical tests of each of the observable implications presented in chapters 1 and 2 drawing from the bargaining and information exchange theory of policy processes.

Chapter 5 examines how political liberalisation affects legislative productivity. Specifically, it looks at the duration of legislative process of LegCo, the volume of legislative outputs and the success rate of legislation. As regimes liberalise, more information exchange increases the quantity of information. Policymakers thus have to take more time to filter, analyse and process the information. Meanwhile, political liberalisation also facilitates power-sharing and co-optation within the legislature. A higher level of political liberalisation and subsequently a larger number of political parties in the legislature would increase the time of the negotiation process as the bargaining costs increase. A larger number of political parties also increase the veto points in the legislature and thus making it harder to pass the legislations successfully. As a result, the duration of the legislative process

is expected to be prolonged. The duration of the legislative process is analysed by using the time-varying Cox proportional hazard model of the event history analysis. This chapter demonstrates that the duality of bargaining and information exchange processes yield the same expectation on legislative speed, and thus the dual process cannot be captured with this research design.

Chapter 6 first considers Hong Kong's legislative bills and how the policy change is distributed—whether it is a combination of predominantly incremental but occasional periods of large and radical policy change. It then moves to investigate the relationship between regimes change (Hong Kong's political liberalisation) and the distribution of policy change, and follows by the study of different regime types (comparative studies of authoritarian regimes and democracies). The bargaining and information exchange sets out two competing hypotheses. The bargaining hypothesis expects that the distribution of policy change becomes more punctuated as regimes liberalise. The information exchange hypothesis expects the opposite so that the distribution of policy change becomes less punctuated as regimes liberalise. This chapter uses stochastic methods methods (or distributional analysis) (Breunig & Jones, 2011; Jones & Baumgartner, 2005; Padgett, 1980) to measure the distribution of policy change. The puzzling findings in chapter 6 show the need of the bargaining/information exchange hybrid model.

Chapter 7 asks how autocrats allocate their policy attention during a period of political liberalisation. The allocation of policy attention is measured by issue diversity of policy agenda and it represents the concentration or dispersion of legislative bills distributed across different policy areas in each year. The bargaining and information exchange hybrid model of policy processes expects that, as regimes liberalise, the number of political parties and issue diversity of the policy agenda would exhibit a negative quadratic relationship (i.e., an inverted-U curve). It is because the marginal benefit of the information exchange declines as the number of

political parties increases, while the marginal bargaining cost increases with a larger number of political parties. This captures the duality of bargaining and information exchange processes. The empirical evidence provides solid support to the bargaining/information exchange hybrid model.

Chapter 8 summarises the findings of the thesis and discusses the implications for future research in policymaking in authoritarian regimes. It reflects on the broader implications for the study of policy processes and comparative politics.

1.4.5 The contribution of this thesis

This thesis provides a timely and important theoretical and empirical discussion on the study of public policy and makes a number of major contributions. Heeding the call of Baumgartner et al. (2017), this work extends the use of CAP framework to study policymaking processes in non-democracies.

This is one of the first studies to integrate the insights from research on information and policymaking into the analysis of authoritarian institutions, and provides a substantial dialogue between the two fields. It generates important implications and extends the generalisability of the theory of information processing that until recently has been limited to cases in Western advanced democracies. It also enhances the understanding of autocratic policymaking. This theory and empirical findings will serve as a valuable cornerstone to the ongoing development of the literature. There is no systematic empirical research that examines the effect of political liberalisation on policy change in authoritarian regimes. This pioneering work explores and studies the electoral and institutional change in authoritarian regimes and provides important findings and methodological contributions to the literature.

Finally, while the theoretical expectations are examined for the single case of the Hong Kong Legislative Council, the implications of this study are likely to

extend to other transitioning political systems. This is because the arguments put forward borrow from extensive theoretical and empirical research on both advanced Western democracies and authoritarian regimes. In addition, the duality of bargaining and information exchange processes should be universal and thus my hybrid model should be applicable to other political systems including democracies. This thesis will generate important and useful theoretical insights and empirical findings for future comparative research.

Chapter 2

Explaining policy processes in liberalising political systems

Prior research sees bargaining and information exchange as two distinct processes and treats them as rivals. Using the agenda-setting approach, recent advances in the study of autocratic policymaking report that regimes liberalisation partially addresses the information deficit problem and thus improves the efficiency of the adaptive system of the policy processes—as observed in a distribution of policy change that more closely resembles the normal distribution (the bell shape) (Baumgartner et al., 2017; Lam & Chan, 2015). In all respect, these are important findings and they have made important contribution to the understanding of autocratic policymaking and the effect of political liberalisation.

However, as discussed in Chapter 1, even though there are new evidence to support the information exchange process and reject the the bargaining process, it may still be prone to confirmation bias. More importantly, extant studies in advanced democracies, and also in authoritarian regimes to be discussed in this chapter, observe that the setup of more democratised institutions incurs greater bargaining costs and thus results in a more difficult bargaining process. It raises the

question on how to incorporate the two counterveiling perspectives.

This thesis put forward a refined way of thinking by combining the two competing theories into one single model and will be tested in the subsequent empirical chapters. I argue that the duality of bargaining and information exchange can be both observed when the electoral systems and the partisan composition of the political systems change. This phenomenon shall be generalisable to other political regimes. Specific to my context, I argue that a more liberalised political system increases the number of political parties that leads to a diminishing marginal benefit of information exchange but increasing marginal bargaining costs.

This chapter provides the theoretical foundation that enables the explanation of changes in policy processes during a period of political liberalisation, with an aim to integrate multiple approaches developed in both advanced democracies and relate it to the context of the authoritarian regimes. It will first review and summarise different approaches and perspectives in policy processes that are familiar with policy scholars in advanced democracies. It will then discuss different perspectives that look at how autocrats make policies, such as the rubber stamps perspective, information perspective and power-sharing perspective. Following the review of the key theories and concepts of prior works, I develop my bargaining and information exchange model of policy processes using formal notations and simulations. The model would generate important insights into the understanding of policymaking in authoritarian regimes and beyond. At the end of the chapter, I identify several observable implications from my theory to be tested in the later empirical chapters.

2.1 Approaches to policy processes

There are numerous theories and its variations developed in advanced democracies to explain policy processes (John, 2018; Peters & Zittoun, 2016; Sabatier & Weible,

2014), such as the rational choice theory, neo-institutionalism, advocacy coalition framework, incrementalism, multiple stream theory, and punctuated equilibrium theory. This thesis see policy processes as adaptive systems. The efficient adaptive systems process policy-relevant information from the environments and react to the changes instantly and efficiently. I examine how political liberalisation, as a dynamic process, affect policy processes. Here, I set out two approaches that are particularly related to the allocation of political attentions and policy change—incrementalism and punctuated equilibrium—and three approaches that concern the legislative process—political gridlock, veto player theory and collective action theory—that are developed in advanced democracies.

2.1.1 Incrementalism

Incrementalism has a deep historical root in the study of public policy (Dahl & Lindblom, 1953; Davis et al., 1966; Lindblom, 1979) and is a prominent narrative of policymaking in the US in the 1960s. Based on the pluralist political systems in the US, the advocates of incrementalism claim that policymakers change policies through a series of gradual adjustments and steps. It is "stable over periods of time, linear and stochastic" (Davis et al., 1966, p. 529).

Policymaking is a product of negotiations and contestations between actors within the governments (e.g., politicians, bureaucrats and lawmakers) and between the state and non-state actors (e.g., interest groups and members of the civil society), and is famously known as a process of "muddling through" (Lindblom, 1959, 1979). The pluralistic nature of the US political systems means that the distribution of the political power is very disperse. The policy process is highly decentralised and bottom-up. The central decision-makers delegate more decision-making powers to local governments and local bureaucrats. Citizens have more channel to voice their needs and desires on certain policy issues.

In this setting, policymaking requires the support of a wide range of stakeholders, more than just a small group of political actors. A radical change in policy that deviates from the status quo is more likely to receive criticisms and objections from other stakeholders. A small and incremental change, however, is less likely to receive such backlash. For example, if the government plans to make a hefty increase in the sales tax, it is likely to affect more stakeholders. It is thus is more likely to be opposed by the public than an alternative sales tax policy with small or no increment.

Incrementalism does not simply confine the will of the top decision-makers but it also deter proposed radical change from other state and non-state stakeholders. A pluralistic and dispersive political system acts as a "shock absorber" so that any new ideas from the bureaucrats, leaps and bounds in public opinion and the rise of some powerful lobbying groups (e.g., giant multi-national corporations and investment banks) may be attenuated and do not lead to abrupt changes in policy outputs.

Interestingly, in a pluralistic system, each of these actors constraints each other. For instance, top policymakers may want to make a radical change in the content of policy. The "street-level bureaucrats" may exercise their professional autonomy by minimally adjust the implementation of the policy (Lipsky, 1980). When the labour groups ask for a substantial increase in the minimum wage, businesses may form a powerful lobbying group to resist. In brief, the dispersive dynamics in a pluralistic political system leads to incrementalism that dictates small deviation in each policy update and change.

Pierson's (2000, 2004) *path dependence* seeks to provide an economic reasoning of incrementalism by explaining why once a policy started, it sticks to the same trajectory. Pierson argues that "increasing returns" (2000) and "positive feedbacks" (1993b) are the important mechanisms that explain the phenomena of path dependence in policymaking. For example, when a government has decided to kick

off a giant railway construction project, it requires a huge investment at the beginning. Drawing insights from the law of increasing returns in economics, when a large fixed cost is paid in the first place, the increasing usage of the railway would lead to lower unit costs and thus it is more likely to continue to run the railway rather than terminate it. Once the railway is well established, a positive feedback effect may lock in this railway project and the competitors (the policy alternatives) would be excluded.

A fundamental question about incrementalism is to what extent it is applicable to other countries and political systems. Rose's (1990; also Rose & Davies, 1994) *theory of political inertia* enriches the incrementalism model by extending the time horizon and applying it to the UK Westminister system (a more centralised system compared with the US). Rose found that numerous policy succeeded even the government changes from one party to another. The legacy of Thatcherism on privalisation and the expansion of welfare benefits in the past are inherited without much revision and reversion. Rose & Davies (1994) argue that the legacy of previous policies give the current policymakers limited choice but to inherit them and thus the policy change follows incrementalism. As such, the theory of incrementalism extended beyond the pluralistic American system.

Incrementalism makes a strong claim that policy change is smooth and gradual. Although it offers a powerful framework to understand why policy changes are incremental mostly, it has limited explanation power in some situations. For examples, we observe some critical junctures in some policies that there are some major revisions in policy contents such as Brexit and the trade war between the US and China. In this aspect, multiple stream framework can explain the sporadic nature of policy ideas and change better than incrementalism (Kingdon, 1984). Incrementalism has been applied to explain policy change in authoritarian regimes. Notably, some argue that incrementalism has been influencing high-level policy

decisions in China, a highly centralised and non-democratic system, such as the trajectory of political reform since 1978 (Jing, 2017) and the low-carbon city initiative in urban planning (Liu & Qin, 2016). However, it raises the question of why incrementalism also happens in a highly centralised and closed political system such as authoritarian regimes.

Despite all these critiques and limitations, incrementalism is still a useful model to understand why policy change does not disrupt the status quo in most occasions in a pluralistic and counter-balancing political system. Even the contemporary model such as the punctuated equilibrium theory is simply a more comprehensive version of incrementalism: incremental policy change is only a special case of a series of stases and punctuations. Also, it has been a longstanding framework that educated thousands of policymakers and public servants worldwide and has been applied to many policy problems.

2.1.2 Punctuated equilibrium theory

Punctuated equilibrium theory builds on the theory of incrementalism and argues that incremental policy change only captures part of the stories. In fact, the patterns of policy change are predominately stable but are also characterised by occasional periods of large and rapid changes (2009; Baumgartner & Jones, 1993; Jones & Baumgartner, 2005) (also known as a stick-slip dynamic of policy change). Baumgartner and Jones's classic work *Agendas and instability in American politics* (1993; and an updated version in 2009) lays down an important foundation to explain these stability and instability patterns. They assert that a policy change happens when a new policy image—understanding of a policy issue between different stakeholders—emerges. To alter the policy image, different political actors such as the politicians and interest groups seek to frame the issues so that framing is favourable to their political interest and can also draw greater attention. When

the policy image shifts, policy change occurs and thus we observe large and rapid change. However, there may exist competing interests on the same issue (e.g., Democrats and Republicans are divided on healthcare reform). Stakeholders who disagree to change the policy would strive to maintain the policy monopolies and keep the status quo by consolidating the original policy frame and agenda. This agenda-setting process within the policy communities creates a stick-slip dynamic of policy change.

Serial and parallel processing

The theory further develops into a more general organisational theory. Simon's (1947, 1957) influential work move us beyond the comprehensive rationality paradigm by suggesting individuals are boundedly rational. It asserts that it is impossible for policymkaers to collect comprehensive information and formulate a complete list of policy options. Jones (2001), borrowing the insights from Simon's work and behavioural economics (Kahneman et al., 1982; Kahneman & Tversky, 1979), developed a behavioural model of organisations. He argues that organisations process information and make decision by a dual process—serial and parallel processing of incoming information.

Serial processing is the process where an organisation handle all incoming information at a time. Serial processing usually involves top-level decision-makers to deal with just single or a few issues at a time. This is because the attention of top-level decision-makers is scarce. Individual officials have finite capacity to consider information and make decisions. Organisations are designed to overcome this limitation so that multiple issues can be considered at the same time through serial and parallel processing. Research shows that executive prioritises policy problems and choose to focus on the most important issues (Walgrave & Dejaeghere, 2017). The rest would be delegated to other top-officials and departments, or simply

be ignored. In reality, government works dynamically in both parallel and serial processes. And indeed, these parallel and serial processes occur repetitively and interchangeably throughout the course of policy-making processes.

To be more specific, parallel processing is a form of division of labour. A organisation can create multiple agencies to handle multiple simultaneous incoming information and issues under pre-defined regulations and guidelines at a time. Ideally, there are many routine tasks that can be processed by multiple agencies under pre-defined rules simultaneously and independently. Only when the incoming issues cannot be handled under the pre-defined rules, the top decision makers would take charge of the issues using serial processing. For example, in a government, sometimes multiple policy bureau respond simultaneously but independently to multiple policy problems faced by the government. It does not require the executive to closely supervise or instruct what they have to do. The key that allows these policy bureau to perform independently on different issues is that these bureau are highly institutionalised with pre-defined duties and scopes. Current executive or former governments delegate these pre-defined duties and scopes, so that the executive does not need to get involved in every problem. Multiple policy bureau can deal with multiple policy problems in parallel. This form of parallel processing allows government as a whole to handle multiple issues at a time. In this way, the setup of multiple agencies alleviate the information processing burden of individuals and that of the top policymakers.

However, the use of parallel processing still have to face the challenges of limited attention span of each agency and inefficiency in communications across the agencies (Jones, 2001, pp. 131–59). Yet, some unresolved issues by parallel processing still require full attention from the top executives through serial processing. In a nutshell, limited attention in every organisation means that organisation would process information disproportionately (Jones & Baumgartner,

2005). Under limited attention, organisation requires to prioritise what issues to pay attention to and what to ignore. Prioritisation under attention span results in a disproportionate information-processing—some policy issues receive more attention and some receive less; some issues are neglected and some are over-reacted too.

Institutional friction

The concept of institutional friction provides a distinct insight for understanding how institutions, acting as information processors, select and filter information and produce public policies (Jones & Baumgartner, 2005). The basic idea of institutional friction is that "[p]olitical institutions impose costs on policy action in direct proportion to how far a policy proposal has proceeded in the lawmaking process" (Jones & Baumgartner, 2005, p. 147). These costs can be the decision cost in collective action, information cost, transaction cost or cognitive cost (more illustration below). Because of the costs, some forms of policymaking are easier to pursue than others. For example, "[i]t is easier to get an issue discussed than it is to get serious attention for a specific line of policy action; it is easier to get hearing on a bill than to schedule it for a vote; it is easier to get one house of Congress to pass a bill than it is to get it enacted" (Jones & Baumgartner, 2005, pp. 147–148)

Inherent institutional friction deters government's response to policy issues such that "[t]hey keep the course of public policy steady and unvarying in the face of lots of changes; that is, they do not allow for continuous adjustment to the environment" (Jones & Baumgartner, 2005, p. 148). This implies relative stickiness and inefficiency within institutions. However, "[s]tickiness and inefficiency are not flaws; they are characteristics designed into the system in order to create stability and for other perfectly justified reasons. It is not pathological" (Jones & Baumgartner, 2005, p. 173). For example, in lawmaking, it can be seen as a check and balance of power between legislative and executive to avoid the abuse of power

from the other institutions.

According to Jones and Baumgartner (2005), there are (at least) four kinds of institutional costs. Firstly, *decision costs* are the costs of reaching agreement between various actors, be it through face-to-face bargaining, following voting rules as embedded within an institution or separation-of-power arrangements between various political institutions. Secondly, *transaction costs* are the costs that are inherited within the market that deal with the risks of contractual compliance between actors or institutions. Thirdly, *information costs* are costs of retrieving the relevant and specific type of information for decision-making. Fourthly and finally, *cognitive costs* are the limited information processing capacity of institution that is formed by individual actors. It includes limited attention span or heuristic biases to incoming information that are founded in neuroscience and behavioural economics (e.g., Tversky & Kahneman, 1974; Carter & Krug, 2012; Easton & Emery, 2005; Kahneman et al., 1982; Parker, Wilding, & Bussey, 2002).

Greater institutional friction results in a greater level of punctuated equilibrium in policy change—a combination of mostly incremental policy adjustments but subject to occasional periods of large and rapid policy change. Jones and Baumgartner theorise that "[t]o the extent that a political institution adds decision costs to collective action, the outputs from that institution will exhibit period of stability ("gridlock") interspersed with periods of rapid change" (2005, p. 150). Therefore, a testable hypothesis is that "[the] higher the decision costs that must be overcome to achieve a collective goal, the more punctuated the output are likely to be" (2005, p. 150).

But when does policy change take place? Jones and Baumgartner adopt the theory of disproportionate information processing and theorise policy incrementalism and punctuations as feedback processes. When negative feedback occurs, the environmental signals for policymaking "dampen out over time, making

little difference" in policy change; when positive feedback takes place, it "can break the friction" (Jones & Baumgartner, 2005, p. 88). These feedback processes may induce a chain of under-reaction and over-reaction in policymaking (Jones et al., 2014; Maor, 2014a). When the "friction comes lurching, once forces are sufficient to overcome the friction. So we see a combination of underreaction and overreaction to changes in the environment" (Jones & Baumgartner, 2005, pp. 88–89). The dynamic of policy change is a result of the interaction between the level of friction and the strength of the signals.

PET and incrementalism

Incrementalism is a special case of the PET. In other words, the PET is a more comprehensive framework than incrementalism. To measure incrementalism and punctuation, Jones and Baumgartner use stochastic process methods to measure how much the distributions of policy change deviates from a Guassian distribution (also known as the normal distribution and the bell curve)—a distribution that represents incremental policy change. They plot the aggregated distribution of policy change, and use the kurtosis to measure the "peakedness" and the thickness of the two tails of the distribution. A theoretical expectation of incremental change in policymaking subject to zero decision-making costs is a Guassian distribution (Padgett, 1980, 1981). Because the theory of incrementalism implies that policymakers respond to random environmental signals (information) proportionally based on the strength and seriousness of the issues. In other words, incremental policymaking is a random walk process—in which the policymakers do not know what environmental signals they would have in the next time point, even given that the signal of the current time point is known (a classic example is the stock price in the stock market). As a result, the outcome of series of proportionate responses to a random process, when aggregated, is bell-shaped. When the decision costs to

collective action increase, policy responses to environmental signals are no longer proportionate. Weaker signals would be barred due to higher decision costs. Stronger signals would be prioritised. As policy responses are disproportionate at the presence of decision cost, therefore, the corresponding distribution of policy change is no longer normal or bell-shaped—it becomes "more leptokurtic" and shows a pattern of punctuated equilibrium (Jones & Baumgartner, 2005, p. 170). Compared to the bell-shaped curve, the two tails of the distribution are flatter—meaning more occasions of large and rapid policy change—and the central peak is taller—meaning more stasis in policy change.

To summarise, theory of information processing treats institutions as information processors. Institutional friction exists when environmental signals for policymaking pass through the institutions—the information processors. Only when the strength of the signals overcomes the level of institutional friction, there are policy changes. Otherwise, the signal would be attenuated. During political liberalisation, the level of institutional friction increases via two mechanisms: a greater level of institutional constraints and information abundance. In the next section, I will review the policymaking processes in authoritarian legislatures and discuss how institutional constraints and the greater flow and exchange of information would influence policymaking processes in authoritarian regimes.

2.1.3 Divided government and gridlock

One plausible explanation of policy change is to account for the controversy and salience of the policies (Baumgartner et al., 2013; Coleman, 1999; Edwards et al., 1997; Howell, Adler, Cameron, & Riemann, 2000; Mayhew, 1991). For example, important bills may be more controversial and thus more difficult to pass. In the studies of US congressional politics and the separation of powers, there is a debate on whether a unified or divided government results in more policy change or leads

to policy gridlock, that is, the inability to change the existing policy. It has long been believed that a unified government is more legislatively productive. Mayhew's *Divided We Govern* (1991) prompted a substantial debate in this field with a contradictory finding. He found that divided government in the US—defined as situations where at least one majority party in one chamber is different from the president's party—enacts important legislation as much as unified government does. This finding received a lot of skepticism and stimulated a number of new research ideas on the effect of divided government in legislative productivity. For example, instead of looking at legislative success, Edwards et al. (1997) look at legislation that failed to pass, and find that presidents are more likely to veto important legislation under divided governments. Howell et al. recode Mayhew's data "on the basis of contemporaneous perceptions of important legislation" (2000, p. 302) and report that the production of important legislations declined by about 30 per cent during the periods of divided government.

Divided government is a notion of gridlock in legislation, but it is not the only account of lawmaking in American politics. Cartel theory and pivotal politics theory provide an alternative understanding of policy gridlock in the political process (Krehbiel, 2006). Cox & McCubbins (2005), proposing the cartel agenda model, argue that leadership in majority party has the monopoly over legislative agenda. Krehbiel (1998), on the other hand, proposes pivotal theory to assess the position of filibusters and presidential vetoes to measure the level of gridlock that could obstruct the passage of new legislation. Adler & Wilkerson (2012) argue that a divided Congress in the US can act pragmatically to solve imminent problems first and work on the expiring laws diligently, rather than showing an ever uncompromising attitude. Wolfe (2012) showed that laws subject to higher publicity tend to slow down the lawmaking process rather than accelerate it. Stimson et al.'s (Erikson, Mackuen, & Stimson, 2000; 1991) theory of dynamic representation argues

that public sentiment influences public policies.

Divided government and policy gridlock can also occur in authoritarian regimes. However, the above theoretical explanations have limited power for explaining policy gridlock in authoritarian regimes. For instance, Mayhew's divided government concept and cartel agenda model require at least two comparable political parties in power. Whereas, many authoritarian regimes belong to single-party system or single-party dominant system. "Party preference" is therefore not a very useful concept in explaining why a single-party system or single-party dominant system fails to pass legislation. The pivotal politics theory takes filibuster and veto into account and thus it provides a viable explanation to legislative productivity in authoritarian legislatures. All these shows some theories developed in democracies are not suitable to explain policy changes in authoritarian regimes because the mechanisms are different. We need a new analytical framework to explain policy change and policy gridlock in authoritarian regimes.

2.1.4 Veto player theory

Another plausible explanation is to consider the spatial policy positions or preferences of the median lawmakers in the legislature (Congleton, 2004; Tsebelis, 2002). When policy positions of each of the individual lawmakers are closer, it is more likely to result in policy change. However, in reality, political actors work in groups. Lawmakers form parties or coalition to influence policies. Taken into account this group effect, the cartel agenda theory suggests that leaders of majority party may have full control over political agendas and policies (Cox & McCubbins, 2005). However, small parties are not completely powerless, they could still use strategy such as filibusters to veto legislative proposals or at least delay the legislative process (Krehbiel, 1991, 1998; Tsebelis, 2002). Alternatively, small parties may bargain by calling for more amendments to legislation (Russell, Gover, Wollter,

& Benton, 2015; Russell & Sciara, 2009).

Veto player theory, as theorised by Tsebelis (2002), suggests that if veto players exist in the legislatures, legislations may be blocked by any of the veto players when there is a disagreement. Veto players can either vote against the bills or use filibusters to oppose and stop the legislative procedure. Imagine if there is only one dominant party in the legislature, there is no veto point. When there are one majority party and one minority party, the minority party can potentially act as the veto player depending on whether the majority have enough votes to pass the legislation. If they do not have enough votes, dominant party has to bargain with the minority party. Imagine further that when there are three or more effective parties in the legislature, in order to pass a bill, much greater effort is required to secure consensus from each of the distinct parties. Therefore, veto player theory also dictates that, with a higher number of politicl parties involved in the legislature, it is harder for governments to coordinate and secure supports to pass the bills. It thus results in lower legislative productivity.

2.1.5 Collective action theory

Mancur Olson (1965) proposes the collective action theory and suggests that when more individuals involved, it is harder to coordinate among these individuals. Legislatures, as they are composed of different individuals, also cannot move beyond the logic of collective actions. Collective actions theory implies that when the size of the legislature is larger (more lawmakers involved), it requires a greater coordination cost and thus harder to bring about policy change (Taylor, 2006).

These theories, however, are formulated under the context of Western advanced democracies and it does not address the systematic differences between authoritarian and democratic regimes. It may lead to a wrong expectation of policymaking in authoritarian legislatures. For instance, autocrats usually have high

degree of control in authoritarian legislatures (see Svolik (2012) for different subtypes of legislatures of various degree of control). Effective political opposition does not necessarily and meaningfully exist in authoritarian legislatures. In this way, the above theories would predict authoritarian legislatures could pass all bills swiftly. However, we can still observe some bills being rejected in non-partisan and one-party-dominant authoritarian legislatures. It raises theoretical puzzles in answering what explain policy influences in authoritarian legislatures.

2.2 Policymaking in authoritarian regimes

A conventional view holds that authoritarian governments dominate policy processes. Yet, it is not uncommon to see legislatures, an important symbol of democratic systems to provide "checks and balances" to the policymaking processes, are created in authoritarian territories (Svolik, 2012). These authoritarian legislatures are often criticized as "window dressing", "parodies" or even "rubber stamps" (Blondel, 1973, p. 6; Truex, 2016, p. 3), meaning that they do not have real influence and input in the policymaking processes. Authoritarian legislatures are set up to create an impression that the policymaking processes are inclusive (by engaging more stakeholders) and transparent (by discussing policy issues in the assembly that are usually under the spotlights). In contrast, democratic legislatures have substantial influences on policymaking processes. Elected representatives are democratically accountable and thus tend to scrutinise governments' policy proposals more carefully and critically. It means that authoritarian and democratic legislatures are functionally and systematically different by design and thus would lead to very different practices in information search and decision-making (Baumgartner et al., 2017; Lam & Chan, 2015). Well-established theories in Western democracies do not necessarily translate smoothly into the study of

authoritarian regimes because of these different institutional logic.

Even though recent studies suggest that authoritarian legislatures are more than "rubber stamps" (Noble, 2018; Truex, 2016), we know little about the information exchange and decision-making processes in authoritarian regimes, not to mention about the effect of political liberalisation. While there are a lot of studies about policymaking in the Western democratic regimes (Green-Pedersen & Walgrave, 2014; Jones et al., 2009; Sabatier & Weible, 2014), there is lack of study posing the question of how information exchange and decision-making affect policymaking in authoritarian regime.

Before highlighting my theoretical claims, I shall first review the existing theories in authoritarian regimes and discuss how they could give insights to the understanding of policy processes. The theory of disproportionate information processing dictates that institutional frictions are embedded in political systems and such "stickiness" in the system lead the distribution of policy change to punctuated equilibrium, that is, a series of mostly incremental policy changes with occasional periods of large and rapid ones (Jones & Baumgartner, 2005). The theory has the potential to be extended to the study of authoritarian regimes but such theoretical arguments have to be explicitly formulated and tested. In the following, I will discuss how the competing theories in authoritarian regimes interact with the theory of disproportionate information. The effect of political liberalisation will also be taken into consideration.

2.2.1 Rubber stamp

A common view holds that authoritarian legislatures are "rubber stamps". This means that the establishment of authoritarian legislatures is simply window-dressing or decorative. However, such a perspective does not necessarily see authoritarian legislatures as meaningless. In fact, one important function of rubber-stamp

legislatures is that the authoritarian governments use legislative assemblies to generate legitimacy for their policies (Truex, 2016, 2017; Wu, 2015). The pseudo democratic assembly setting involves political and social elites discussing policies and it projects an image of deliberation and bargaining between members of legislatures. Fainsod asserted that the assembly and elections in the Soviet Union "play an important propaganda role both at home and abroad" to boost the legitimacy of the communist ideas (Fainsod, 1953, p. 292). Authoritarian legislatures are the venues of high publicity and are important platform for the autocrats to disseminate information and policies to the wider public, so as to consolidate their ruling.

Nonetheless, rubber-stamp legislatures have minimal policy influences. This is because rubber-stamp perspective assumes that the members of legislature are loyal to the autocrats and would usually, if not automatically, accept policies proposed by the autocrats. Also, the rubber-stamp legislatures have minimal democratic representation and accountability. The members are selected based on their regime loyalty rather than their constituent representation. The members are rewarded for the social status but they receive minimal policy concessions and rents. Therefore, the rubber stamp perspective dictates that authoritarian legislatures have minimal policy influences. As such, the institution friction should be minimal and the authoritarian regime could enjoy a very high institution flexibility in policymaking (see more explanation of the institutional efficiency hypothesis in Baumgartner et al., 2017). Because of the lack of institutional constraint, the autocrats can freely maneuver their resources to produce policies. The rubber-stamp perspective thus suggests that authoritarian legislature is an efficient adaptive system. Policymaking is highly responsive to the changing political and social environments. There are swift and efficient policy changes and adjustments that react to the severity of the policy problems.

When political liberalisation takes place in authoritarian regimes, rubber-stamp perspective advocates would argue that the regime has enough resources and capacity to ensure the election is highly controlled so that elected members are all loyal to the regime. In this sense, meaningful political opposition is absent. This ensures that the dominance of the autocrats in the policy processes.

2.2.2 Information perspective

Although the rubber-stamp perspective advocates that autocrats have a high degree of control on the policy processes, a crucial dilemma faced by authoritarian regimes is the lack of policy-relevant information to gauge and understand citizen preferences and grievances, and thus the autocrats cannot obtain useful information to tackle policy problems to sustain the regime longevity (Gandhi & Przeworski, 2007; Magaloni, 2008; Malesky & Schuler, 2011). Because autocrats hold a tight grip on its power and demand a high level of loyalty from other political actors, it also limits the freedom of expressing the demands and grievances to the regimes. In addition, the repression increases the cost of expressing certain information and opinions and thus causes preference falsification—the political actors and the public lie about their genuine wishes (Jiang & Yang, 2016; Kuran, 1987). The absence of the freedom of expression in authoritarian regimes also limits autocrats' capacity to obtain true information to tackle policy problems and address the grievances in society.

Besides, the selectorate theory asserts that autocrats only have to please and exchange with a small group of political actors in order to maintain the regime survival and longevity (Bueno de Mesquita et al., 2003; Gallagher & Hanson, 2015). Such a narrow focus also limits the information exposure of the autocrats. An ideal and rational form of policymaking, that can be seen as an efficient adaptive systems, requires a wider search of information. Without enough information, the autocrats

cannot formulate effective policies to address the grievances in the society.

When the grievances in the society are not addressed properly, some of them would not simply be attenuated and dissipate. Some of the grievances may accumulate (Jones & Baumgartner, 2004). When the grievances reach a certain level, it may generate a solid oppositional force to overthrow the regimes. If autocrats are completely blind to this and fail to capture policy-relevant information, such as the true level of discontent in the society, the regimes could have a higher risk to breakdown. From this perspective, autocrats have the incentive to liberalise the information environment so as to retrieve quality and useful policy-relevant information to tackle policy problems.

Liberalising the information environment completely may improve the information quality. However, it would also undermine the regimes survival and longevity. If the media and opposition can freely express their criticisms to the government, it posseses a challenge to the legitimacy and governance of the autorats.

Information theory in autocracies addresses this dilemma and proposes that autocrats harness information sources carefully and allow certain oppositional voices to express their opinions on certain issues and channel it to the autocrats (Brownlee, 2007; Gandhi & Przeworski, 2007; Malesky & Schuler, 2011). There are multiple ways to allow the expression of these opinions.

Elections, as formal institutions, are frequently used to monitor the public support (or public disapproval) to the regimes. Autocrats could use these information to adjust their policy priorities and focuses, so as to maintain a good level of public support (Miller, 2015). Also, a more open election allows politicians to openly question autocrats in the assemblies and it facilitates, although still constrained, a more free flow and exchange of information (Malesky & Schuler, 2011). In informal institutions, autocrats may allow the existence of “watchdog journalism” to report discontents and social grievances to the autocrats in a

controlled manner, so that more policy-relevant information for better governance may be obtained and carefully harnessed (George, 2007; Lorentzen, 2014). The commercialisation of the media sector in authoritarian regimes is also found to be beneficial to the ruling stability of the regimes because it enhances information credibility (Stockmann, 2013), so that the businesses could trust that the information are trustworthy for their business growth. Moreover, autocrats allow non-sensitive political discussion in social media is to some degree as a way to reveal public sentiments (King et al., 2013; King, Pan, & Roberts, 2014). For the same reason, autocrats may also allow the occurrence of limited and regulated protests in the territory (Lorentzen, 2013; Pierskalla, 2010).

The information perspective claims that acquiring policy-relevant information is the key to respond to policy problems. The rubber-stamp perspective assumes that the autocrats are responsive to the external environment. However, the information perspective highlights that, without knowing the genuine preferences and grievances of the political opposition and citizens, autocrats are less likely to change policies and would end up maintaining their status quo (Chan & Zhao, 2016). Information perspective asserts that the autocrat is reluctant to deliver timely policy changes due to a lack of policy-relevant information. Borrowing the concept of theory of disproportionate information processing, autocrats have huge cognitive constraints in receiving policy-relevant information to make effective policy changes and thus the distribution of policy change is likely to be mostly stable but also reveals occasional periods of large and rapid adjustment.

Integrating the dynamics of political liberalisation into the information perspective, advocates are likely to argue that elections are important tools for the autocrats to access policy-relevant information. As the goal of autocrats is to acquire relevant information for more effective policymaking, they are incentivised to liberalise their legislatures. In this process, when autocrats start to liberalise

legislatures, there are likely more consultations, bargaining and compromises with lawmakers on policy matters. However, the information perspective would insist that the benefit of receiving policy-relevant information would compensate the cost of policy compromises. Thus, information perspective is likely to suggest that the dynamic process of political liberalisation would increase the information flow, thus leading to more policy changes and adjustments, resulting in a lower level of punctuated equilibrium of policy change.

2.2.3 Power-sharing theory

Autocrats share power in some occasions. One purpose of setting up authoritarian legislatures is to maintain the longevity of ruling powers by reducing "commitment and monitoring problems in *authoritarian power-sharing*, whether it is among those who already support the dictator or between the dictator and the newly recruited supporters" (Svolik, 2012, p. 88, italic in original). Autocrats and its allies need to maintain a stable and mutually beneficial relationship by showing credible commitments to each other and avoid the autocrats to fall back into a tyranny (Svolik, 2008), which could undermine the interests of the ruling elites and their allies. Power-sharing arrangement is a formal institutional mechanism to ensure that autocrats would not overly expand by centralising power at the expense of the elites and allies. Besides, autocrats may choose to concede policies and provide rents to keep elites and their capital stable in the territory—a more stable political economic condition—which would in turn benefit the autocrats (Boix, 2003). Moreover, sharing power with elites and harnessing their interests reduces the probability of their rebellion. As such, it improves the political and economic stability and ensures the regime survival.

In the power-sharing perspective, legislatures are where policy compromises take place between autocrats and elites and where they maintain frequent

interactions (Gehlbach & Keefer, 2011, 2012; Svolik, 2012). In these interactions, it shows how the two sides exhibit their credibility or loyalty to one another. Because legislature is where policy compromises take place, the power-sharing perspective argues that policy processes are not completely smooth and flexible to the will of the autocrats, which is fundamentally different from the rubber-stamp perspective. Therefore, power-sharing advocates would argue that legislatures impose higher institutional constraint to the policymaking processes than rubber-stamp legislatures. However, it must be noted that power-sharing perspective assumes political system has limited degree of political liberalisation, as autocrat shares power only among the elites by means such as political appointment or highly controlled elections. Political opposition are excluded from the legislatures and other formal political institutions. The policy influence of the legislature is still constrained.

The power-sharing perspective is silent on the effect of political liberalisation, because it assumed that the autocrats only share the power to the elites or allies (Svolik, 2009; Svolik2012; Boix & Svolik, 2013). In this way, democratic representation and accountability under power-sharing are minimal (Truex, 2016). The projection of punctuated equilibrium in policy change should be bigger—predominately stability with occasional periods of large and rapid policy change—than the rubber-stamp perspective. But by and large the autocrats still enjoy high degree of institutional flexibility compared to the democratic regimes.

2.2.4 Co-optation theory

Apart from allies, autocrats have to deal with the challenges from the political opposition. Co-optation theory provides explanation on how autocrats use co-optation as a strategy to cope with the challenges. Similar to power-sharing perspective, the goal of co-optation is to maintain regime survival. Gandhi (2008)

identifies at least three ways that legislatures could benefit the autocrats: identify relevant partners and opposition, allow information exchange between opposition and autocrat, and prevent the occurrence of large-scale and dismantling protests.

In addition, autocrats are motivated by the economic incentives generated from the society (Gandhi, 2008). A classic work by McGuire & Olson (1996) asserts that dictators are likely to act as "stationary bandits" to ensure the society could generate stable and sustainable productions, rather than as "roving bandits" to extract all they could get from the society in one go. For the same reason, Gandhi (2008) argues that, when natural resource is limited, autocrats are more likely to cooperate with political opposition so as to make more sustainable profits from the society. Autocrats would avoid capitals moving away from their territory (Boix, 2003). To do so, the setup of legislatures in authoritarian regimes may lower the risk of expropriation of natural resources and strengthen the confidence of the domestic and foreign investors (Wilson & Wright, 2017). In this way, using legislatures to co-opt political opposition provides a key platform for distributing policy concessions and rents to political opposition and in return autocrats can benefit from better and more sustainable economic returns.

Co-optation theory advocates assert that the authoritarian legislatures have higher policy influences. In line with the power-sharing perspective, policy compromises take place within legislatures. Similarly, autocrats grant policy concessions and rents to the political opposition. While the power-sharing perspective assumes that lawmakers are composed of elites and allies, the co-optation perspective asserts that lawmakers are more freely and openly elected and thus have greater representations to a wider range of constituencies. Democratic representation and accountability are obviously higher in the eyes of the co-optation theorists than that of the power-sharing theorists. Of course, in most authoritarian regimes, the majority of lawmakers does not belong to the opposition camp, and are

unlikely to be so, due to the uneven power and resources between the autocrats and the political opposition. Thus, we shall expect that authoritarian legislatures do not have policy influences as high as in the democracies, yet it is still higher than that predicted by the rubber stamp and power-sharing perspectives. Co-optation theory predicts greater level of institutional constraints on policymaking than the rubber stamp and power-sharing perspectives. As a result, there is a greater level of punctuated equilibrium in policy change. Both co-optation and information perspectives shall have a greater level of punctuated equilibrium in policy change, but the former is resulted from institutional constraint on decision-making while the latter is due to the cognitive limitations on receiving policy-relevant information.

The co-optation theory assumes the existence of certain degree of political liberalisation. When the process of political liberalisation emerges further, it means more seats in legislatures will be opened up for contestation. In this sense, the higher degree of political liberalisation has increased the likelihood that political opposition would control more seats in the legislatures. When the proportion of opposition in the legislature is greater, autocrats have to negotiate with more opposition, making it harder to reach policy agreements, as veto player theory predicts (Tsebelis, 2002). In brief, as the process of political liberalisation takes place, authoritarian legislatures are more likely to have a higher level of institutional constraints on policymaking processes: it leads to greater level of punctuated equilibrium in policy change, longer duration in policy process and lower volume of policy outputs.

This section shows the influence of bargaining and information exchange processes by reviewing four competing theories in authoritarian regimes. Each one has different expectations on policymaking processes. The next section reviews the evidences that highlight the differences in policymaking between democracies and authoritarian regimes.

2.3 A model of policy processes: bargaining and information exchange

Drawing from the above discussion, policymaking can be seen as an information processer—an adaptive system that processes information constantly. Policymakers process incoming information by filtering what to pay attention to and what to ignore and also priorilising what to deal with first and pay more attention. In a highly efficient information process, policymakers should be fully responsive to all incoming information and signals from the environments according to the severity of the problem. A more abstract description of this is that policymakers pay proportionate attention according to the strength of the incoming information and signals. A formal mathematical representation of proportionate information-processing of policy response can be seen as follow:

$$R = \beta S$$

where R is the response or change in policy output, S represents the magnitude of the information or signal, and β is the amplification parameter. In this proportionate system, any change in external information or signal S would lead to a corresponding response that is proportional to the strength of the signal. That said, a big signal will lead to a big response. A small signal will result in a small response. Hypothetically, external information or signal S can be modelled and assumed to be exogenous random shocks. Each event or incident is random and independent to other events or incidents and thus S can be modelled as a random distribution (the Gaussian distribution or the bell curve). In theory, it can also be modelled as any distribution. Jones & Baumgartner (2004) and Jones & Baumgartner (2005) have demonstrated that the distrbution of the incoming signals

does not necessarily follow a random distribution[1].

However, this hypothetical system of proportionate information-processing is largely untrue, because it neglects the existence of cost or friction in real world decision-making. There are at least four kinds of costs in decision-making (Jones, 1994, 2001; Jones & Baumgartner, 2005; Simon, 1947). The costs can either be the cognitive cost (limited cognitive power of each individual), information cost (the cost of retrieving and acquiring relevant information from the sea of information), market transaction cost and institutional cost (which Jones & Baumgartner (2005) termed as institutional friction).

To update the above information-processing model with cost, the mathematical representation can be written as:

$$R = \beta S + C$$

where C here represents a set (constant) cost on every signal in the system. In this case, When the strength of the signal is equal to or smaller than the magnitude of C, there will be no responses at all. In order to create any sizeable and noticeable policy response, the strength of the signal has to be at least greater than the magnitude of C. The size of the policy response will increase linearly when the strength of the signal increases beyond C. Therefore, any signal beyond the size of the fixed cost will produce response with strength equals to the size of the signal minus the magnitude of the cost. Therefore, the information-processing model with set cost also leads to create proportionate responses to the signal from the environment, a pattern predicted by the incrementalism but cannot explain the occasional periods of radical and abrupt policy changes.

To explain both stability and instability (abrupt changes) in policy-making,

[1]Jones & Baumgartner (2004) and Jones & Baumgartner (2005) have deomonstrated the theory also works well with the incoming siganls that do not follow a random distribution. For simplicity, therefore, I assume that all incoming signals follow the random distribution.

Jones & Baumgartner (2005, also see 2004) argue that the cost should be multiplicative rather than additive. The equation, thus, can be rewritten as:

$$R = \beta S \times C$$

This shows that the cost $\times C$ has interaction with the size of the signal S. It means that smaller signals are largely ignored and eliminated by the decision-making institution, while larger signal are intensified and result in a larger response compare with that in the cost-free and set-cost environments. This can be seen as a process of positive and negative feedbacks: positive feedback intensifies the incoming signals while negative feedbacks suppresses the signals.

The property of the multiplicative cost shows that the decision-making institution would pay less attention on weak signal, and more attention on strong signal. It results in a pattern of disproportionality of attention on signals of different strength and is thus labelled as the model of disproportionate information-processing.

To illustrate the effect of the three different cost structures stated above visually, figure 2.1 shows the relationship between the strength of the signal S and that of the response R simulated with different cost structure. The long-dash line shows the response in an ideal cost-free system $R = S$. The dotted line represents the effect when a set cost is added in the system. Compared to a cost-free system, each of the responses are deducted by a constant value of the cost. In figure 2.1, every response in a set cost structure is lower than that in a cost-free system. The solid line shows the effect of the multiplicative cost. In this graphical representation, we hypothetically put $C = S$, and thus we have $R = S^2$. When the signal S is low, the responses are more suppressed than that in both cost-free system and set cost structure. However, when the signal S becomes stronger, the responses can surpass that of a set cost structure and even that of a cost-free system. It shows that the

multiplicative cost structure results in a disproportionate response—the strength of the response is not proportionate to that of the incoming signal and it varies—unlike that of the proportionate responses in the cost-free and set cost structures.

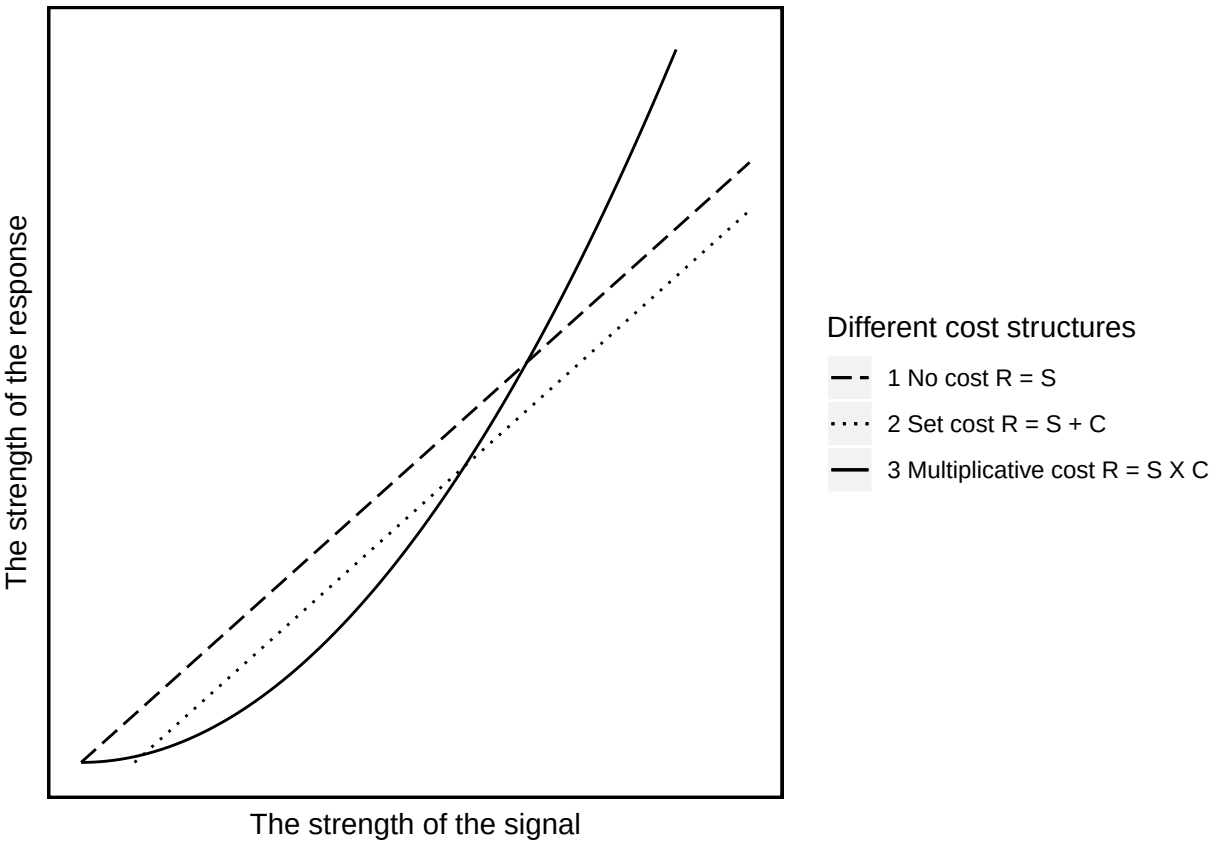

Figure 2.1: Different responses in different cost structures.

Figure 2.2 shows the original signals and the corresponding transformed distribution after the signals are passing through a non-linear (multiplicative) cost structure. The x-axis represents the strength of the incoming signals. The original signals form a clear normal distribution. It means that majority of the strengths of the signals are around zero (i.e. small). Large signals are very rare as you can see the two tails of the normal distribution are very small. Each of these signals is then transformed by the non-linear cost structure[2]. The new distribution represents the strength of responses. The aggregation of these transformed signals becomes a

[2]In this illustration, I use the 3ˆrd power transformation

leptokurtic distribution (in grey)—it features a much higher central peak and two fat tails on two sides. It indicates that decision-making institution with multiplicative cost structure do not respond most of the time (response strength ≈ 0) when the incoming signals are small (as shown in the high central peak). However, when the decision-making institution receives large signals, it would produce tremendous responses (the two fat tails). As such, the multiplicative cost structure embedded in decision-making institution produces disproportionate responses. The size of the multiplicative cost dictates the size of the response.

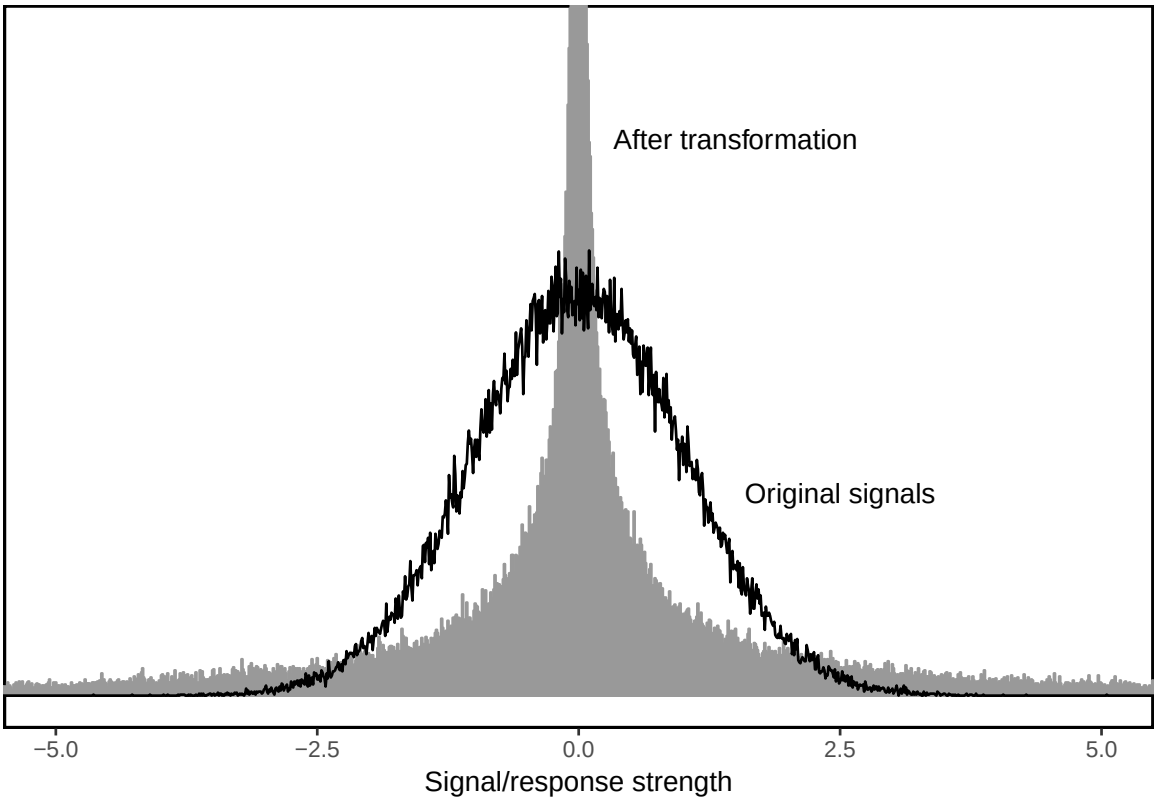

Figure 2.2: Incoming signals in normal distribution and the distribution of the transformed signals.

2.4 Hybrid model

The multiplicative cost structure proposed by Jones & Baumgartner (2005) provides a novel framework in understanding how such cost structure respond to incoming

signal disproportionately. It implies that the interaction between the strength of the signal and the cost explain the size of the policy change. When the signal is small, policymakers ignore it. When the signal is huge, policymakers overreact.

The quadratic transformation $R = S^2$ is only one possible type of multiplicative cost structure. Jones & Baumgartner (2004) propose and simulated other cost structures such as the power transformation (e.g. $R = S^3$, $R = S^5$, $R = S^7$), exponential transformation (i.e. $R = \exp(S)$), logarithm transformation (i.e. $R = \log(S)$) and root transformation (e.g. $R = \sqrt{S}$). They reported that the power transformation and exponential transformation would lead to a convex curve similar to the one in figure 2.1. Thus, the responses are more suppressed when the signal is small and are amplified when the signal is huge. In contrast, they found that root transformattion and logarithm transformations result a concave curve. These two transformations work completely differently from the transformations that cause the convex curve mentioned above. Responses are amplified when the signal is small and are suppressed when the signal is huge. They assert that all decision-making process involves cost and thus we would generally observe power and exponential transformations in real-world system.

Yet, the dynamics of the multiplicative cost structure is not well understood. It is unclear how and under what circumstances the multiplicative cost structure changes, that is, when the multiplicative cost structure increases and decreases. The study of how political liberalisation impacts policy processes provides us with an opportunity to observe and theorise the dynamics of the multiplicative cost structure. As regimes liberalise, the corresponding number of political parties is likely to increase. In this process, it changes the bargaining cost as well as the process of information exchange.

The benefits of the information exchange, I argue, reduce the size of the multiplicative cost structure. It can be called as the *multiplicative benefit structure*.

The multiplicative benefit structure facilitates the adaptivity in policymaking (more frequent and moderate policy changes to respond to the signals coming from the environment) and thus we observe less punctuations in the distribution of the policy change.

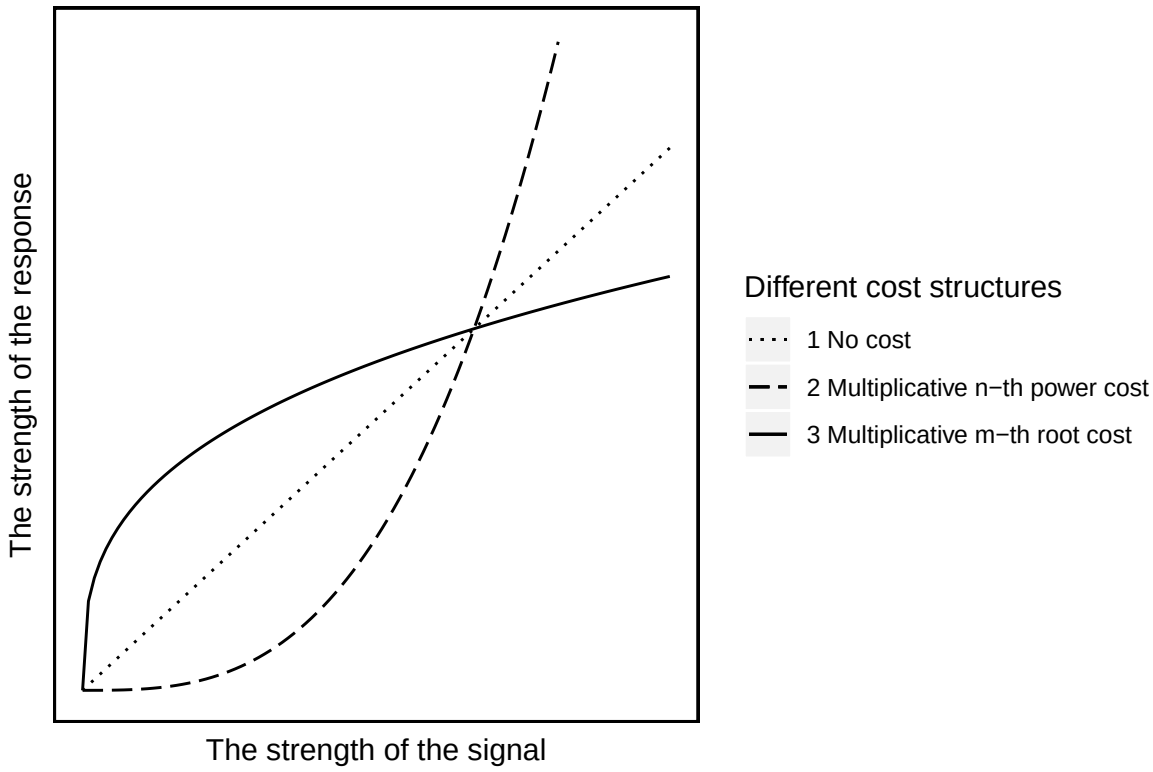

Figure 2.3: The responses of n-th power cost and m-th root power cost.

In this thesis, I expand on Jones and Baumgartner's (2004) pioneer work of the multiplicative cost structure as an explanation of the over and under-reactions in policy outputs, and use it as the basis of my theoretical framework. The dual process of bargaining and information exchange features the transformations that lead to both "convex" and "concave" curves. The bargaining process imposes extra decision cost (the multiplicative cost structure) onto the policy processes. Thus, the policy response follows the convex curve as shown in 2.1 and becomes more disproportionate. Information exchange process, in contrast, enhances the information provision to the policymakers and thus reduces the information cost of

policymaking (the multiplicative benefit structure). When the information cost is lower, the policy responses become more proportionate to the incoming signals. Following this, we shall observe a concave pattern. However, in the real world, cost exists in all human activities and in every institution. It is not likely to observe a pure concave pattern of policy response. Yet, a core insight drawing from the above discussion is that, information exchange process provides policymakers the necessary and useful policy-relevant information and leads to a relatively more proportionate policy response as dictated by the concave pattern.

Following the above discussion, the effect of the bargaining process is a form of multiplicative cost structure and could be modelled as a n-th power transformation process[3] as shown below, where $n \geqslant 1$. The behaviour of the n-th power transformation is shown in the upper figure of the figure 2.4. It represents the increasing marginal bargaining costs as the number of political parties increases. When the bargaining costs become greater, n becomes greater and thus results in more disproportionate responses in policy outputs.

$$R = \beta S^n$$

In contrast, the effect of information exchange process is a form of multiplicative benefit structure and could be modelled as an m-th root transformation[4], where $m \geqslant 1$. The behaviour of the m-th root transformation is shown in the lower figure of the figure 2.4. It represents the diminishing marginal benefits of information exchange as the number of political parties increase. Each unit increase in the number of political parties produces a smaller unit increase in the benefit of the information exchange. When the benefits of information exchange

[3]Exponential transformation would also lead to a similar process. For simplicity, we use power transformation here.

[4]Again, logarithm transformation would also lead to a similar process. For simplicity, we use root transformation here.

become greater, m becomes greater and thus results in more proportionate responses in policy outputs.

$$R = \beta S^{1/m}$$

Figure 2.3 visualises the effect of n-th power and m-th root transformation process on the relationship between the strength of the incoming signals and strength of the responses. In this illustration, I put $n = m = 3$. The cost-free system is represented in the dotted straight line and the n-th power transformation is represented by the long-dash convex curve. The second root transformation, however, yield a concave curve (solid line) as discussed above.

A dual process of bargaining and information exchange suggests that the bargaining and information exchange processes take effect at the same time but change at different rate. To model this duel process, the n-th power and m-th root transformations are combined and the relationship between signals and responses are shown in the following formula. As the number of political parties increases as regimes liberalise, both n (that denotes the bargaining costs) and m (that denotes the benefits of information exchange) increase. The two effects countervail each other. In reality, n is not equal to or less than 1 and is generally greater than m. In other words, it is rare to see $n/m < 1$

$$R = \beta S^{n/m}$$

So far, I have illustrated that the size of the multiplicative cost dictates the size of the response with varying level of incoming signal. When the multiplicative cost is higher, the response becomes more suppressed when the signal is small and the response becomes more intensified when the signal is large. It implies that a higher multiplicative cost results in more disproportionate responses (given the same

incoming signal) that can be observed in more radical and abrupt policy changes. In contrast, a lower multiplicative cost results in a more proportionate response and one shall observe less radical and abrupt policy changes. In order to illustrate how varying multiplicative costs result in different policy responses. I offer some simulations using the n-th power and m-th root transformations to reveal such relationship.

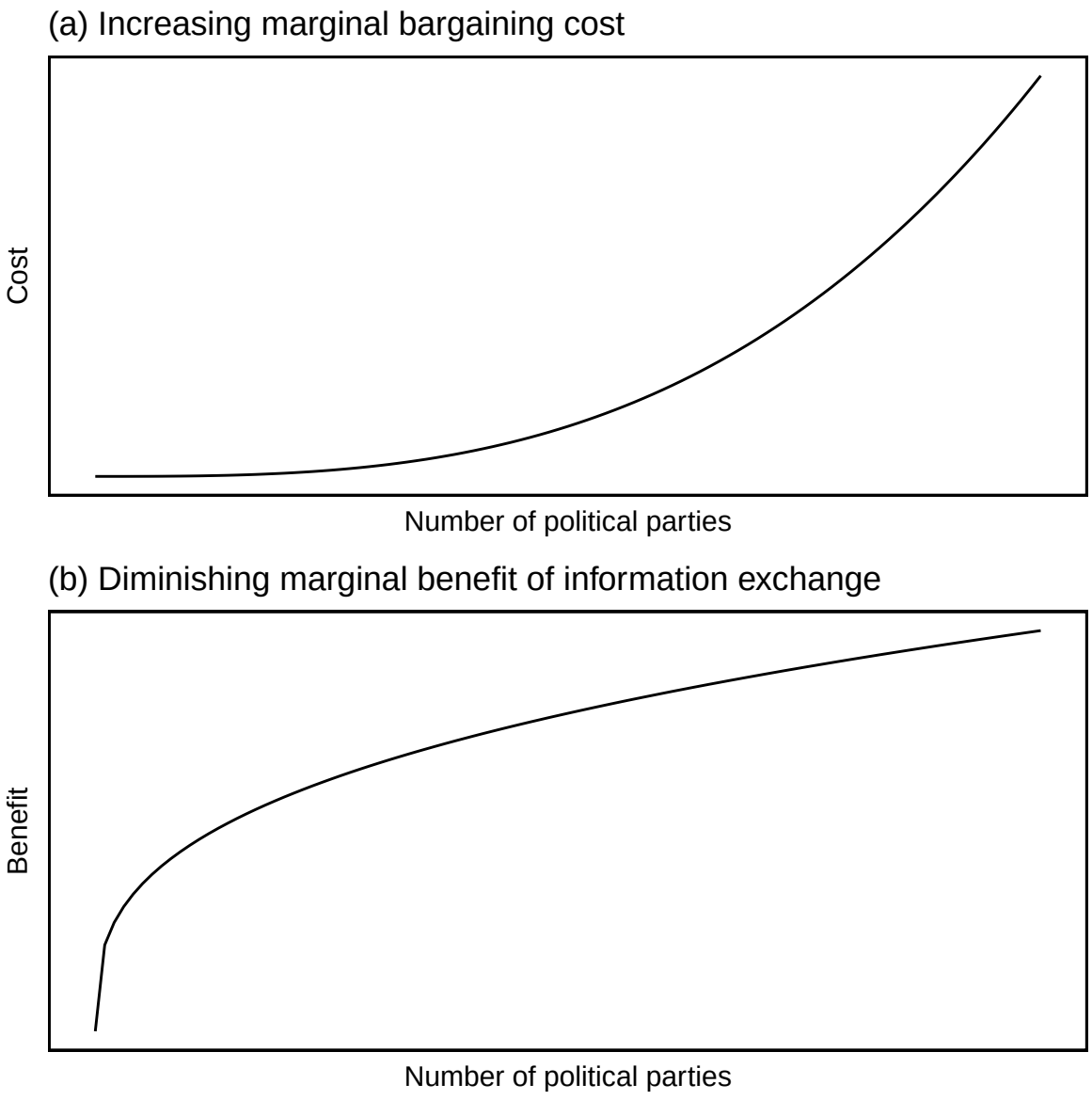

Figure 2.4: Illustration of increasing marginal bargaining cost and diminishing marginal benefit of information exchange.

2.4.1 Simulating the n-th power and m-th root transformations

First of all, I have to simulate the incoming signals. Here, I simulate that the incoming signal follows a normal (bell-shaped) distribution. There are two reasons to use normal distribution. First, normal distribution is a commonly-used distribution that simulate randomness. When the incoming signal is thought to be unknown, social and natural scientists assume the accumulation of the signals follows normal distribution. Second, the central limit theorem states that the average of the samples of the observations drawn from various independent distribution (that does not necessarily normal) follows a normal distribution. Therefore, there is a strong theoretical reason to simulate the incoming signals as normal[5]. The simulation is done by R. I draw 10,000 random numbers from a normalised normal distribution with mean = 0 and standard deviation = 1. Figure 2.2 shows the the distribution of the simulated signals and it clearly follows a normal distribution. In the same figure, it shows a transformed distribution with the power 3 (cube) transformation. It shows clearly that a power transformation would lead to a distribution with higher central peak, lower shoulders and larger tails on the two sides.

So far, we see that different multiplicative cost structures have different distributions. Kurtosis score is a statistical tool to evaluate the height of the central peak and the size of the two tails of a distribution. When the kurtosis score is equal to three, it means the distribution is normally distributed. When the kurtosis is greater than three, we call it leptokurtic distribution (higher central peak, lower shoulders and fatter tails) as we have seen above. When the kurtosis score is below three, the distribution is platykurtic (lower central peak, higher shoulders and

[5]Jones & Baumgartner (2005) have shown that the transformation should work equally well for signals that does not follow normal distribution.

smaller tails).

Table 2.1 shows the kurtosis scores of different distributions after different forms of transformation. The kurtosis score of the distribution of the original signals is 3, as it is simulated by a random generator that follows the normal distribution. As we can see, when the n-th power transformation becomes greater (i.e., n becomes greater), the kurtosis score also becomes greater (that is, higher central peak and larger tails). The kurtosis score of the distribution after a cube transformation ($n = 3$) is 54.56. The kurtosis score of the distribution after a power 5 transformation ($n = 5$) increases by over 27 times compared with the cube transformation to 1460.11. The power 7 transformation ($n = 7$) further increases the kurtosis score of the distribution to 14,176.32. It shows that the kurtosis score of the transformed distribution increases significantly as n increases. The n-th power transformation generates responses that are mostly stable (not responding) as informed by the higher central peak and also more frequent overreacting responses as informed by the two large tails.

However, the m-th root transformation yields a mixing result. The root 3 transformation (i.e. cube root and $m = 3$) results in a distribution with kurtosis score equals to 2.68. Recall that the kurtosis score of a normal distribution is 3. Kurtosis score at 2.68 means that the transformed distribution is platykurtic. It thus has a lower central peak, higher shoulders and smaller tails compared with a normal distribution. It means that the responses are more moderate and tend to show under-responses when the incoming signals are large. However, when the root transformation increases (i.e., m increases), the kurtosis score of the transformed distribution also increases (although relatively moderately) to 3.36 after root 5 transformation ($m = 5$) and to 3.93 after root 7 transformation ($m = 7$). To ascertain the effect of different transformation, I simulate how different power transformations (as the values of n/m increases from zero) transform the incoming

Table 2.1: The kurtosis score of different transformed distribution.

Transformation	Kurtosis Score
Original	3.02
Power 3 (cube)	54.56
Power 5	1460.11
Power 7	14176.32
Root 3 (cube root)	2.68
Root 5	3.36
Root 7	3.93

signals that follow a normal distribution differently. Figure 2.5 shows the results of the simulation. As an indication, a long dash straight line is plotted on the figure to show when the kurtosis score is equal to 3 that represents the kurtosis score of the normal distribution. The triangle (power = 1 and kurtosis score = 3) denotes the kurtosis score when $n/m = 1$ (i.e. no transformation). It is evident that the relationship between the transformation and the kurtosis score is not linear. It is interesting to note when n/m is marginally smaller or greater than 1, the kurtosis score jumps well above 3. The kurtosis score declines when the power of the transformation increases from 0 to 0.5. And then kurtosis score starts to increase when the power of the transformation is greater than 0.5. For most transformations, the resulted kurtosis scores are greater than 3 (when $0.254 < n/m$ or $n/m > 0.774$). Only when $0.254 < n/m < 0.774$, the kurtosis score is below 3. It explains why we observe kurtosis scores greater than 3 when m (the m-th root transformation) increases from 3 to 7 as shown in table 2.1.

This raises the question of whether $R = \beta S^{n/m}$ is a valid model to represent my hybrid model of policy change that incorporates the bargaining process (denoted by n) and the information exchange process (denoted by m). The answer is a clear yes. The model is still valid. It is because n/m is rarely below 1 in reality. The bargaining process is hardly frictionless in real world political process and thus it is unlikely that n would be very small. The costs of the bargaining process is usually

greater than the benefits of the information exchange process (i.e. $n > m$).

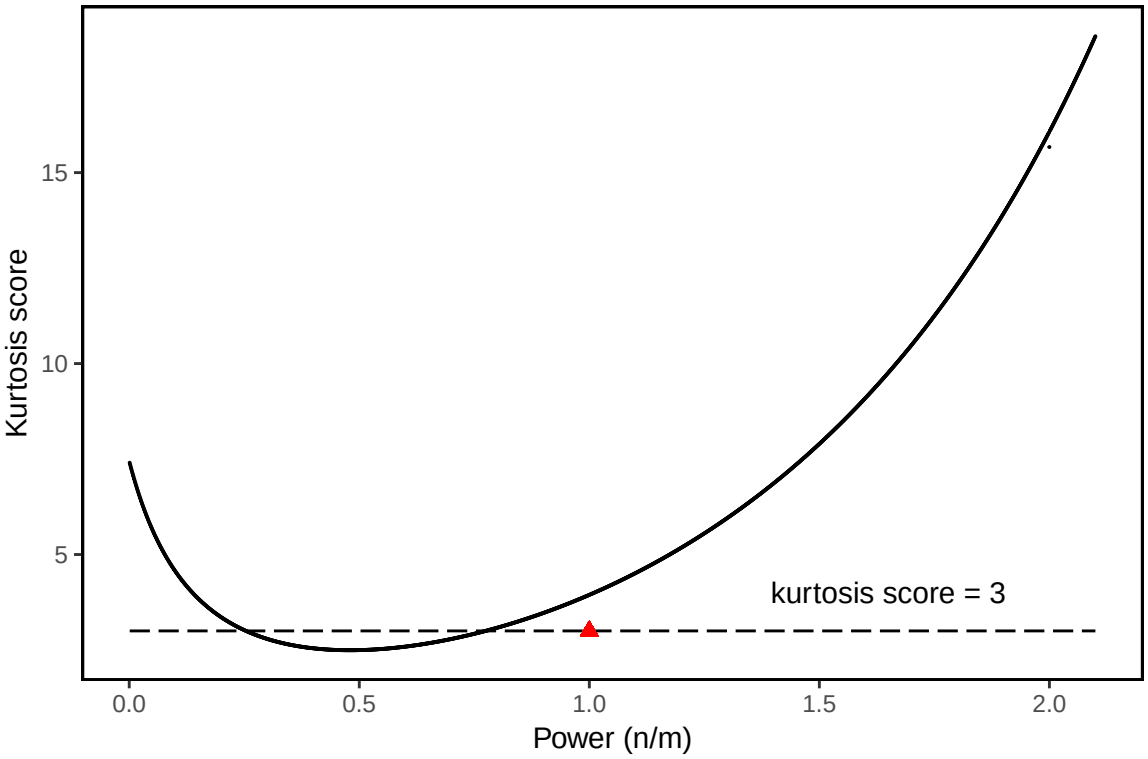

Figure 2.5: The kurtosis score of different multiplicative cost structures. The red triangle denotes the observation when power is equal to 1 and thus the kurtosis score is equal to 3. When the power is close to 1, the kurtosis scores are well above 3 and thus we observe a sudden drop of kurtosis score when the power is equal to 1.

When $n/m < 1$, we shall observe kurtosis scores smaller than 3. However, in all relevant studies of the distribution of policy change, the kurtosis scores are never below 3. It includes the study by Jones et al. (2003) that compare policy punctuations across different American political institutions such as the budgets, executive orders and elections and also the punctuations of the US stock market. The same observation also happens in Baumgartner, Breunig, et al. (2009) that document the policy punctuations of different political institutions in the US, Denmark and Belgium. None of these stuies (and many others) observe the kurtosis score below 3. Therefore, it is reasonable to make the claim that n/m is bounded above 1 in reality (that is, $n/m > 1$).

As a result, the relationship between the power transformation and the kurtosis score is monotonically increasing (the direction do not reverse at any point). It implies that as n increases (given m remains constant), the kurtosis score increases. As m increases (given n remains constant), the kurtosis score decreases. Therefore, a more difficult bargaining process increases the multiplicative cost structure while more information exchange reduces the multiplicative cost structure (or increases the multiplicative benefit structure). The simulation here provides rigorous illustration on why the effect of the bargaining and information exchange processes on policy change can be modelled as $R = \beta S^{n/m}$.

2.5 Hypotheses

This thesis consider how policy processes change when regimes liberalise. I have summarised my theoretical model by expanding on Jones and Baumgartner's pioneering work (2005). In brief, I argue that the number of political parties increases as regimes liberalise. The higher number of political parties influences policy process through two distinct processes–higher bargaining costs and more information exchange. This hybrid process has different effects on different policy processes. This thesis seeks to examine some of the important policy processes that could reflect the theoretical insights of my hybrid model. I lists out the hypotheses here that are going to be tested in the subsequent empirical chapters. More explanations will be offered in the corresponding empirical chapters.

H_1: As regimes liberalise, the higher number of political parties in the legislature slows down the legislative speed.

H_2: As regimes liberalise, the higher number of political parties in the legislature lowers the level of punctuation of the distribution of policy change.

> H_3: As regimes liberalise, the number of political parties in the legislature has a negative quadratic relationship with the issue diversity of the policy agenda.

A classic approach sees politics as a conflicting and struggling process. It involves bargaining and trades between various political actors. As regimes liberalise, the number of political parties increases and more diverse political interests are represented. As such, policy processes become more confined and restrained. More recently, political scientists become more aware of the benefits of information flow when regimes liberalise. As such, divergence in the partisan composition in the political systems enhances information circulation and facilitate policy processes. In this chapter, I have put forward a novel way of thinking to understand the changes in policy processes. I combine both bargaining and information exchange perspectives in an attempt to build a more complete hybrid theoretical model to understand the policy process. A more liberalised political system increases the number of political parties that leads to a diminishing marginal benefit of information exchange but also increasing marginal bargaining costs. In the subsequent empirical chapters, I will test my hybrid model and examine how political liberalistion changes different policy processes differently. Before showing my empirical tests, I will first introduce the data collection and analytical approaches in chapter 3. Then, I will briefly introduce Hong Kong's political development and explain why it is selected to test my hybrid model.

Chapter 3

Data and methods

This thesis examines the effect of political liberalisation on policy processes through two distinct mechanisms—bargaining and information exchange processes. In Chapter 2, I have set out the hypotheses for further empirical analysis. The purpose of this chapter is to provide a description of the data and approaches to warrant my theoretical claims. In the following, I will first discuss the policy content coding system of the Comparative Agendas Project (CAP). Then, I will introduce my data sources and how the data are collected. Next, I will discuss how I measure and quantify the variables of interest from the data sources. At the end, I will provide a methodological discussion of each of the quantitative methods applied to each of the subsequent empirical analyses in chapter 5 to 7.

3.1 Coding policy contents and the Comparative Agendas Project

This thesis adopts the policy coding system of the Comparative Agendas Project (CAP) (`http://www.comparativeagendas.net/`), by combining coding schemes from Hong Kong's version of Policy Agendas Project and the UK Agendas Project

(I will explain why a combination of three shortly after). The CAP coding system originated from the ideas of Frank Baumgartner and Bryan Jones. In their seminal work *Agendas and Instability in American Politics* (1993, 2009), Baumgartner and Jones examined policymaking processes in a number of selected policy areas, such as nuclear power, urban affairs and smoking, over a long period of time. By examining multiple policy issues over a long period of time, they found that policy changes in the US are not purely incremental, but are also characterised by the patterns of predominate stability (incremental changes) and occasional punctuation (periods of large and radical changes) in policy changes (for more discussion of incrementalism and punctuated equilibrium theory, please refer to chapter 2). This book was the first milestone of their ongoing inquiries of the theory of policy agendas.

After the groundbreaking success of *Agendas and Instability in American Politics*, Jones and Baumgartner saw the needs to expand the work with more systematic and robust data (Baumgartner & Jones, 2002). Then, they have secured funding from the National Science Foundation and other grants to hire a large number of coders to launch a large-scale and ambitious project: the Policy Agendas Project (PAP). PAP aims to measure changes in policy agendas across multiple policy venues and policy areas. The period of the data ranges from the end of the Second World War to the end of the twentieth century. It provides high quality and long-term time-series data to trace changes in public policy. For policy venues, they also expanded the scopes. They included presidential executive orders, congressional hearings, congressional budget authority, media coverage in the *New York Times*, and public opinion from the *Gallup Most Important Problem* survey, etc. This allows them to examine the interactions between each of these policy venues and test the causality. They also designed a more extensive, consistent and reliable coding scheme for sets of policy contents. The original PAP coding system contains 19 major policy topics (such as macroeconomics, civil rights, health, agriculture and

health) and 225 subtopics across the 19 topics. Each subtopic is nested in one major topic. Each policy can only be categorised in one topic and one subtopic. The extensive coding scheme allows them to trace very precise shift of policy agendas across topics. These US datasets were first examined extensively by various academics as an edited volume *Policy Dynamics* (Baumgartner & Jones, 2002). Using the same dataset, Jones and Baumgartner have later developed the punctuated equilibrium model in a later manuscript *The Politics of Attention* (Jones & Baumgartner, 2005) have also studied the relationship between government's problem definition and their information search in *The Politics of Information* (Baumgartner & Jones, 2015).

These groundbreaking works by Baumgartner and Jones have gained a wider recognition. Their theory and coding system have been transferred to many countries, such as the United Kingdom, Netherland, Belgium, France and Italy. To date, CAP includes over twenty countries across three continents, one supranational state (European Union) and two subnational states. Originally, the PAP coding scheme is designed to measure policy agendas in the US, and it does not automatically fit into the political systems and policy domains of other country projects. Fortunately, it requires only modest modification to be adapted to other systems. After the coding scheme was transferred to different countries, it is natural to call for more comparative works. However, to do high-quality comparative works, a systematic and consistent coding scheme is required. Comparative Agendas Project (CAP) (`www.comparativeagendas.net`) was then launched—primarily led by Shaun Bevan—to respond to the need of comparative works by developing a master codebook to harmonise datasets from different country projects.

The CAP codebook now contains 21 major topics and 220 subtopics. As a result, many large-scale comparative works became viable and more rigorous. The CAP community produced extant empirical works and resulted in a number of

research articles and manuscripts (e.g. Baumgartner et al., 2006b, 2017; Baumgartner, Breunig, et al., 2009; Green-Pedersen & Walgrave, 2014; Jennings et al., 2011; Jennings, Bevan, et al., 2011; Mortensen et al., 2011). These works contribute to a deeper understanding of the country variations in policy processes. In recent years, Lam & Chan (2015) have initiated the study of policy agendas of Hong Kong, a non-democratic regime, and applied an adjusted version of the PAP coding system that is adapted to Hong Kong's context. They found that the policy stability and punctuation are more punctuated in authoritarian regimes rather than more moderate than that in democracies. Baumgartner et al. (2017) push the study of non-democratic systems further by extending the CAP coding systems to non-democratic periods of Brazil, Turkey, Malta and Russia. They carefully acknowledge that policy stability and punctuation could still be theoretically more moderate and call for more data collections of more non-democratic countries to generate more robust findings. This thesis is a response to this call and aims to explain and test the theoretical mechanisms of policy processes in non-democracies. In this thesis, the policy contents of Hong Kong's legislative bills are coded according to the policy content coding system of the Comparative Agendas Project (CAP) with slight revisions to adapt to the unique context of Hong Kong. The original CAP coding system contains 21 major areas of public policy (e.g., health, energy, transport). Hong Kong has experienced a transfer of sovereignty from the UK to China in 1997. Following Lam and Chan's (2015) codebook, I created topic number 32 "Relationship with the sovereign and related constitutional matters" to record any legislative bills that is related to the adaptation of colonial laws to the Basic Law. As such, the coding system for Hong Kong legislative bills contains 22 major topics (see Table 3.1) instead of 21 topics in CAP.

In the actual coding process, I made reference to three versions of coding scheme—CAP, Hong Kong's version of Policy Agendas Project and the UK country

Table 3.1: Comparative Agendas Project codebook major topics

Topic Number	Topic Names
1	Macroeconomics
2	Civil Rights
3	Health
4	Agriculture
5	Labour
6	Education
7	Environment
8	Energy
9	Immigration
10	Transportation
12	Law and Crime
13	Social Welfare
14	Housing
15	Domestic Commerce
16	Defense
17	Technology
18	Foreign Trade
19	International Affairs
20	Government Operations
21	Public Lands
23	Culture
32	Sovereignty and Constitutional Affairs (unique to this study)

project. Primarily, for future comparative purpose, I coded the data based on the CAP codebook. The reason to adopt Hong Kong's coding system is that it is tailored for Hong Kong's policies and situations. It is sensible to follow Hong Kong's codebook and apply it on Hong Kong's legislations. It also allows comparison with other policy venues (the executive speech, budgetary speech, budget allocations and legislative sitting) coded in Hong Kong's version of Policy Agendas Project (see Lam & Chan (2015)). However, Hong Kong's codebook was not tailored for legislations and there are inconsistency with the CAP and UK codebook[1]. Similarly, CAP codebook is also not very helpful to provide solution in some cases because the codebook is brief in its descriptions. In this regard, the UK's coding system lists out more extensive examples of policies in each policy areas and provide feasible solutions to those confusions.

The legislative bill dataset (as mentioned above) contain both short and long titles. In the coding process, I used both short and long titles to determine the policy area of the bills, as practised in other country projects such as the US and the UK. When the policy area of a bill was outside my knowledge, I looked for more background information of the bills from other sources, such as the legislative brief, press release and news coverage, to help me decide the policy areas. This improves the reliability of my coding process.

With the benefits of adequate resources, many country projects in the CAP hired two independent coders for blind coding. However, I employed only a single coder—that is, myself—for the coding process. This is not ideal because without blind coding by two independent coders, it is not possible assess the accuracy and

[1]For instance, in Hong Kong's codebook, it created a new topic to 24 (and subtopic 2403) to represent issues related to building management. However, in CAP and UK's codebooks, both consistently use 1401 to denote the Housing and Community Development. Another example is the British Nationality (Miscellaneous Provisions) (Amendment) Bill 1990 deals with immigration issues and it should be coded under topic 9 (Immigration and Refugee Issues). However, Hong Kong's codebook created a new topic 33 (subtopic 3303) to represent issues related to the nationality. To me, this is not needed. To improve the comparability in future studies, I tended to stick with the CAP and UK codebooks.

the degree of inter-coder reliability of the coding process (see Krippendorff (2012) for more discussion of the issue of reliability in content analysis). However, due to limited resources, I could not afford to pay for an extra coder. As mentioned, I tried to reduce the errors and confusions by referencing the UK codebook that contains numerous and clear policy examples when necessary. I also looked for other sources—other than the long and short titles—to triangulate my judgement so as to ensure the quality of my coding. I have also randomly picked about 10 per cent of the bills (260 out of the 2,663 bills) to perform intra-coder reliability check and it achieved a 100 per cent consistency[2]. In the future, I will upload the dataset so that it is open for verification by other researchers. I believe I have adopted measures to reduce measurement errors as best as I can.

3.2 Datasets

In this section, I describe the datasets and the data collection process. For the purpose of this thesis, there are two main datasets, namely, the legislative bills dataset and the lawmaker backgrounds dataset (see table 3.2). The time periods of the two datasets are both from 1975 to 2016. As mentioned, this period is selected because it can fully reflect the dynamic change of political liberalisation. Before 1985, the Governor of the Hong Kong colonial government appointed all seats in the legislature. Election, although not a direct one, was first introduced in 1985 and there was subsequent process of political liberalisation following this year. The start date is selected to be ten years before the first election to capture the dynamic change of policymaking and the political systems well before the start of the electoral reform. To date, the political system of Hong Kong is still not yet fully liberalised. In the following, I will introduce each of the datasets and the data collection processes.

[2]I acknowledge that intra-coder reliability check cannot replace inter-coder reliability check.

Table 3.2: Data sources

Dataset	Period	Source
Legislative bills	1975 - 2016	www.legco.gov.hk
Lawmaker backgrounds	1975 - 2016	www.elections.gov.hk A Compilation of Hong Kong Election Data

3.2.1 Legislative bills

This thesis aims to explain policy processes. As defined in table 1.1 of chapter 1, I define policymaking processes in five distinct dimensions: 1) the distribution of policy change that indicates the extent to which the policymakers can shift their focus on policy agendas or control their policy outputs; 2) the volume of policy outputs that measures the number of bill passed in each legislative session; 3) the success rate of policy outputs that denotes the proportion of bills that successfully turned into law; 4) the duration of the policy process that measures the time required to turn bills into law; and 5) the issue diversity of the policy agenda that examines the overall portfolio of the policy outputs by policy topics (e.g. health and economy). For the measurement of these policy processes, I use legislative bill data between 1975 and 2016 from the Hong Kong Legislative Council (N = 2,663). The Legislative bill data can be accessed from the website of the Hong Kong Legislative Council (www.legco.gov.hk), which is accessible in both English and Chinese.

All bills are downloadable from the section Bill Database in the LegCo website. It documented all bills since 1890 with key information such as the bill title, first reading date, second reading date and third reading date and proposer of the bill. I use R to scrap and download all bill information from the website (for web scrapping using R, see Munzert, Ruoba, Meiboner, & Nyhuis (2014)). In principle, I obtain all the URL of each of the bills recorded in the Bill Database of the LegCo website first. With a full list of URL, then I access the webpage of each of the bills, and retrieve and assemble all bill information into accessible dataset format. The

whole process takes about 3 hours in a normal laptop with normal internet speed. I completed the collection of all bill data on 4 Oct 2016. From 1890 to 2016, there were 5,936 bills in total. For the purpose of this thesis, I have to code legislative bills from the August of 1975 to the July of 2016 (N = 2,663). The period is taken as it is most relevant to the period of political liberalisation of Hong Kong.

3.2.2 Lawmaker backgrounds

Political information and social backgrounds of lawmakers includes the political affiliation, constituency, age and gender. Data at candidate level between 1982 and 2012 can be obtained from the five volumes of *A Compilation of Hong Kong Election Data*[3] (Louie & Shum, 1995, 1996; Yip, 2001, 2005, 2015). These compilations are written in Chinese only. As the compilations are all in printed copies, I have to manually input the data into digital form. I have double checked the input data to minimize the input errors.

For lawmaker backgrounds data between 2012 to 2016, I access the website of the Registration and Electoral Office (`www.elections.gov.hk`). The website has recorded every elections after 1997. For lawmakers background data between 1975 to 1985, all lawmakers are by appointments and thus I assume they belong to the party of the autocrats. Table 3.3 shows the descriptive statistics of the number of seats in LegCo obtained by different political parties between 1985 and 2016.

Table 3.3: The number of seats in LegCo obtained by political parties in various electoral year.

	1985	1988	1991	1995	1997	1998	2000	2004	2008	2012
123 Democratic Alliance	0	0	0	1	0	0	0	0	0	0

[3]The compilations include data of both legislative elections, municipal council elections and district council elections. 1982 is the year of district council election. 1983 is the year of municipal council election. The first historical legislative election started in 1985.

April Fifth Action	0	0	0	0	0	0	0	1	0	0
Business and Professionals Federation of Hong Kong	0	0	2	0	0	0	0	0	0	0
Citizens Party	0	0	0	0	0	1	0	0	0	0
Civic Act-up	0	0	0	0	0	0	0	0	1	0
Civic Force	0	0	0	1	1	0	0	0	0	0
Civic Party	0	0	0	0	0	0	0	0	5	6
Democratic Alliance for the Betterment and Progress of Hong Kong	0	0	0	6	10	9	11	10	10	13
Democratic Party	0	0	0	19	0	13	13	9	8	6
Economic Synergy	0	0	0	0	0	0	0	0	0	3
Federation for the Stability of Hong Kong	0	0	2	0	0	0	0	0	0	0
Heung Yee Kuk	0	0	0	0	0	0	0	1	0	0
Hong Kong and Kowloon Trades Union Council	1	1	1	0	0	0	0	0	0	0

Hong Kong Association for Democracy and People's Livelihood	0	1	1	4	4	0	1	1	1	1
Hong Kong Civic Association	1	1	0	0	0	0	0	0	0	0
Hong Kong Confederation of Trade Unions	0	0	0	1	0	0	1	1	1	0
Hong Kong Democratic Foundation	0	0	2	0	0	0	0	0	0	0
Hong Kong Federation of Trade Unions	1	1	1	1	1	1	1	3	4	6
Hong Kong Professional Teachers' Union	0	0	0	0	0	0	0	0	0	1
Hong Kong Progressive Alliance	0	0	0	1	6	5	4	0	0	0
Hong Kong Social Workers' General Union	0	0	0	0	0	0	0	0	1	0

Independent Democratic	0	0	0	0	0	0	0	1	0	0
Kowloon West	0	0	0	0	0	0	0	0	0	1
New Dynamic										
Labour Party	0	0	0	0	0	0	0	0	0	4
League of Social Democrats	0	0	0	0	0	0	0	0	3	1
Liberal Democratic Federation of Hong Kong	0	0	3	1	3	0	0	0	0	0
Liberal Party	0	0	0	10	10	10	8	10	7	5
Meeting Point	0	0	2	0	0	0	0	0	0	0
Neighbourhood and Workers Services Centre	0	0	0	1	0	1	1	1	1	1
Neo Democrats	0	0	0	0	0	0	0	0	0	1
New Century Forum	0	0	0	0	0	0	1	0	0	1
New Hong Kong Alliance	0	0	1	1	2	0	0	0	0	0
New People's Party	0	0	0	0	0	0	0	0	0	2
New Territories Association of Societies	0	0	0	0	1	0	0	0	0	0

People Power	0	0	0	0	0	0	0	0	0	3
Progressive Hong Kong Society	2	3	0	0	0	0	0	0	0	0
The Federation of Hong Kong and Kowloon Labour Unions	0	0	0	1	1	1	1	0	0	1
The Frontier	0	0	0	0	0	3	2	1	1	0
United Democrats of Hong Kong	0	0	14	0	0	0	0	0	0	0
Others	19	19	10	12	21	16	16	21	17	14

3.3 Variables of interests

Recall that this thesis examines the effect of political liberalisation on policymaking processes through two distinct mechanisms—information search and institutional constraints. After identifying the data sources, this section lists out all variables of interest to be analyzed in the subsequent empirical chapters (Chapters 5-7), and elaborate how each of the variables would be operationalised and measured.

3.3.1 Volume and success rate of the policy outputs

When regimes liberalise, the duration of the policymaking process becomes longer. As time is scarce, the volume of policy outputs declines. The volume of policy outputs is operationalised as the total number of legislation. As mentioned, for bills

to become legislations, it is necessary to go through from the first to third readings in the legislature. Therefore, it is counted as the total number of bills that go through the third reading. The total number of bills are aggregated annually for this analysis.

The success rate is defined as the total number of bills that turned into law successfully and divided by the total number of bills tabled to the legislature.

3.3.2 Duration of the policy process

Political liberalisation increases the level of institutional friction and then lead to a longer policymaking process. In this thesis, the duration of the policymaking process is measured by the total number of days required to pass the legislation from the start to completion. Only completed legislation would be counted in this measurement. Withdrawn bills would be censored (see more explanation in the discussion of event history analysis in the next section). The start date of the bill is defined as the gazette date or first reading date of the bills, depending on the availability. The gazette date is the date when the government declares that a bill is going to be proposed to the legislature. The first reading date is the date when the legislature first processes the bills in the legislative meeting. Therefore, gazette date is always earlier than the first reading date. However, sometimes the gazette date is missing in some of the bill information. If that happens, I pick the first reading date as the start date of the bills. The completion date of the bill is defined as the third reading date, in which the legislature is required to read the bill for the third time to declare that the bill has been passed as a formal legislation.

3.3.3 Distribution of policy change

Distribution of policy change is an important concept and tool developed by Jones & Baumgartner (2005) to measure the frequencies of different size of policy change.

The size of policy change is measured by the number of policies in a particular policy area this year minus that of the previous year, and then divided by the number of policies in a particular policy area this year. The frequencies are then used to plot a histogram. A distribution can then be observed from this histogram. The two tails of the two sides of the distribution and the height of the top in the middle are the important features to be observed. Kurtosis is the measurement of the size of the two tails and the height of the top can be captured by kurtosis. To measure distribution of policy change, we measure the kurtosis of the distribution.

3.3.4 Issue diversity of the Policy Agenda

The concept of issue diversity of the policy agenda is operationalised as the distribution of policy output across policy topics. It measures the distribution of policymakers' attention across different policy issues. It looks at a portfolio of policy issues rather than a single or a few issues. Following the recommendation by Boydstun, Bevan, & Thomas (2014), I use Shannon's H to measure issue diversity, which is defined as:

$$Issue \quad Diversity = -\sum(p(x_i)) \times \ln(p(x_i))$$

where x_i represents a policy topic. $p(x_i)$ is the proportion of total bills in policy topic x_i. $\ln(p(x_i))$ is the natural log of $p(x_i)$. A greater value of Shannon's H represents a greater issue diversity, and vice versa.

3.3.5 Political liberalisation

Political liberalisation means governments relax political restrictions imposed on non-governmental political actors including the media, political opposition and citizens (Brown, 2011; Dahl, 1973; Dahl et al., 2003). Non-governmental political

actors thus have greater degree of freedom to participate in political affairs within the political system. Political opposition can run for election to gain greater political bargaining power. The media have greater freedom to investigate and report government performance and public policies. In this thesis, I take a narrow definition of political liberalisation: more inclusive and competitive elections. More liberalised elections mean that the authority grants both greater right to vote (to elect) and right to stand as a candidate (to be elected) to every citizen. When the right to stand as a candidate is more relaxed, more citizens run more elections and the elections are said to be more inclusive. As the elections allow more candidates from different socio-economic backgrounds and political ideologies to run for election, the elections become more competitive.

To operationalise the measurement of political liberalisation, I use a single measurement. The measurement is the proportion of elected lawmakers that is defined as the proportion of elected lawmakers over all lawmakers in the legislatures. All lawmakers include elected lawmakers as well as appointed lawmakers in the legislatures. In a more illiberal political environment, greater proportion or all candidates are by appointments (sometimes as a tool of patronage or cooptation). When regimes liberalise, the proportion of elected lawmakers would increase.

3.3.6 Effective number of political parties

The number of political parties is measured by Laakso and Taagepera's (1979) effective number of political parties (ENPP). ENPP represents the total number of influential political parties as measured by either vote share or seat share in a legislature. It is also a common measurement of party fragmentation in political science literature (e.g. Anckar, 2000; Grofman & Kline, 2012; Maeda, 2015). ENPP represents the number of sizable political parties in the legislature and is a good indication of the partisan composition in the legislature. When the ENPP equals to

about one, the political system is typically labeled as a one-party system or one-party-dominant system (e.g. mainland China and Singapore). By the same token, when ENPP equals to about two, it means that two comparable parties exist and compete in the political system (e.g. the US and the UK). Greater ENPP implies more equally sizable political parties participate in the political system, meaning that the legislature is more fragmented. As mentioned, various theories such as the institutional friction (M. P. Jones & Hwang, 2005), the veto player theory (Tsebelis, 2002) and the divided government (Edwards et al., 1997; Howell et al., 2000) suggest that a more fragmented legislature (with more political parties involved) constrains the government and the policymaking more.

In addition, I follow Taagepera's (1997) revision to adjust for incomplete data (i.e. political parties that are coded as "others" and "no political affiliation"). The ENPP formula is then calculated as:

$$ENP = \frac{P^2}{(f(R) + P_i^2)}$$

Where P is the total number of seats or valid votes (we use number of seats in this case). P_i is the number of seats or votes for the i-th party excluding those labeled as "Others". R is the residue of seats or votes (in this case, we use seats) that are labeled as "others" and "no political affiliation". $f(R)$ is a function of R to be estimated in the following.

$$R < f(R) < R^2$$

The maximum value of ENPP is obtained when $f(R)$ reaches its minimum, that is R. Whereas, ENPP reaches minimum when $f(R)$ reaches maximum at R^2 as shown below.

$$\frac{P^2}{(R^2 + P_i^2)} < ENP < \frac{P^2}{(R + P_i^2)}$$

The maximum value of ENPP represents the parties in "others" and "no political affiliation" are extremely fragmented and separated in which each of them acts independently. In contrast, the minimum value of ENPP means that parties in "others" and "no political affiliation" demonstrate extreme unity and cohesion.

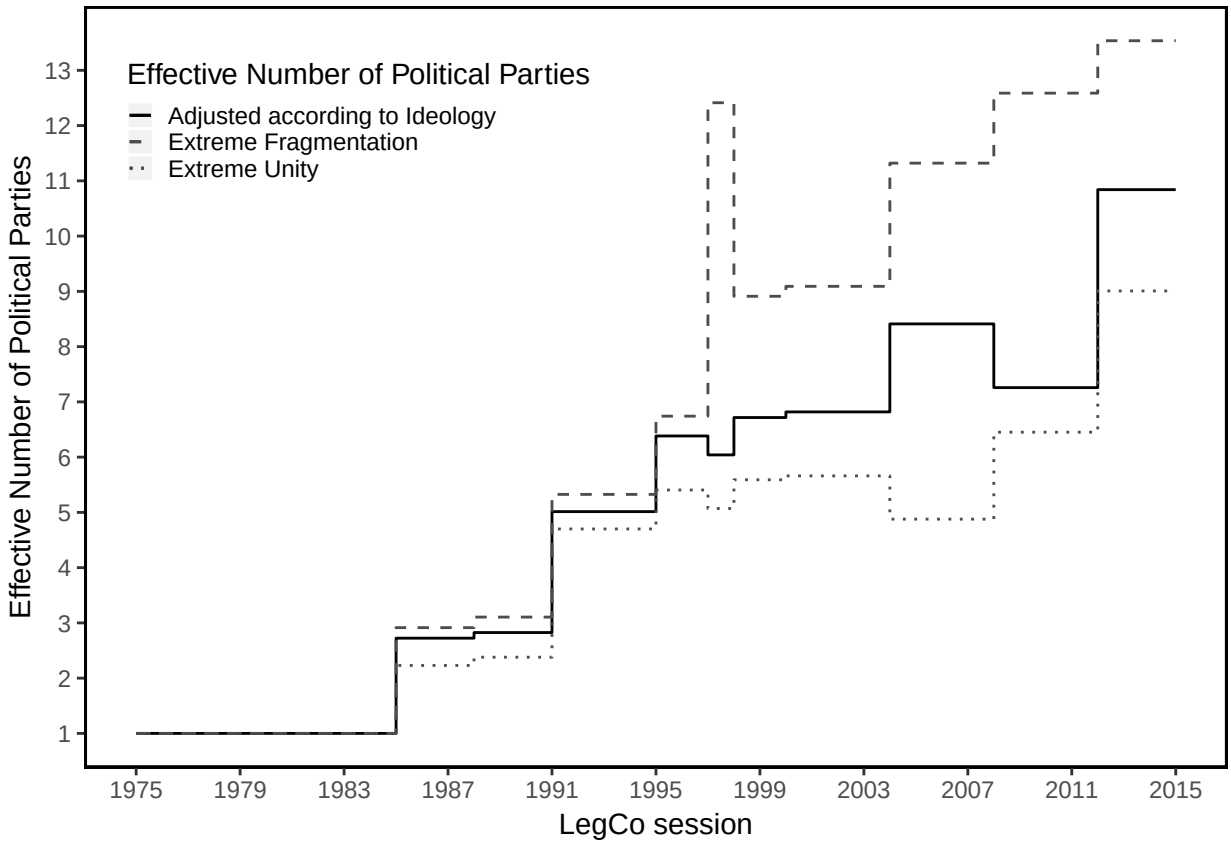

Figure 3.1: The effective number of political parties (ENPP) between 1975 and 2016. The dash line and dotted line represent the upper and lower bounds of ENPP by assuming that political parties or candidates that are coded as 'others' or 'no political affiliation' demonstrate extreme fragmentation and extreme united correspondingly. The solid line represents adjusted value according to the ideology of political parties or candidates that are coded as 'others' or 'no political affiliation'.

On top of the above equation, I further coded the political ideologies of the political parties or candidates that are coded as "others" and "no political

affiliation". By retrieving news archive, I further differentiate these parties or candidates as either pro-government, opposition or others. Recall that ENPP is calculated as $\frac{P^2}{(f(R)+P_i^2)}$ with $f(R)$ ranging between R and R^2. In the adjusted calculation of ENPP, I further add three criteria to "others" and "no political affiliation": if it belongs to the pro-government camp, $f(R) = R^2$ for higher unity; if it belongs to the opposition camp, $f(R) = R$ for higher fragmentation; if it does not belong to any of the above, $f(R) = \frac{(R^2+R)}{2}$, that is the mean of the former two. This assumption is inline with a higher cohesion level between the pro-establishment lawmakers than the opposition lawmakers in the context of Hong Kong politics (Ma, 2008, 2014; Sing, 2004).

Figure 3.1 shows the adjusted and unadjusted ENPP between 1975 and 2016. The dash line and dotted line represent the upper and lower bounds of ENPP by assuming that political parties or candidates that are coded as 'others' or 'no political affiliation' demonstrate extreme fragmentation and extreme united correspondingly. The solid line represents the adjusted value of ENPP based on the mentioned rules according to the ideology of political parties or candidates that coded as 'others' or 'no political affiliation'. After adjustment, in general, the ENPP of Hong Kong LegCo goes upward over time. It was at 1 from 1982 to 1985 because all lawmakers were appointed. When non-direct and direct elections were introduced subsequently, the ENPP went upward to about 2.72 from 1985 and 2.83 from 1988. When direct election was introduced in 1991, ENPP jumped to 5.01 and further jumped to 6 and above from 1995. Between 2004 and 2008, it further increases to 8.41. It then lowered to 7.26 between 2008 and 2012 and bounced up to 10.84 from 2012 to 2016.

3.4 Methods

In this thesis, I use event history analysis, stochastic process method and time series analysis. This section introduces each of them and discusses the rationale to employ these data analysis methods.

3.4.1 Event history analysis

Event History Analysis (EHA) is specially designed to answer research questions related to time-to-event data—how long does it take until an event occurs (Aalen, Borgan, & Gjessing, 2008; Box-Steffensmeier & Jones, 2004; Kleinbaum & Klein, 2012; Mills, 2011). Therefore, EHA is a useful tool to measure the timing and speed of legislation. This method is commonly used in medical research, known as survival analysis, to find out how long (or short) a patient can live with or without a treatment. The same idea can be applied to legislative research to compare legislative speed of different governments or political regimes. A bill becoming law is the event of interest rather than death in medical research. Duration is defined as time taken from introduction of a bill to its final reading.

However, not all bills can be passed by the legislature. Some bills may be withdrawn early during its course or lapsed at the end of the session due to various reasons, such as overcrowded legislative schedule or filibuster. No passage is recorded in these situations. The concept of *censoring data* in EHA is useful here to document any bill that has not been passed by the legislature in any observation period. Censored bill can either be a bill that is never passed during the observation period or being withdrawn early.

3.2 is a hypothetical example of the censored bills. The two vertical green lines defined observation period. It shows that:

- Bill A and B were both introduced at the start of the term, A was passed on

day 5 while B was withdrawn on day 7.

- Bill C was introduced on day 5 but the bill was lapsed at the end of the period.
- Bill D was introduced on day 6 and passed on day 13.
- Bill E, similar to Bill C, was introduced on day 11 and lapsed on day 15.

Here, bill B, C and E have to be censored because the expected event of interest did not occur.

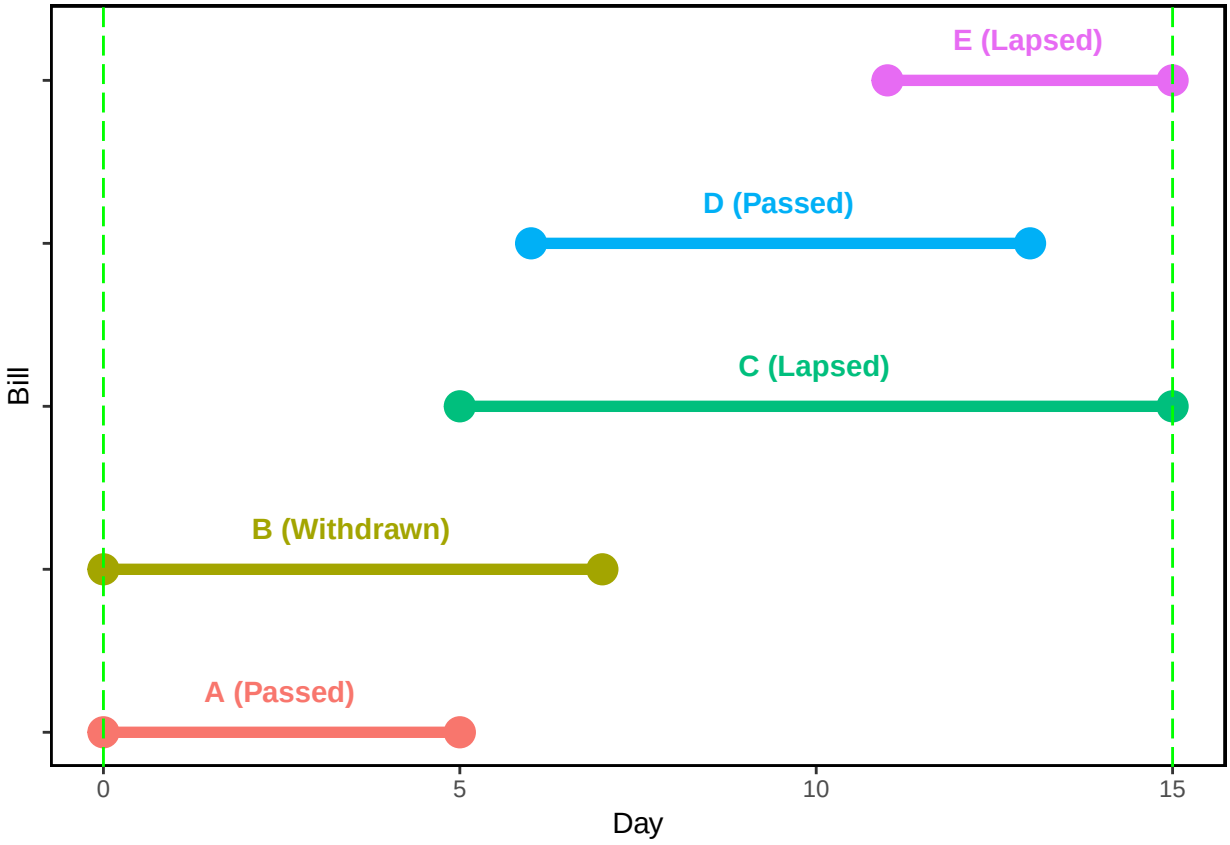

Figure 3.2: Illustrative examples of hypothetical censored data.

Therefore, the legislative bill dataset can construct a time-to-event type of data. When examining the effect of political liberalisation on the duration of policymaking process, event history analysis is a suitable statistical tool.

To model duration of the policy process, I use Cox proportional hazards regression model. This is a common model used in event history analysis. It is a semi-parametric model and it means that it does not require the data to follow a

certain probability distribution. It requires, however, a proportional hazard assumption (Box-Steffensmeier, Reiter, & Zorn, 2003). It assumes that the covariates should be multiplicatively proprtionate to each other. If the proportional hazard assumption is violated, it is possible to use time-varying covariate to adjust the model so that it can fulfill the proportional hazard assumption of the Cox model.

3.4.2 Stochastic process methods

Unlike regression-typed statistical analysis that return estimations between dependent variables and independent variables, stochastic process methods look at the entire distribution of the variables of interest (Breunig & Jones, 2011; Jones & Baumgartner, 2005). In this thesis, I focus on policy change. So, the application of stochastic process methods would aggregate the policy change and form distribution. The distribution can be interpreted as a probability distribution. It can show the probability of the occurrence of variables of interest in a defined range. For example, if I want to know the occurrence of the largest 5 per cent policy change, the distribution can return the value of the probability (or relative frequency). Also, it can compare different policy change generation process, for instance a random walk process that generate normal (bell-shaped) distribution or multiplicative cost system that generate a "leptokurtic" (flatter tails and taller peak) distribution (see chapter 2 for more discussion). Therefore, the stochastic process methods are useful to understand the overall picture of variable of interest by assessing its distribution. It is suitable for describing the distribution of policy change, in which the regression-typed analysis can only provide point estimation and fail to provide answer.

3.4.3 Time series analysis

A time series data is composed of observations with sequential order. The length of the interval of the sequential order can be arbitrary but it has to be regular, for example, daily, monthly or annual. It can be defined by the researchers to fit the purpose of the research or constrained by the characteristic of the available data.

Time series analysis examines the dynamics between different variables and how these dynamics evolve over time (Box-Steffensmeier, Freeman, Hitt, & Pevehouse, 2014). The current value of a variable could be part of the function of its previous value and/or function of other variables at current time point or previous time point. Without properly adjusting the correlation of these "temporal dependencies" (Box-Steffensmeier et al., 2014, p. 8) or autocorrelation (more common term in time series analysis texts), the statistical estimation could be biased (e.g. using ordinary regression on time-series data without adjusting the temporal dependencies would lead to biased estimation). Thus, it is essential to employ time series techniques to analyze time series data.

My legislative bill dataset is a time series data from 1975 to 2016. The total number of bills is aggregated in each LegCo session. A session in Hong Kong LegCo starts from August and ends on July every year. So the interval of time series data is a session, which is the length of one year. And therefore, time series analysis is a suitable and essential tool to analyze the legislative bill dataset.

3.5 Conclusion

In this chapter, I have discussed the policy contents coding system of the Comparative Agendas Project, and how and why this is modified by combing the codebook of Hong Kong's version of Policy Agendas Project and the UK Agendas Project. I have also identified the data sources and explained why they are suitable

to answer my research questions and provide empirical tests to the hypotheses set out in Chapter 2. I have also described how do I operationalise each of my variables of interest. At the end, I have provided methodological discussions and explain why stochastic process methods, time series analysis and event history analysis are suitable and needed to perform the empirical analysis.

Chapter 4

Hong Kong's political development

To examine the effect of Hong Kong's gradual political liberalisation, as a dynamics process, on policymaking processes, this chapter serves to contextualise Hong Kong's political systems and its history. It highlights the distinct features and provides a brief account of Hong Kong's political systems and policymaking processes by covering the major events. As we shall see, each of these major events provides impetus for major political change or non-decisions. The interaction between Hong Kong's historical development, political apathy and the highly centralised political system results in long term political stability before the 1970s (Miners, 1975) and a unique series of gradual political reforms afterward (Ma, 2007; Miners, 1998). Moreover, the information freedom driven by the high degree of press freedom and civil liberties throughout the period of study (from 1975 to 2016) (Hung & Ip, 2012; Lai, 2007; Ma, 2007) ensures a stable and constant impacts of media and civil society. This allows us to focus on political party as the only vehicle to deliver the dynamic effect of political liberalisation in this study, which makes Hong Kong an inimitable case study to uncover the impact of the political liberalisation on different policymaking process that make a contribution to and connects the literatures in political party and public policy. This chapter does not aim to provide

an original and comprehensive political history of Hong Kong. Instead, it serves to highlight some of its main features to justify the use of Hong Kong as the case study to address my theoretical question—how does regime change affect policy processes?

4.1 A brief history of Hong Kong's political development

Hong Kong has a long history of non-democratic political system and it can be traced since the origin of its colonial past under the British rule (Endacott, 1964; Scott, 1989; Tsang, 2007a). The backdrop of the existing political system in Hong Kong is largely inherited from the British legacy after the Qing government ceded the Hong Kong Island to the British government by signing the Treaty of Nanking in 1842 as the Chinese was defeated in the First Anglo-Chinese War.[1] The United Kingdom had later issued the Letters Patent of 5 April 1983 and 1983 Royal Instructions under the royal prerogative. It declared Hong Kong's status as a Crown Colony and defined the constitutional structure of Hong Kong. The Governor was the head of the government and was advised by the Executive Council (Exco) as well as the Legislative Council (LegCo), in which the Governor appointed all members in the two Councils. The appointed members in the LegCo were all members of the administration as it established, and it was called the Official Members of the LegCo. From 1850, elites outside the government (usually the head of the British corporations) were appointed in the LegCo as Unofficial Members to advise the policymaking processes. This system allows the Governor to grip the political power tightly in his hand and contain the opinions of the powerful elites through cooptation. The civil service, headed by the Colonial Secretary, assisted

[1]The modern Hong Kong also includes Kowloon and New Territories. The British acquired Kowloon after defeating the Chinese in the Second Anglo-Chinese War. They later rented the New Territories from the Qing government for 99 years. For more see Tsang (2007a)

and advised the Governor on policymaking. This shows the profound impact of the British rule on Hong Kong's political system and the basic governmental structure remains similar today.

The British colonial government experienced many difficult challenges in Hong Kong in the 19th century. The early Hong Kong was not as prosperous and well developed as it is today. Like other British colonies in other tropical areas, it was "backward, disease-ridden [and] barely self-sufficient" (Scott, 1989, p. 39). It means that the administration had to deal with many challenges in policy issues such as public works and infrastructure, health and diseases, economy and trades as well as public order and security. However, along with other British colonies that want to maintain financial prudence (Darwin, 2013), the administration acted as a "minimum state" (Endacott, 1964, p. 121; Scott, 1989, p. 40)—the government set the role of the state and its public expenditure at the bare minimum. Carroll even labelled the early colonial government as "neglect, and, often, incompetence" (2005, pp. 2–3).

As a nascent trading port taking advantage of its location in the Southeast China, Hong Kong's economy grew in the subsequent years. The merchants, in particular the local Chinese, want their businesses and trades to be carefully protected by polishing the regulations, law and order, health conditions as well as the infrastructure. The minimum state, however, was reluctant to meet their demands. Therefore, these merchants formed some powerful lobbying groups to negotiate their interests with the British colonial government and influence the policies. For instance, the local Chinese elites formed social service groups such as the Tung Wah and Po Leung Kuk to improve the sanitary conditions and welfare of the grassroot Chinese (For more, see Sinn, 1989; Carroll, 2005). These social service groups rapidly garnered huge support from the local community. They became politically powerful and the administration cannot ignore that.

The powerful political groups formed by the local Chinese could hardly be ignored by the colonial government. Moreover, there was a need to understand the Chinese custom and society but Governor Hercules Robinson found no senior colonial officers could understand or write Chinese (Carroll, 2005, p. 59). To face the rising political challenges and ease the pressure on governance in an alien context, the administration had to adopt various strategies to coopt and connect with the local Chinese elites. In the early days, the colonial officials and business elites largely use informal connections and influences such as social gathering, promoting of European ways of living and recognitions to maintain good relationship with the local Chinese elites (Carroll, 2005, ch. 3). Also, the use of cooptation of Chinese leaders is also an important political tool to address the issue of political representation and legitimacy (Scott, 1989). It was not until 1880 that Ng Choy (also knwn as Wu Ting-fang), was appointed as the first Chinese Unofficial Member in the Legislative Council (Legislative Council Secretariat, 2013). The appointments of Chinese elites to the political institutions and advisory bodies became a more usual governing tool after the appointment of Ng Choy for the rest of colonial rule (King, 1975; Miners, 1994). Similarly, the first female Unofficial Member Ellen Li Shu-pui, who also belonged to the upper class, was appointed after 85 years in 1965. The first non-elite appointed Unofficial Member was Wong Lam, an employee of the Kowloon Motor Bus Company and he joined the LegCo in 1976. Although the colonial government clearly saw cooptation as an important governing tool. The expansion was slow and carefully calculated.

Although the United Kingdom is one of the oldest democracies in the world, the citizens in the colonial Hong Kong had completely no political rights under the British rule in the early days. As with other British colonies, London left a lot of room for different colonies to deal with different challenges they faced in different contexts (for example, variations in culture, languages, customs and religions, etc)

(Darwin, 2013). Yet, London still wished to maintain control of the power and was reluctant to open up the political rights to the local people. This partly explains why the process of political liberalisation in Hong Kong was not seen until the 1980s, more than 140 years after the British occupation. However, as explained above, elites, from British and other foreign businesses as well as those from the local Chinese community, knocked on the door of the government officials constantly and strived to influence, if not bribe, the administrators so as to take advantage of the policymaking processes (Carroll, 2005). However, the British occupation lacked ruling legitimacy (Scott, 1989) given the circumstances that the Qing government conceded Hong Kong through the two unequal treaties and a 99-year lease before the start of the 20th century. The call for a more representative government or resumption of Chinese rule is not uncommon throughout Hong Kong's colonial history.

The postwar Hong Kong marked a critical point of Hong Kong's political development. The British troops and its allies were defeated by the Japanese army in the Battle of Hong Kong in 1941 during World War Two (Snow, Soule, & Kriesi, 2004; Tsang, 2007a, ch. 9). The Japanese occupied Hong Kong for three years and eight months. The British retained the control of Hong Kong after the Japanese surrendered in 1945[2]. The defeat of the British army, however, declined the standing of the British presence in Hong Kong and in the surrounding areas. Together with the longstanding legitimacy issues before the war time (Scott, 1989), it created even greater impetus and demands to call for a more representative government.

Governor Mark Young, who announced the surrender to the Japanese army and was imprisoned during the war, resumed his office in May 1946. Upon his return, he

[2]Great Britain was not the only candidate that tried to retain the control of Hong Kong after World War Two. The Chinese government at that time, under Chiang Kai-shek's Nationalist government, also expressed the intention to take back the sovereignty of Hong Kong during the war. But he finally gave up after a number of diplomatic attempts and negotiations. For a brief discussion, see Tsang (2007a), pp. 130-144

launched the *Young Plan*, a "radical constitutional reform" (Carroll, 2005, p. 131), to promote a more representative government to the local Chinese. The plan had a number of core elements, including more Chinese membership in the Executive and Legislative Councils, and the setup of a municipal council in which two-thirds of the seats would be elected by the Chinese while the finance and defense are still under the control of the colonial government. The plan was approved in principle publicly by London in July 1947.

The ambitious Young plan, however, soon became grim. The British government replaced Young with Alexander Grantham for health reasons in the summer of 1947. Grantham, who had very rich governorship experience in Jamaica, Nigeria and Fiji, did not favour the development of a more democratic system in Hong Kong. He thought that Hong Kong cannot become independent due to the strong historical and cultural ties with China and he insisted the reform was not necessary (Carroll, 2007, p. 132). In particular, the British government and the administrators were both concerned that either Chiang Kai-sek's Nationalist government or Mao Zedong's Communist party would have strong local networks in Hong Kong, and that linkages would turn Hong Kong's elections into the advantages of either the Nationalist or Communist government. Therefore, the majority of the Young plan was abandoned. Instead, a municipal council called the Urban Council was set up to respond to the ever increasing demand of a more representative government. Also, the number of Official Members and Unofficial Members in the legislature increased in the following decades but the number of the Unofficial Members could never exceed more than half of the total number of members in LegCo until 1984 (Gu, 2013, p. 52). The legislature failed to become more representative before that.

In the subsequent years, the lack of political reform means that the colonial government could not genuinely deal with demands for a more representative

government. Thus, their legitimacy to rule had been questioned for a long time. In particular, the 1966 and 1967 riots alarmed the colonial government about its governance crisis, that was associated with the public's discontents as well as China's Cultural Revolution initiated by Mao (Bickers & Yep, 2009; Scott, 1989, ch. 3; Yep, 2008, 2012).

But a genuine talk on a more representative government did not emerge until the late 1970s before the Sino-British agreement. The talk was triggered by the uncertainty over Hong Kong's future because the 99-year lease of the New Territories raised concerns on legal and sovereignty issues. Also, Chinese leaders, led by the Communist, regarded the two treaties and the 99-year lease as "unequal and invalid" (Scott, 1989, p. 166), and thus had the intention to take over Hong Kong. In 1979, Governor Murray MacLehose visited Beijing for talks with Beijing officials. Deng Xiaoping, the leader of the Chinese's Communist Party, reassured Hong Kong investors to "set their heart at ease" and also showed Beijing's "every attention of recovering sovereignty over Hong Kong" (Scott, 1989, p. 167; also see Cheng, 1984). The disputes over the sovereignty of Hong Kong, however, created uncertainty over Hong Kong's future. The political and business elites in Hong Kong wanted the British government to initiate negotiations over Hong Kong's future arrangement and its status.

British Prime Minister Margaret Thatcher paid a formal visit to Beijing to negotiate the future of Hong Kong in September 1982. Thatcher wished to look for alternatives over Hong Kong's arrangement such as keeping the British administration in Hong Kong or extend the lease. However, Deng showed a tough stance on the issues over Hong Kong and insisted that China has an indisputable sovereignty over Hong Kong. The colonial government had set up a consultative committee to gauge the public view on the transfer of sovereignty. The majority of people, however, wanted to remain in the status quo and stick with the current

arrangement (Cheng, 1984).

The Sino-British Joint Declaration was finally signed between Beijing and London in December 1984. The signing of the Declaration marked a critical juncture and fueled the introduction of a series of political liberalisation in the following years. The discussion and debates over Hong Kong's future since early 1980s had catalysed the formation and organisation of more political groups, who showed enthusiasm in proposing their ideas of the future of Hong Kong and its governance structure. These ideas formed the basis of and speeded up the reform of the electoral system in Hong Kong in the subsequent years.

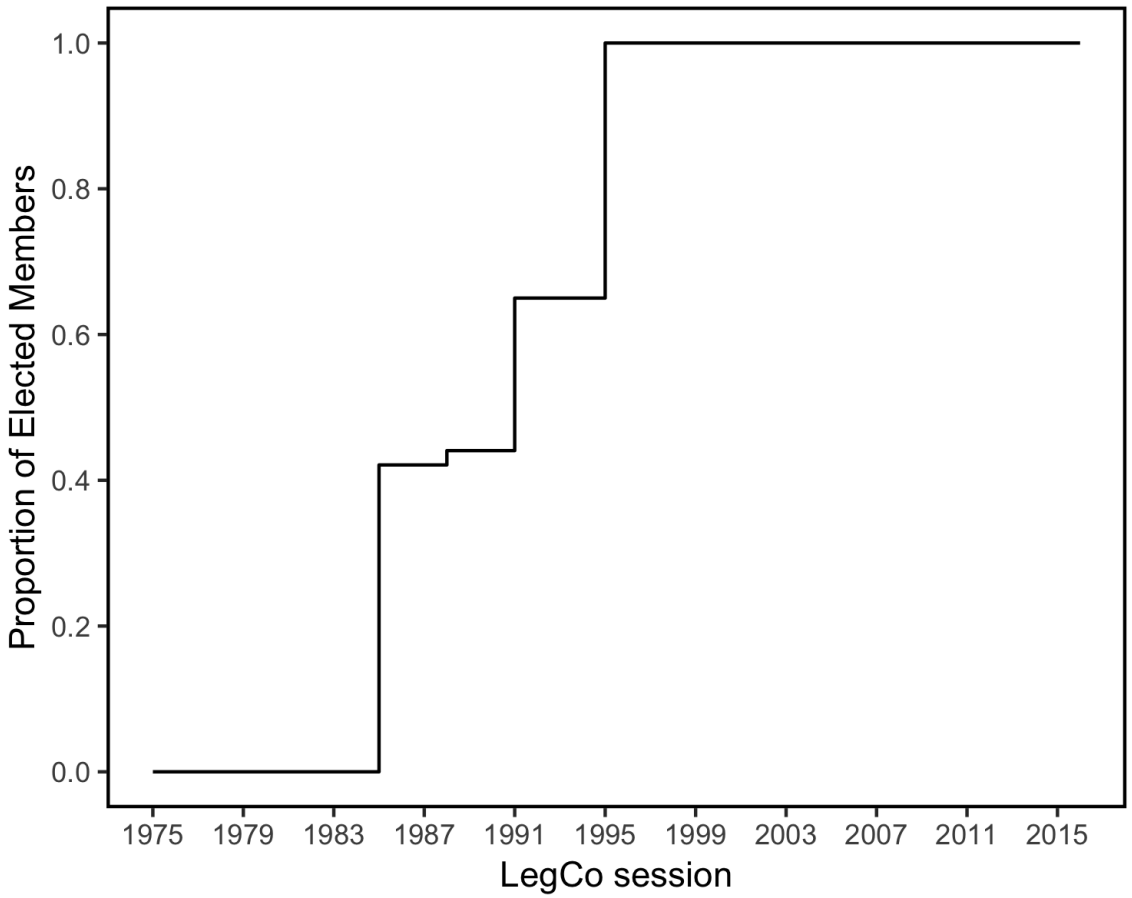

Figure 4.1: Degree of political liberalisation as proportion of elected members in Hong Kong Legislative Council from 1975 to 2016.

Before 1985, the colonial Governors appointed all members of LegCo. From

1985, election was first introduced in Hong Kong, composing of functional constituencies–representing the professional and business interests–and electoral college–elected by members of municipal and district councils who are directly elected by the public. These non-directly elected members, accounting for over 40 per cent of all lawmakers in the LegCo between 1985 and 1991, joined the appointed members to scrutinise government bills. The first direct election took place in 1991. The electoral college was abolished in the same year and replaced by geographical constituencies by direct election from the public. The proportion of elected members (versus appointed members) then increased to over 60 per cent from 1991. In 1995, appointed seats in LegCo were totally abolished and all members of LegCo are then directly elected by the electorates either in the functional constituencies or geographical constituencies from 1995 and onwards[3]. The system remains the same until today. Horlemann (2003) argues that constitutional set up of the Basic Law that limits further democratisation in the territory. Figure 4.1 summarises the degree of political liberalisation of Hong Kong as reflected by the proportion of elected members (versus appointed members) in LegCo.

I have covered a brief history of Hong Kong's political history and highlighted some of the dynamics that drive the reform as well as the factors that suppress it. This presents an interesting case with a gradual process of political liberalisation from the 1980s. In the following, before showing how the process of political liberalisation changes policymaking, it is necessary to understand the condition of policymaking in Hong Kong, such as, how autonomous Hong Kong is in the policymaking process, how the executive, bureaucracy and legislative branch interact in shaping policies, etc.

[3]Even though both functional constituencies and geographical constituencies are directly elected by the electorates. The formation of electorates in these two constituencies are very different. As mentioned, electorates in geographical constituencies are formed by the public living in that geographical area with one person one vote. In functional constituencies, the number of electorates are decided based on the sectorial interests. Some electorates are individuals (e.g. social workers and teachers). Some other electorates are corporates (e.g. insurance and accounting).

4.2 Policymaking in Hong Kong

Hong Kong is now a Special Administrative Region of The People's Republic of China after the British government handed over its sovereignty in 1997. The British rule lasted over 150 years, starting in 1841 and ending in 1997. Hong Kong is a city-state but it accommodates a population of over 7 million, more than many countries in the world. To manage a place of this scale, the challenge to its governance shall never be underestimated.

Hong Kong is not a sovereign state but is regarded as a "self-governing society" (Kuan & Lau, 2002, p. 58) for decades. The high degree of autonomy on policymaking and governance are observed both before and after the handover of its sovereignty (Yep, 2013). Although, in constitutional terms, the United Kingdom and Hong Kong's colonial administration has an "asymmetry of power" (Yep & Lui, 2010, p. 266), Bickers (2013) asserts that Hong Kong's colonial administrations "acted locally with a high degree of recognised functional autonomy based on a set of fundamental instructions and regulatory guidelines [set out by London]" (2013, p. 51). This is similar to other British colonies. The actions of Hong Kong's British administrators are bounded by London but the tie is loose (Tsang, 2007b). Others document that Hong Kong's autonomy is observed in policy issues such as fiscal planning (Goodstadt, 2013), which is a critical component for the functional autonomy of a state, and the low-cost housing (Ure, 2013), a huge social programme that requires tremendous resources and coordination.

Similarly, after the handover, Hong Kong's autonomy is protected by Hong Kong's Basic Law and is facilitated by Beijing's tolerance of Hong Kong's domestic affairs in the first few years of the post-handover era (Kuan & Lau, 2002). The Basic Law is a constitutional document of Hong Kong and it became a part of the national law of China in 1990. The Basic Law was drafted following the principles set out in the Sino-British Joint Declaration signed between China and the United

Kingdom in 1984. It denotes the "one country, two systems" principle, the relationship between the Hong Kong government and Beijing, the institutional arrangement of the Hong Kong government and the fundamental rights of the Hong Kong people (Constitutional and Mainland Affairs Bureau, 2017). It highlights that Hong Kong has a high degree of autonomy and the structure of government contains the executive, legislative and judicial branches with its own Final Court of Appeal. The socialist system and policies in mainland China shall not be exercised in Hong Kong and the Basic Law guarantees the continuation of its longstanding capitalist system and way of life running before the transition. The Basic Law took effect on 1 July 1997, the day of the transfer of Hong Kong's sovereignty to China.

However, in recent years, Beijing's intervention on Hong Kong's domestic affairs became more eminent. The saga surrounding the legislation of national security law in 2003 became a turning point of Beijing's non-interventionist approach in the first few years after the handover. According to Article 23 of the Basic Law, the Hong Kong government has the obligation to enact a law that protects national security (Fu, Petersen, & Young, 2005; for a detailed discussion of the national security saga, see Ma, 2005). The full text of Article 23 is reproduced below:

> The Hong Kong Special Administrative Region shall enact laws on its own to prohibit any act of treason, secession, sedition, subversion against the Central People's Government, or theft of state secrets, to prohibit foreign political organi[s]ations or bodies from conducting political activities in the Region, and to prohibit political organi[s]ations or bodies of the Region from establishing ties with foreign political organi[s]ations or bodies.

A large population in the city, however, viewed that the content of the proposed legislation would undermine the high degree of civil liberties in the territory. It was also perceived that the Hong Kong government used the legislation to fulfill what

Beijing wanted (Scott, 2010, p. 44). The national security legislation was strongly opposed not only by the political actors of the opposition, but it also mobilised over five hundred-thousand people to march on the street on 1 July 2003 against the enactment of the law. The large-scale march has awakened the civil society to protest for more political issues in the subsequent years (see Lee & Chan, 2010 for its impacts on subsequent mobilisation in Hong Kong), including the large-scale Umbrella Movement in 2014 that surprised many (Cheng, 2016). At the end, James Tien, a member of the Exco and LegCo and the Chairman of the pro-government Liberal Party, one of the major parties in the LegCo, resigned from the Exco (Ma, 2005, p. 481). Losing the support of the Liberal Party in the LegCo, it means that the government could not garner enough support to pass the legislation for second and final reading in the LegCo. The government announced the withdrawal of the bill on 5 September 2003. The void in the Article 23 still remains today.

The significance of the national security saga was that the public started to perceive Beijing as becoming more hands-on with Hong Kong's issues. The Chief Executive of Hong Kong was perceived to be selected by Beijing under a nomination and electoral process in which Beijing has a strong influence in (Case, 2008; B. Fong, 2017). The legislation of the security law was, and is still considered as, a way of how the Chief Executive of Hong Kong strive to please and satisfy the expectations of the Beijing government. Meanwhile, the presence of Beijing's influences also radiated in a number of domestic affairs after the national security saga, such as the building of the high speed railway (Lam-Knott, 2018) and the implementation of patriotic national education in which Beijing wished to rebuild the Chinese identity among young people in Hong Kong (C. K. Chan, 2014; D. Chong, 2013; Or & Lau, 2014).

In particular, Beijing's influence over Hong Kong's political system and its reform process causes even more concerns over Hong Kong's high degree of

autonomy as promised in the Basic Law. For instance, Hong Kong has distinct bodies in the executive, legislative and judicial branches. A common discourse of the system usually interpret this arrangement as the separation of powers featured in the United States and other presidential systems that provides checks and balances. However, the Chinese officials refused the notion that the separation of power applies to Hong Kong's situation. The legislature and the judiciary should be cooperative to the executive branch (Tam, 2010, p. 680; Wong, 2015, p. 54). Beijing's interpretation of the cooperative relationship between the branches particularly overcasted and dwarfed the checks and balances function of the legislative and judiciary branches. The political reform was another controversial political issue that saw Beijing's shadow. In 2007, Beijing promised that the Chief Executive election and the LegCo election may be implemented by the method of universal suffrage in 2017. However, in 2014, the Standing Committee of the National People's Congress, China's *de facto* legislative body, stipulates that the selection of the Chief Executive has to have an institutional safeguard. The eligible candidate needs to have at least half of the nominations from a nominating committee, which in effect limited the competition of the Chief Executive election. It is seen as Beijing reneging on the promise of universal suffrage in Hong Kong and later triggered the Umbrella Movement in 2014 (J. M. M. Chan, 2014).

By and large, although Beijing's growing intervention raises worry over the encroachment of Hong Kong's autonomy, overall, Hong Kong has a clear structure of government inherited since the colonial time. The government has a high level of control over the budget allocation and have an efficient bureaucracy to implement policies for the period under examination. International indicators also show Hong Kong has high effectiveness and autonomy on the policy formulation and implementation. According to the Worldwide Governance Indicators

(www.govindicators.org), Hong Kong's Government Effectiveness[4] ranks among the highest over time (e.g. in 1996, it ranks at the 84th percentile (with 100 the highest rank) and in 2017, it ranks at the 98th percentile).

4.3 Hong Kong's regime type

From the brief political history presented earlier in this chapter, Hong Kong has always encountered the contestations for more democratic elements at different levels (e.g. the social demands from the British and Chinese elites, the initiation from the top as seen in the Young plan as well as the Umbrella movement that asked for more universal suffrage) throughout its colonial period and post-handover time. In particular, the public has initiated a major call for a genuine democratic system since the 1980s (Chiu & Lui, 2000; Sing, 2004; C. Y. K. So & Chan, 1999). After decades of contestations, the political system liberalised gradually by allowing more political participation in the political system but the prospect of political liberalisation remained "tortuous" and doomed after the handover (B. C. H. Fong, 2017; Ho, Lee, Chan, Ng, & Choy, 2010; Sing, 2004). Meanwhile, Hong Kong's weak party system which discourages the formation of party also harms the representation of interests, the governance and democratisation of Hong Kong (Lau & Kuan, 2002).

There has been a number of labels employed to describe the political system of Hong Kong at different periods. Lau & Kuan (2000) and Kuan & Lau (2002) name Hong Kong as a *partial democracy* not long after its handover. The definition of partial democracy is unclear in their work but the choice of the term is based on their optimism on Hong Kong's political development. Kuan & Lau (2002) argue that the self-governing society remains "on track toward a fuller democracy by

[4]According to World Bank, government effectiveness "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies."

incremental steps" (2002, p. 58). Beijing's non-interference approach on Hong Kong's domestic affairs in the first few years and the preservation of freedom and rules of law in Hong Kong enables the authors to justify such optimism. Although Hong Kong people do not enjoy full political rights to elect all members of its representatives, be it the executive and the lawmakers, this perspective emphasizes on Hong Kong's high degree of civil liberties such as the freedom of expression, assembly, organisation and movement and press freedom from the 1970s and 1980s (Ma, 2007). These freedoms nurtured a vibrant civil society in Hong Kong. The expressions of political concerns by either participating in policy consultations or joining demonstrations on the street becomes more common than before the handover. The free press environment also allows the media to monitor the government through the disclosures of policy problems and even political scandals. In this way, the label of partial democracy praises and recognises Hong Kong's civil liberties and press freedom that are normally enjoyed in advanced democracies. It accounts for an optimistic outlook of Hong Kong's future political trajectory despite the citizen's lack of electoral rights to decide their representatives.

Such optimism, however, faded away not long after. As mentioned earlier in this chapter, there were growing concerns over Beijing's influence over Hong Kong's domestic politics since the national security saga in 2003. Since then, a growing number of scholars have paid more attention to the electoral systems and label Hong Kong a hybrid regimes (Case, 2008; Cheng, 2016; Fong, 2013; M. Y. Wong, 2018) or an electoral autocracy (S. H. W. Wong, 2018; S. H.-W. Wong et al., 2018). B. C. H. Fong (2017) even argues Hong Kong falls into a grey zone between liberal autocracy and electoral autocracy.

Although there are many labels on Hong Kong's political regime, the literature all suggests that Hong Kong is an authoritarian regime with high degree of civil liberties and free media. The elections, however, is far from full democracy or the

universal suffrage. However, as mentioned in the brief political history earlier in this chapter, there was a gradual process of political liberalisation that took place in the 1980s and 1990s. After the handover, Hong Kong's liberalisation process encountered a stalemate again. This shows Hong Kong would be an interesting case study because researchers can carefully observe how the gradual process of political liberalisation change policymaking processes, which is rare in comparative politics. These phenomena will be discussed in full in the empirical chapters 5 to 7.

Chapter 5

Explaining legislative speed

Lawmaking process matters to autocrats. It represents their capacity to make policy change to tackle the policy problems. Passing legislation through an assembly also makes the lawmaking process looks open and responsive (Malesky, Schuler, & Tran, 2012; Schedler, 2013; Truex, 2017), as such it enhances autocrats' legitimacy to rule. A high legislative success rate is generally observed in many authoritarian legislatures and therefore it conveys the image of the "rubber stamps" (Noble, 2018; Truex, 2014). It means that the lawmaking process is frictionless and the autocrats can pass whatever they want. However, legislative success rate provides only a unidimensional measurement of the lawmaking process. It is far from adequate to capture the complete picture of the lawmaking process in authoritarian regimes. There are growing number of works that challenge the image of rubber stamps by looking beyond the legislative success rate. For instance, Noble (2018) studies bill amendment in the lawmaking process of the Russian Duma.

Speed matters in policymaking process as it indicates how quickly a government can react to issues. The importance of speed also applies to the lawmaking process. Speedy policymaking is not always beneficial. For instance, Dunleavy (1995) argues that the obsession with overly speedy legislative process in

the UK limits the scope of legislative scrutiny. It is one of the many factors that cause policy disasters in the UK. However, as time is scarce, a more efficient legislative process can potentially allow governments to move on and focus on other policy issues. Thus, a government with a faster legislative speed have a greater capacity to react to different policy problems.

While the study of lawmaking process to date primarily focuses on the success rate and the volume of legislation as the indicators of legislative productivity (for volume of legislation, see Mayhew, 1991; Adler & Wilkerson, 2012; for success rate, see Alemán & Navia, 2009; Saiegh, 2009), this chapter proposes the use of legislative speed. I argue that legislative speed is useful in giving a more complete picture of the autocratic lawmaking process. Legislative speed is a better measurement of legislative productivity in authoritarian legislatures as it overcomes two conceptual problems: 1) authoritarian legislatures have routinely high success rates, and 2) high and low volume does not capture whether a legislature is productive or not. I argue that the use of legislative speed can avoid these shortcomings and presents a more accurate representation of the lawmaking process in autocratic policymaking.

To do so, this chapter examines how autocrats produce policies during a period of political liberalisation—the opening up of political systems to expand political rights through more inclusive and competitive elections. More inclusive and competitive elections (Dahl, 1973) means that people of different socio-economic backgrounds and political ideologies have more opportunity to be elected into the legislatures and influence the policymaking process. A legislature composed of members with more diverse backgrounds and opinions would increase the ideological distance of policymaking (Tsebelis, 2002) and thus it is less likely to reach an agreement than a cohesive legislature that is highly controlled with members directly appointed by the autocrats. To overcome the difficulty, autocrats need more time to negotiate, more money to mobilise political campaigns and more resources

to co-opt or coordinate the members of legislature, and many other actions to reach an agreement. This chapter argues that political liberalisation increases the number of political parties in the legislature, moving from one-party or one-party-dominant system to a multi-party system. A greater number of political parties increases the bargaining costs and also the difficulty to secure consensus. Moreover, a greater number of political parties increases information exchange. Digesting more information from different political parties consumes more time. In brief, the increment of bargaining costs and information exchange when regimes liberalise prolong the duration of legislative process.

In addition, this chapter presents the empirical evidence of an original dataset of an undemocratic but transitioning system: legislative bills in Hong Kong Legislative Council (LegCo) before and after the handover of sovereignty. Hong Kong's unique path of prolonged democratisation offers an important opportunity to observe the impact of political liberalisation on legislative process, which is rare in the literature. The stable and high level of media freedom in Hong Kong also helps to control its impact. As such, it allows us to highlight the effect of political change without the confounding effect of media.

In the following, before presenting the testable hypothesis and an approach to deal with the timing and duration of legislation, I first conceptualise the concept of legislative speed and explain why it is a better measurement of legislative productivity. Next, drawing theories in policymaking, I will discuss how political liberalisation increases institutional constraint and hence slow down the legislative speed in authoritarian regimes. A testable hypothesis will come next.

5.1 Legislation and legislative speed

Legislative speed can be defined as the total time used to pass each unit of legislation. This is similar to driving a vehicle and its speed is measured by the total time required to drive a kilometer. The longer the time, the slower the speed is, and *vice versa*. Legislative process varies in different legislative systems, such as parliamentary system, presidential system or the hybrid of them. But in principle, legislative process in most legislatures usually features three core steps (Norton, 1990): 1) a political actor or a group of political actors—the government or lawmaker(s)—propose a bill to the legislature, 2) lawmakers discuss and scrutinise the proposed bills, and 3) lawmakers decide whether to approve or disapprove the bill. Only if a bill is approved at the end, it will become a legislation.

Legislative speed, therefore, can be understood as the amount of time required from step one to three. Shorter time means faster legislative speed. Each of these steps can be short or long, depending on the situations. In some occasions, when a bill is proposed, lawmakers may refuse to discuss the bills immediately. It can be due to various reasons such as the issue is too controversial or politically sensitive (John, 2011; Soroka & Wlezien, 2010) so that lawmakers require the government to consult the public or simply to set out a cooling period. In other occasions, the legislative schedules or agenda are simply too full to accommodate a new bill. It is also possible that, after scrutiny, some lawmakers disagree parts of the bill and require the government to make amendments (Hazell, Chalmers, & Russell, 2012; Russell et al., 2015). When a problem has urgency or when a legislation is expiring, lawmakers may act pragmatically to pass or renew the laws efficiently, even a government is divided (Adler & Wilkerson, 2012). In brief, legislative process is a political exercise and lawmakers can bring in any reason to speed up, delay or even reject the legislation.

Legislative speed has its merits over other more common measurements of

legislative productivity in the literature: success rate and volume of legislation (Adler & Wilkerson, 2012; Alemán & Navia, 2009; Mayhew, 1991; Saiegh, 2009). The main problem of these two common measurements is that they do not capture the essence of legislative productivity in authoritarian regimes. The problem of success rate is that it is routinely high in authoritarian legislatures (parliamentary systems are similar in this regard). Therefore, using success rate as an indicator of legislative productivity does not and cannot meaningfully capture the differences in productivity in a comparative setting—it can be a cross-national comparison or comparing different administrations of the same legislature. For instance, a group of legislatures can all have very high success rate (e.g. over 90 per cent), and it is not meaningful to compare their performances (e.g. to say 95 per cent is better than 90 per cent seems cannot give substantial meaning). For volume of legislation, assuming a higher volume of legislation means a more productive legislature is also problematic. When the volume of legislation is low, it is not certain whether this is due to a poorer legislative discipline in organising meetings (e.g. Blondel (1973, p. 57) surveyed that authoritarian legislatures have less meeting time in general) or poorer productivity in the legislature. When a legislature produces less legislation, it may simply because there is no such need or urgency to produce more. Similarly, legislature with higher success rate does not imply that the legislature can pass a higher volume of legislation. For instance, a high success rate can coexist with low volume of legislation, and this is perhaps because the government is knowledgeable enough to know which bills can be passed easily and which bills are difficult to pass, thus the government avoid proposing those more difficult ones. All in all, measuring legislative productivity with success rate and volume of legislation can be problematic.

Legislative speed, however, have a better conceptual clarity when measuring legislative productivity. When legislative speed is slow, it reflects a prolonged

process of policymaking. When legislative speed is fast, it means that the governments manage to reach an agreement with other stakeholders and pass the bills quickly. As time is scarce, legislative process at varying speed has important implications on the legislative output. A quicker legislative process creates more room to produce more policies. A slower legislative process risks congesting the legislative schedules with more outstanding bills and thus the legislature would produce less legislation at the end.

Table 5.1 provide an actual example to suggest why legislative speed has merit over success rate and volume of legislation. It compares the legislative productivity of six administrations in colonial and post-handover Hong Kong. Each row shows the legislative productivity using three different measurements, namely, success rate[1], number of legislation and average days taken to pass a bill. Focusing on the success rate (column two), it is tempting to conclude that Chris Patten is the worst performer among all at 90.38 per cent. However, as mentioned, all administrations achieved very high success rates and it is not meaningful to conclude Chris Patten is the worst performer. In addition, when we look at the number of legislations produced in each administration, Chris Patten is actually among the highest in the five administrations (498), and is only slightly less than David Wilson (500). In contrast, although Tung Chee-hwa, Donald Tsang and Leung Chun-ying achieved higher success rates than Chris Patten–93.14 per cent, 96.95 per cent and 92.39% respectively. They both produce significantly less number of legislation than Chris Patten (380, 159 and 85 legislations respectively). When considering the volume of legislation, Leung Chun-ying is the worst performer, not Chris Patten. It is not easy to reconcile these contradicting results by using the two commonly used measurements of legislative productivity—success rate and volume of legislation. Alternatively, legislative speed (it is roughly operationalised as the average number

[1]The success rate is calculated by the total number of law passed divided by the total number of bill tabled.

Table 5.1: Comparing the legislative productivity for each administration 1982-2016

Administrations	Success rate	No. of law passed	Average days taken
Edward Youde 1982-87	98.24%	335	42
David Wilson 1987-92	96.71%	500	77
Chris Patten 1992-97	90.38%	498	132
Tung Chee-hwa 1997-05	93.14%	380	193
Donald Tsang 2005-2012	96.95%	159	190
Leung Chun-ying 2012-2016	92.39%	85	211

of days taken to pass all bills in this section only) offers a very different picture to that conveyed by the use of success rate and the volume of legislation. Leung Chun-ying ranked at the bottom of the table (211 days) while Tung Chee-hwa and Donald Tsang ranked just ahead of Leung (193 days and 190 days correspondingly). In contrast, the average number of days to pass bills is only 43 days for Edward Youde and 77 days for David Wilson. Chris Patten was ranked in the middle and it took him 132 days on average to pass the bills. Legislative speed gives a totally different ranking from that suggested by the success rate and the volume of legislation. As mentioned earlier, legislative speed is conceptually more concise to measure legislative productivity and can avoid the confusion of routinely high success rate in authoritarian legislature and the risk of interpreting low volume of legislation as unproductive legislature. Legislative speed does not have the confounding meaning of low volume of legislation as addressed above—we cannot distinguish whether it is due to poor legislative efficiency or there is no such urgency to produce more legislation.

Before providing a more formal measurement of legislative speed—the duration of legislative process or time-to-event data—I will review and explain how the process of political liberalisation slows down the legislative speed of authoritarian regimes.

5.2 Political liberalisation and the number of political parties

A process of political liberalisation means governments are willing to relax political restrictions imposed on non-governmental political actors including political opposition, media and citizens (Brown, 2011; Dahl, 1973). It can exist in the form of opening up political systems with a greater degree of political participation, or relaxing the constraints on media in reporting and investigating political affairs. In this chapter, I take a narrow definition of political liberalisation: more inclusive and competitive elections. One direct consequence of political liberalisation, obviously, is that autocrats have less control and political advantage over political affairs. Yet, in this process, the autocrats do not necessarily lose all power and control. Apart from full democracies, theorists identify two important forms of more liberalised authoritarianisms—hegemonic authoritarianism and competitive authoritarianism (Bogaards, 2009; Brownlee, 2007; Diamond, 2002; Donno, 2013). In hegemonic authoritarian regimes, autocrats still have absolute electoral dominance so as to ensure their full grip of power. In competitive authoritarian regimes, however, opposition parties present greater competition to autocrats in electoral arenas and can pose a genuine threat to autocrats' ruling power.

But no matter which path the regimes follow, the process of political liberalisation injects the systems with more democratic elements and accountability. An implication of the process of political liberalisation, defined as more inclusive and competitive elections, is that the number of political parties increases in the legislature. As such, it changes the party system and power distribution in the political system, and brings in a new mentality to the regimes. For instance, similar to democratic systems, elected lawmakers have more frequent contacts with members of their constituencies than members of authoritarian governments

(Blondel, 1973; Loewenberg & Patterson, 1979), thus it is more likely that lawmakers would bring in localised knowledge (with respect to the constituency) and opinions that are possibly unknown to the autocrats. In this way, the process of political liberalisation increases the information exchange. Sorting and filtering out these information diversity is costly and time-consuming (Baumgartner & Jones, 2015). Moreover, elected lawmakers in legislatures are more likely to speak on behalf of their constituencies. If autocrats propose policies that could harm the interests of members of the constituencies, their representatives are likely to speak up, ask for major amendments or reject these policy proposals in order to protect their interests (Tsebelis, 2002). Through more inclusive and competitive elections, the diverse backgrounds of lawmakers create more institutional constraints to policymaking and thus the policy bargaining process becomes much harder.

In a more constrained institution, I expect that legislative speed will be slower. There are a number of theories to expect this. One notable theory is Jones and Baumgartner's (2005) notion of institutional friction in which "[p]olitical institutions impose costs on policy action in direct proportion to how far a policy proposal has proceeded in the lawmaking process" (2005, p. 147). The costs include decision-cost, that is, the cost of reaching agreement through face-to-face bargaining or voting. Institutional friction deters government from responding quickly to the policy issues.

Another stream of work is Tsebelis's (2002) veto player theory (see also Conley & Bekafigo, 2009; Ganghof, 2015; Lupu, 2015). To make policy change, a majority of players have to reach an agreement; otherwise the policy would remain in status quo. When a political system is more fragmented—that is, a legislature is composed of a greater number of political parties—it implies that there are more veto players in the policymaking process. The consequence of more veto players, as an institutional constraint, is that it requires more effort to coordinate and bargain with different veto players.

Divided government is also a key literature to address whether the institutional divisions would delay policy responses. Mayhew (1991), in his famous book Divided We Govern, asserts that divided government (i.e. executive and congressional branches are controlled by different political parties) legislate important bills as quickly as a cohesive government, and therefore government governs regardless of the unity of the government—a more constrained institution has no effect. However, later research from Edwards et al. (1997) and Howell et al. (2000) provide a rebuttal of Mayhew's thesis, whereas, subsequent findings are still mixed on the effect of divided government (Adler & Wilkerson, 2012; Baumgartner et al., 2013; Hughes & Carlson, 2015). By and large, a slower policymaking process is expected in a divided government as there is greater bargaining cost.

In addition, an increased number of political parties, from a process of political liberalisation, also brings in more diversified policy-relevant information to the legislature and the lawmaking process. Incentivized by election and re-election, members of the legislature in authoritarian regimes are more likely to represent the interest of their constituencies (Manion, 2017; Truex, 2016). Elected members are also more likely to have frequent contacts with the members of their constituencies than the appointed members and thus these elected members are more likely to possess more knowledge about their represented constituencies (Blondel, 1973; Loewenberg & Patterson, 1979). An increased number of political parties from more inclusive and competitive elections would also diversify the political and socio-economic backgrounds of the elected lawmakers. Their diverse backgrounds would also diversify the policy agenda and their input of policy information (Greene & O'Brien, 2016; Tam, 2017). In short, more political parties resulted from more inclusive and competitive elections would provide greater quantity of and more diversified policy-relevant information. To cope with the greater amount of information, the policymaking process is also prolonged.

Following the theoretical expectations discussed above, therefore, I propose a hypothesis for empirical testing in the subsequent sections:

> $H_{5.1}$: *A greater number of political parties resulted from a process of political liberalisation decreases legislative speed.*

In brief, political liberalisation increases the number of political parties that would add extra burden to the decision-making process through increased bargaining costs and information exchange. Consequently, it slows down the legislative process.

5.3 Data and methods

This section discusses the data and methods. I will first discuss why Hong Kong's Legislative Council (LegCo) is suitable for informing this research. Next, I will explain how each of the concepts—legislative speed and the number of political parties—is measured. Then, I will discuss event history analysis and how it can provide empirical analysis to the hypothesis.

5.3.1 Hong Kong legislative bills

To test the hypothesis, I use time-to-event data from the legislative bill dataset from 1982 to 2016. Hong Kong is selected because the city-state has experienced a gradual and unique process of political liberalisation in elections, which allows political scientists to observe the effect of political liberalisation over time.

Figure 4.1 represents the degree of political liberalisation of Hong Kong as reflected by the proportion of elected members (versus appointed members) in LegCo. Before 1985, the colonial Governors appointed all members of LegCo. In 1985, the first election was held in Hong Kong, composing of functional constituencies–represent the professional and business interests–and electoral college–elected by members of municipal and district councils who are directly

elected by the public. These non-directly elected members, accounting for over 40 per cent of all lawmakers in the LegCo between 1985 and 1991, joined the appointed members to scrutinise government bills. The first direct election took place in 1991. The electoral college was abolished in the same year and replaced by geographical constituencies by direct election from the public. The proportion of elected members (versus appointed members) then increased to over 60 per cent in 1991. In 1995, appointed seats in LegCo were totally abolished and all members of LegCo are then directly elected by the electorates either in functional constituencies or geographical constituencies from 1995 and onwards[2]. The system remains the same as of the submission of this thesis.

All legislative bill data are downloadable from the website of Hong Kong Legislative Council (`http://www.legco.gov.hk`), which is accessible in both English and Chinese. It contains key information such as the bill title, first reading date, second reading date, and third reading date. I use R to scrap and download all bill information in English from the website (for web scrapping with R, see Munzert et al. (2014)). The R programme obtains all URLs of the bills in the section Bill Database of the LegCo website. Then I access each of the URLs to retrieve and assemble all bill information into an accessible dataset format. The code takes about 1 hour to run in a normal laptop in normal internet speed. For this chapter, we only analyse data between 1982 and 2016 instead of between 1975 and 2016. The estimated effect of the number of political parties remain the same for both periods. The reason to shorten the period for this study is that the data between 1975 and 2016 cannot fulfill the Cox proportional hazard assumption even using the time-varying model but it can be done for data between 1982 and 2016

[2]Even though both functional constituencies and geographical constituencies are directly elected by the electorates, the formation of electorates in these two constituencies are very different. As mentioned, electorates in geographical constituencies are formed by the public living in that geographical area with each person casting one vote. In functional constituencies, the number of electorates are decided based on the sectorial interests. Some electorates are individuals (e.g. social workers and teachers). Some other electorates are corporates (e.g. insurance and accounting).

(see more discussion on the Cox proportional hazard assumption and time-varying model below under section Event history analysis). From 1982 September to 2016 August, there are 2,073 bills in total.

5.3.2 Legislative speed

Legislative speed is defined as the duration of legislative process to pass one bill. This is measured by—within a given session of LegCo—the total number of days required to pass the legislation from start to completion. Legislative speed is faster when the duration is shorter (i.e. fewer number of days), while it is seen as slower when the duration is longer. Only completed legislation would be counted in this measurement. Withdrawn bills would be censored because bill withdrawal is not an event of interest here. The start date of the bill is defined as the gazette date or first reading date of the bills, depends on their availability. The gazette date is the date when the government declares that a bill is going to be proposed to the legislature. The first reading date is the date when the legislature first processes the bills in the legislative meeting. Therefore, the gazette date is always earlier than the first reading date. However, sometimes the gazette date is missing in some of the bill information. If it happens, I pick the first reading date as the start date of the bills. The completion date of the bill is defined as the third reading date, in which the legislature is required to read the bill for the third time to declare that the bill has been passed by the legislature as a formal legislation.

5.3.3 Effective number of political parties

The number of political parties is measured by Laakso and Taagepera's (1979) effective number of political parties (ENPP) and the incomplete data is adjusted according to Taagepera (1997). The original equation of ENPP is defined as:

$$ENPP = \frac{P^2}{f(R) + \sum P_i^2}$$

The lower bound and upper bound of the ENPP are represented as follow:

$$\frac{P^2}{R^2 + \sum P_i^2} < ENPP < \frac{P^2}{R + \sum P_i^2}$$

ENPP represents the total number of influential political parties as measured by either vote share or seat share in a legislature (in this thesis, we use the seat share). It has been applied to different studies in political science (e.g., Anckar, 2000; Grofman & Kline, 2012; Maeda, 2015). ENPP indicates the number of major political parties and the partisan composition in the legislature. When the ENPP equals to about one, the political system is typically labelled as a one-party system or one-party-dominant system (e.g., mainland China and Singapore). By the same token, when ENPP equals to about two, it means that two comparable parties exist and compete in the political system (e.g., the US and the UK). A greater ENPP implies more equally sizable political parties participate in the political system. For more discussion of the calculation of the ENPP, please refer to chapter 3.

The adjusted and unadjusted ENPP between 1975 and 2016 are shown in figure 3.1. The dashed line and dotted line represent the upper and lower bounds of ENPP by assuming political parties or candidates that coded as “others” or “no political affiliation” demonstrate extreme fragmentation and extreme united correspondingly. The solid line represents adjusted value of ENPP based on the mentioned rules according the ideology of political parties or candidates that coded as “others” or “no political affiliation”.

The adjusted ENPP shows a general upward trend. It was at 1 from 1975 to 1985 because all lawmakers were appointed. When indirect elections were introduced subsequently, the ENPP went upward to about 2.72 from 1985 and 2.83

from 1988. When direct election was introduced in 1991, ENPP jumped to 5.01 and further jumped to over 6 from 1995. Between 2004 and 2008, it further increased to 8.41. It lowered to 7.26 between 2008 and 2012 and jumped to 10.84 from 2012 to 2016. Between 1975 and 2016, the mean value and standard deviation of the effective number of political parties are 5.1769 and 3.2244 respectively.

5.3.4 Event history analysis

Given the nature of legislative speed—a time-to-event data as the dependent variable—I use Cox proportional hazards regression, a common regression technique in event history analysis, to examine the expected effect of the number of political parties on legislative speed. The event occurs when a bill is passed in the legislature on the third reading date. The time until the event occurs is measured from the gazette date (or first reading date if gazette date is missing) to the third reading date. The unit of time is day.

Cox proportional hazards regression is a non-parametric event history model. It means that it does not assume specific distribution of the legislative speed data (Box-Steffensmeier & Jones, 2004, 1997). The legislative speed is modelled by the Cox proportional hazards regression and is written as the following form:

$$h(t|x_i) = h_0(t)e^{\sum \beta_i x_i}$$

in which $h(t|x_i)$ is the hazard function of bill passage, which means at a given time t, the proportion of legislative bills that has experienced the occurrence of an event, that is, bill passage. $\sum \beta_i x_i$ is the linear combination of covariates x_i. β_i are the estimates of each covariate. To test the effect of the number of political parties on legislative speed, the covariates are presented in the following form:

$$\sum \beta_i x_i = \beta_1 PARTYNUMBER + \beta_2 SIZE + \beta_3 BILLCOMMITTEE + \beta_4 EXECUTIVE$$

The main explanatory variable is the number of political parties, and is denoted as PARTYNUMBER, which is the adjusted effective number of political parties as described earlier. I have added three control variables to this model. $SIZE$ is the size of the legislature which is defined as the number of lawmakers in the legislature. $BILLCOMMITTEE$ is a binary variable that represent whether a bill committee is setup for a specific bill. $BILLCOMMITTEE = 1$ when bill committee is setup, and $BILLCOMMITTEE = 0$ when there is no bill committee. A bill committee is setup when the lawmakers feel that they have to further scrutinise the bills. The reason could be due to the fact that the bill is either more controversial, politically sensitive or technically more complicated. In other words, $BILLCOMMITTEE$ can be seen as a proxy to measure the salience and controversy of the bill. When a bill committee is setup, it is expected that the legislative speed would be slower. $EXECUTIVE$ denotes a categorical variable of each of the administration (as shown in 5.1). This variable accounts for the difference in legislative speed due to the leadership and bureaucratic capacity of each administration as shown in table 5.1 and figure 5.1 below. I have also included time-varying covariates to adjust the nonproportionality appearing in the above model (Box-Steffensmeier et al., 2003) (see appendix A to see the results of Schoenfeld residual test that checks the proportional hazard assumption of Cox model) (Grambsch & Therneau, 1994). After the adjustment, the proportionality criterion of Cox model is fulfilled.

In the following, I will report and discuss the empirical analysis and findings.

5.4 Results and discussion

In the analysis, I first highlight how individual executive and his[3] administration performed differently using the Kaplan-Meier Curve. Figure 5.1 shows the survival probability of legislative bills in different time (in days) by various administrations. When the curve reaches a lower value of survival probability in a shorter time, it means that the administration manages to turn the bills into legislation faster, and vice versa. Put it differently, steeper slopes represent a faster speed of legislation and flatter slopes associate with longer legislative process. The Kaplan-Meier Curve shows that a certain proportion of bills passed into legislation within a certain days and it provides more information than the average number of days to pass the bills in table 5.1.

Murray MacLehose (dotted line) appears to be the most efficient executive to turn bills into law among all executives in various administrations. Specifically, Murray MacLehose passed over 90 per cent of the legislative bills in less than 50 days. Edward Youde was the next best performer and he passed 90 per cent of the legislative bills in less than 90 days. David Wilson comes third in terms of legislative speed. He passed almost 90 per cent of the legislative bills in less than 150 days. Chris Patten comes next but he passed 90 per cent of the bills in a significantly longer time than his predecessors (less than 370 days). Tung Chee-hwa, Donald Tsang and Leung Chun-ying are close and they took about 400 to 500 days respectively to pass 90 per cent of the bills. It indicates that different administrations in different eras have different legislative speed. The variations in administrations should account for modeling the legislative speed.

[3]All executives were exclusive male in Hong Kong until Carrie Lam becoming the first female executive in 2017 that is not included in this study.

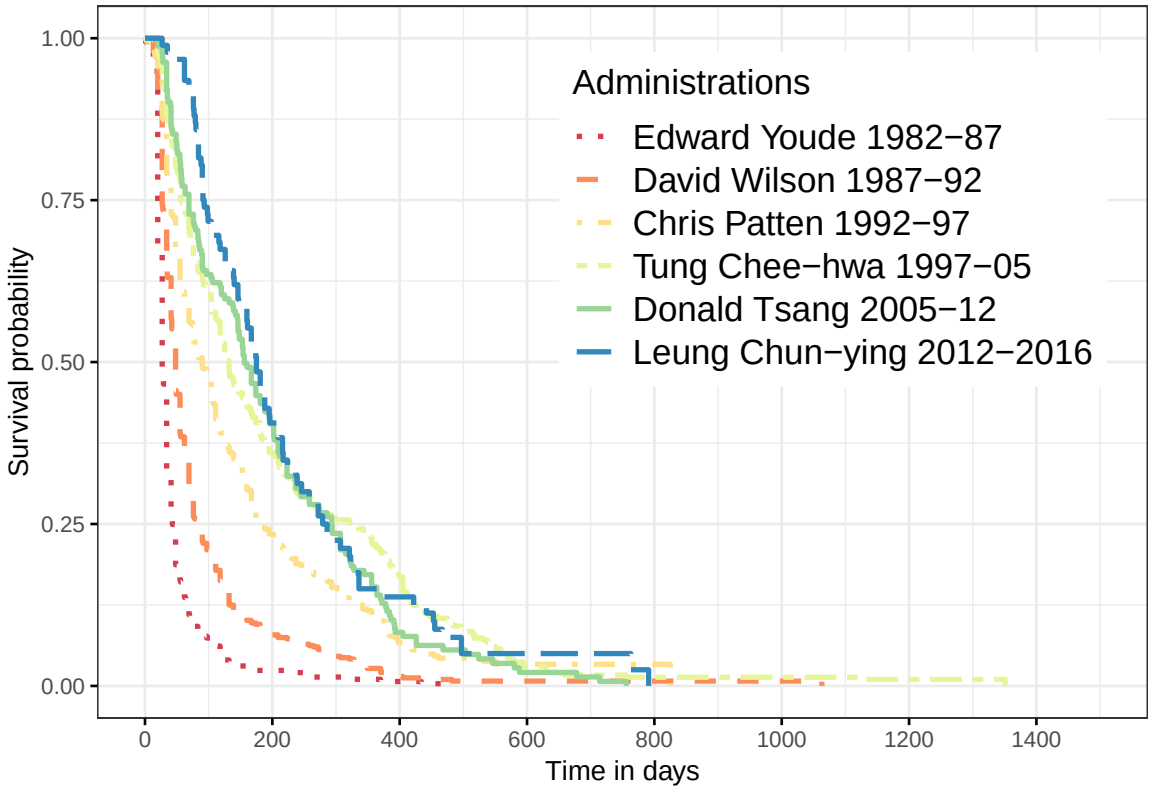

Figure 5.1: The Kaplan-Meier curve for bill passage. The differences in legislative speed for each administration, 1982- 2016.

A greater number of political parties during the period of political liberalisation slow down legislative speed. The results of cox regression provide support to this and show that legislative speed slows down when there is a greater number of political parties in the legislature, after controlling for various factors. To examine the expected effect on legislative speed, table 5.2 shows the unexponentiated coefficient estimates of each of the four Cox proportional hazards models with and without control variables. Model 1 includes the main explanatory variable number of political parties $PARTYNUMBER$ and the control variable $SIZE$, the size of the legislature. The estimate of the number of political parties is significant ($p < .001$) and it shows that one unit increases in ENPP reduces the legislative speed by 19.98 per cent ($1 - exp(-0.223) = 0.1998$), after controlling for the size of the legislature, which also has a significant negative effect on legislative speed ($p < .001$).

Model 2 adds $BILLCOMMITTEE$ as the control variable along with the number of political parties and size of legislature. $BILLCOMMITTEE$ is a binary variable. It is equal to 1 when a bill committee is setup for the bill, and is equal to 0 when there is no bill committee setup. A bill committee is setup when the lawmakers want to scrutinise the bills in greater details. The initiation of bill committee can be because of the technical complexity of the bills, or its political controversy. Therefore, the bill committee as a variable can control for the effect of the technical complexity of the bills as well as its political controversy. The estimate of $BILLCOMMITTEE$ is highly significant ($p < .001$) in a model with the number of political parties and size. The setup of bill committee reduces the legislative speed of a bill by 62.76 per cent ($1 - exp(-0.988) = 0.6276$). The size of the legislature, however, has no effect on the legislative speed after the effect of the presence of the bill committee is added to the model. After controlling for both the size of the legislature and the effect of the bill committee, the effect of the number of political parties is still highly significant ($p < .001$) and one unit increase in the number of political parties slows down the legislative bill by 17.46 per cent ($1 - exp(-0.192) = 0.1746$).

Model 3 further adds $EXECUTIVE$ as the control variables. Executive Leung Chun-ying is the dummy variable and each of the effect of the other executives show how much faster or slower the executive and its administration can legislate compared with Leung Chun-ying. After addressing the differences between the executives, the estimate of $PARTYNUMBER$ is still highly significant ($p < .001$) and negative. The magnitude of the effect size of the number of political parties is larger than that of model 2. After controlling for the effect of the executives, the size of the legislature and the setup of bill committee, the result shows that one unit increase in the number of political parties reduces the legislative speed by 19.34 per cent ($1 - exp(-0.215) = 0.1934$). The number of political parties is consistently a

Table 5.2: The impact of effective number of political parties on legislative speed.

	Standard Cox model			Time-varying Cox model
	(1)	(2)	(3)	(4)
Number of Political Parties	−0.223***	−0.192***	−0.215***	−0.194***
	(0.018)	(0.019)	(0.049)	(0.041)
Size	−0.019	0.0001	0.025	0.028
	(0.011)	(0.012)	(0.021)	(0.018)
Bill Committee		−0.988***	−1.035***	−1.745***
		(0.064)	(0.067)	(0.094)
Executive:Edward Youde 1982-87			−0.240	0.706
			(0.459)	(0.426)
Executive:David Wilson 1987-92			−0.541	0.267
			(0.363)	(0.349)
Executive:Chris Patten 1992-97			−0.724**	−0.083
			(0.279)	(0.297)
Executive:Tung Chee-hwa 1997-05			−0.663**	−0.086
			(0.246)	(0.282)
Executive: Donald Tsang 2005-12			−0.206	0.151
			(0.231)	(0.297)
Size * Time				0.0004
				(0.0004)
Bill Committee * Time				0.010***
				(0.001)
Executive:Edward Youde 1982-87 * Time				−0.006
				(0.007)
Executive:David Wilson 1987-92 * Time				−0.002
				(0.005)
Executive:Chris Patten 1992-97 * Time				−0.001
				(0.004)
Executive:Tung Chee-hwa 1997-05 * Time				−0.0002
				(0.004)
Executive: Donald Tsang 2005-12 * Time				0.001
				(0.004)
N	2,073	2,073	2,073	4,677
R^2	0.233	0.361	0.384	0.228
Log Likelihood	−12,809.050	−12,620.680	−12,581.780	−12,478.220

Note: Entries represent unstandardized coefficients with robust standard errors in parentheses.
Significance levels: ***p < .001; **p < .01; *p < .05

highly significant predictor of the legislative speed, after controlling for various variables that could delay the legislative speed. It provides strong evidence to support $H_{5.1}$.

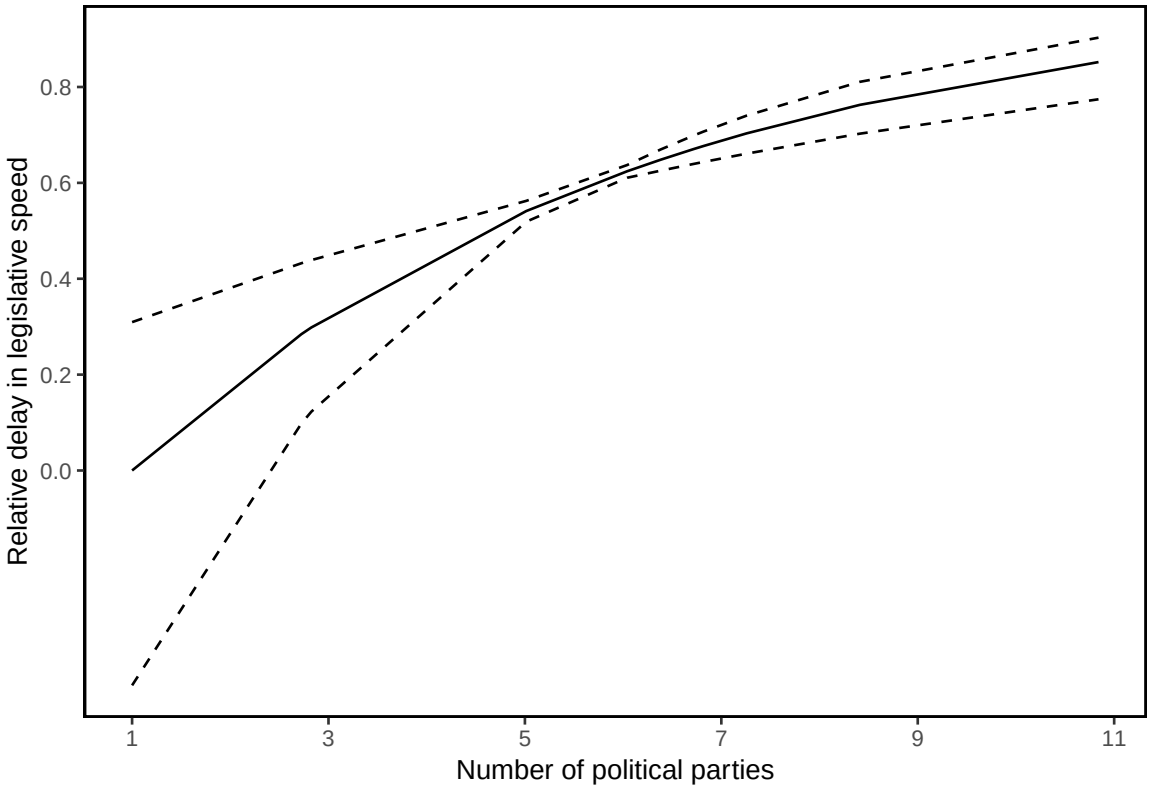

Figure 5.2: Relative delay in legislative speed at different number of political parties.

Because model 1 to 3 fail to fulfill the proportional hazards assumption of Cox regression, model 4 in table 5.2 further added the time-varying covariates so that the model does not violate the proportional hazards assumption (see appendix A for diagnostic test). The result is still significant ($p < .001$) and it shows that when one unit increases in the number of political parties, it reduces the legislative speed by 25.32 per cent ($1 - exp(-0.292) = 0.2532$). The data shows an unambiguous support to $H_{5.1}$.

Figure 5.2 shows the predicted decrease in values in legislative speed for different numbers of political parties. It generally shows that, as the number of

political parties in the legislature increases, the legislative speed slows down.

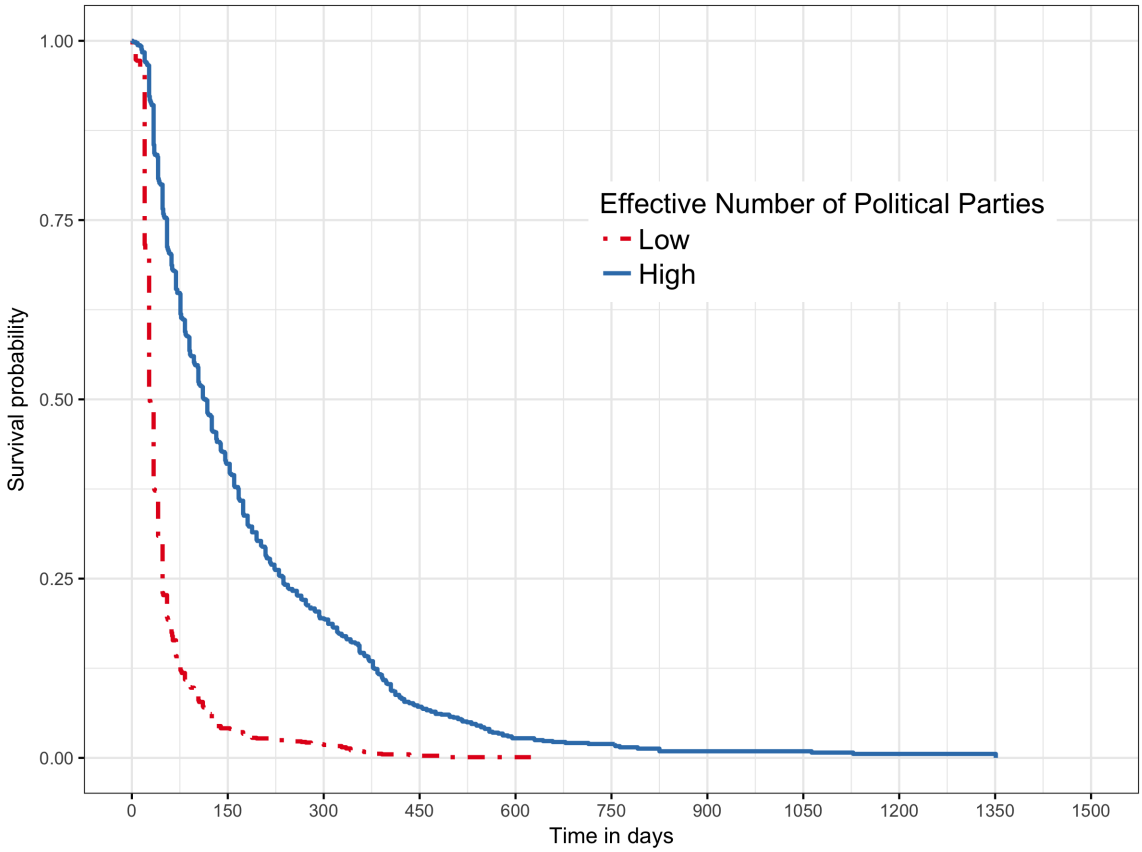

Figure 5.3: The Kaplan-Meier curve for bill passage. The effect of the number of political parties on legislative speed, 1982-2016.

To visualise the difference of legislative speed at different numbers of political parties, figure 5.3 is the Kaplan-Meier Curve that shows the survival curves of legislative bills. I recoded the number of political parties as low when its value is lower or equal to 3. When it is greater than 3, I recode it as high (As shown on figure 3.1, the value of the number of political parties ranges from 1 to 10.84 in Hong Kong over the period.). The two curves show obviously that lower number of political parties leads to a faster speed of legislation, as the slope of the curve is steeper. Conversely, a greater number of political parties lowers the speed of legislation.

5.5 Conclusion

Using a novel dataset of Hong Kong's legislature, my study finds that a greater number of political parties in the legislature is associated with a slower legislative speed, after controlling for the effect of different administrations and the setup of bill committee—I use the latter as a proxy of the salience and controversy of the bills. I offer an explanation to this phenomenon: when a bill is introduced to the legislature, it takes a longer time for the autocrats to pass the bills during a period of political liberalisation as a greater number of political parties increases the bargaining costs as well as the time needed for processing and sorting out policy-relevant information. This study has made an important contribution to explain and show how political liberalisation affects lawmaking in authoritarian legislatures.

The findings in this chapter challenge the perception that autocrats managed to use various measures to hold a tight grip on political affairs and power even when they start to liberalise their regimes (Schedler, 2002). As this chapter suggests, when the autocrat liberalises the territory, autocrat actually loses control on policymaking, which is manifested in a lengthier legislative process. As time is scarce, a longer legislative process actually leads to a lower number of legislation. This provides profound implication on how autocrats make policies when they have to inevitably liberalise their political and media systems in a global tide for liberalisation.

This chapter also highlights the advantages of using speed as a measurement of legislative productivity. Compared to success rate and volume of legislation, legislative speed can capture the essence of legislative productivity better in authoritarian regimes (and potentially parliamentary systems). Specifically, success rates are usually very high in these systems and it is meaningless to compare them. Similarly, the volume of legislation cannot tell whether a low volume of legislation

represents inefficiency in legislative productivity or that the policymakers prefer to produce less because of the circumstances.

As this study looks at a single legislature only, the finding on the relationship between political liberalisation and legislative productivity is only suggestive but not conclusive at this stage. This research opens up the discussion on this understudied topic capitalising on Hong Kong's unique path of prolonged democratisation as well as the stable and high level of media freedom, as it provides a valuable opportunity to observe the effect of gradual political liberalisation on legislative process and policymaking not available in many other countries and systems. Further research is needed by using comparative and longitudinal research design to provide more evidence to ascertain the relationship between level of political liberalisation and legislative speed. Yet, this study provides a strong case and suggests a refined way of thinking to study legislative process in authoritarian regimes.

Chapter 6

Explaining distribution of policy change

The study of policy agendas is concerned with how policymakers and other political actors, such as the media, business elites, civil society organisations and the public, "are paying some serious attention [on a list of issues] at any given time" (Kingdon, 1984, p. 3). In this stream of works, the punctuated equilibrium theory (PET) has successfully described the general pattern of policy change of a broad range of policy activities over time in many advanced democracies (e.g. Jones & Baumgartner, 2005; Baumgartner et al., 2006a; John & Jennings, 2010; Jones et al., 2009). In policy processes, policymakers allocate their attention disproportionately to a smaller number of issues across a range of policy topics. According to the theory of disproportionate information processing (as discussed in greater details in Chapter 2), policymakers tend to ignore most of the smaller policy signals but pay far more attention to rarer but more salient signals. It results in a punctuated equilibrium pattern of policy change—disproportionately greater responses to more salient issues and no responses to less salient issues.

Only a small number of studies test PET using cases from non-democracies

(Baumgartner et al., 2017; Chan & Zhao, 2016; Lam & Chan, 2015). There are two major findings. Firstly, these studies show that PET is better than incrementalism to describe the pattern of policy change in authoritarian regimes. It shows that policy changes follow a leptokurtic distribution, meaning that policy changes are mostly stable but characterised by more extreme changes compared to incremental policymaking. Secondly, in more liberalised political systems, the distribution of policy change has a lower level of punctuation (less extreme changes). These works explain these patterns by attributing that more information circulation outweigh the cost of more decentralised systems in more democratised regimes.

However, there is still no consensus on how change of political regime would affect the distribution of policy change. More case studies and comparative analysis are required to reveal the general pattern of policy change in autocratic policymaking and how regime change affects such pattern. Using Hong Kong's legislative bills between 1975 and 2016, this study extends the application of PET to non-democracies and provides evidence to examine this relationship. The unique feature of Hong Kong's gradual political liberalisation provides a valuable opportunity to observe the effect of political liberalisation on policy change. This study is also the first of its kind to test PET with legislative bill data systematically while most earlier studies use budgetary data.

As we shall see, this study finds that the overall pattern of policy change in Hong Kong's legislature fits PET better than incrementalism. A higher degree of political liberalisation in a state would have a lower level of punctuations in policy change. However, it challenges previous empirical studies that more liberalised political systems would result in less punctuations in the distribution of policy change. In particular, this chapter found that more punctuations are observed in the distribution of policy change in democracies than that in authoritarian regimes.

This study has four advantages in its design than earlier works. Firstly, the use

of legislative data allows the establishment of causation between changes in electoral systems and changes in legislation. The electoral reform alters the partisan composition and power structure of the legislature. The study of legislature and its outputs offers an excellent opportunity to observe the direct effect of regime change on policy change. It also improves our understanding of the micro-foundation of the causal mechanism. Secondly, as Hong Kong has enjoyed a high degree of freedom of the press and a high degree of freedom of assembly in the civil society, this study allows us to hold the liberalising effect of the press and civil society organisations as constant. This allows a direct examination of the effect of electoral reform on policy change and enhance the scholarship on linking electoral studies and party politics with policymaking. Thirdly, Hong Kong's legislative data has a good transparency and is more faithfully reliable. This is a merit over other authoritarian regimes that may raise a concern as mentioned by Wallace (2016) and Baumgartner et al (2017, p. 799). Forthly, it employed the Kolmogorov-Smirnov test to provide a more systematic comparison of the distribution of policy change than prior studies.

To examine the different patterns of policy change in authoritarian regimes at different degree of political liberalisation and compare how it is different from that in advanced democracies, this chapter is structured as follow: It will first review related works in PET in democracies as well as authoritarian regimes. It will then state the hypotheses related to the distribution of policy change. The results are revealed and explained after the data and method section.

6.1 Punctuated equilibrium theory and policymaking in authoritarian regimes.

The punctuated equilibrium theory is a theory of policy change. The foundation of the theory is set out in Buamgartner and Jones's milestone work *Agendas and*

Instability in American Politics (1993). They challenge the view that policy change in the US is incremental and update through a "muddling" process (e.g. a series of negotiations and checks and balances) between different political actors in different political institutions (such as the executive branch, legislative branch and interest groups) that advocated by Lindblom (1959), Lindblom (1979) and Wildavsky (1964). Baumgartner & Jones (1993) assert that the pattern of incremental policy change is only a part of the story but radical and rapid changes are also observed.

The punctuated equilibrium model is thus proposed to explain such pattern. It builds on the notions of bounded rationality and limited attention at both individual and organisational level (Jones, 2001). It means that policymakers have to constantly filter out what to focus and what to ignore. Under bounded rationality, cognitive biases and institutional friction, policymakers process information disproportionately and that results in a series of positive and negative feedbacks in the policy process (Baumgartner & Jones, 1993; Jones, 2001, 2002, 2017; Pierson, 1993a; Workman, Jones, & Jochim, 2009). The process of negative feedbacks suppresses policy change so that the policy process maintains the status quo most of the time. In contrast, the process of positive feedback amplifies the policy change in some occasions and causes extreme changes as observed in the distribution of policy change. In this way, the PET implies that the pattern of policy change is characterised by a series of stability and radical and rapid changes over time (Jones & Baumgartner, 2005).

PET has been well examined and manages to describe the main features of policy change in many advanced democracies (e.g., Jones & Baumgartner, 2005; Baumgartner et al., 2006a; John & Jennings, 2010; Jones et al., 2009). However, how well it can translate into the context of authoritarian regimes is still to be seen requiring more case studies and comparative analyses.

Recent works that test PET in authoritarian regimes are limited. Using Hong

Kong's data from executive speech, budget speech, budget estimates and the agenda of the meeting in the Legislative Council in the post-World-War-Two period, Lam & Chan (2015) depict that the patterns of policy change in these four policy streams are leptokurtic. The results meet the expectation of PET, meaning that policy changes are largely stable but also characterised by occasionally huge and abrupt changes. They also find that policy changes are more punctuated in more democratised periods in Hong Kong.

Chan & Zhao (2016) examine the budgetary process in China and find that policymaking in authoritarian regime is more punctuated than advanced democracies. They attribute the cause of radical and rapid policy changes to information disadvantage in authoritarian regimes. By using the number of labour contentions as a proxy of regime's exposure to information related to social instability, they finds that provinces with less reported cases of labour contentions have greater level of punctuation in their budgetary change. In other words, provinces that receive less information about the social discontent are more likely to have a prominent pattern of stability and extreme changes in policy change.

Baumgartner et al. (2017) propose two competing hypotheses and test them by examining a number of regimes that experienced regime transition, namely, Brazil, Turkey, Malta and Russia. The first hypothesis is informational advantage hypothesis. It asserts that more liberalised political systems provide policymakers with more informational advantages because the freer environments and greater electoral accountability provide policymakers with more capacity to gather information on policy affairs. The press and the civil society organisations are also more autonomous and have greater capacity to raise their voices to the policymakers. The second hypothesis is called the institutional efficiency hypothesis. It argues that autocrats encounter much less institutional constraints compared to democracies such as the formal checks and balances. This allows the autocrats to

react and respond to policy affairs much more quickly. The result supports the informational advantage hypothesis and suggests that more liberalised systems have a lower level of punctuation.

6.2 Hypotheses

Taken together, this chapter tests three sets of hypotheses. The first hypothesis examines whether the distribution of policy changes in legislative bills is punctuated. Like policymakers in democracies, autocrats face cognitive biases at individual level and institutional friction at the institutional level. Therefore, autocrats have to deal with incoming signals (e.g. policy problems and crises) disproportionately by prioritising and allocating more attention to more salient issues, while neglecting less salient issues. This would create more punctuated changes in legislative bills. Therefore, the first hypothesis states that:

> $H_{6.1}$: *The general distribution of policy changes in Hong Kong's legislative bill is leptokurtic.*

The second set of hypotheses is concerned with how the distribution of policy change behaves differently at different degrees of political liberalisation in a single regime. Theoretically, there are two possible pathways and thus two competing hypotheses. The first hypothesis is called the 'information exchange hypothesis'. As regimes liberalise, the number of political parties in the legislature increases. A greater number of political parties diversifies the political ideologies, socio-economic backgrounds, gender and experiences in the legislature and thus it facilitates the supply and exchange of information for policymaking. In this way, autocrats are more likely to be informed by a wider range of policy issues and problems, rather than uninformed. This would enhance the proportionality of their policy responses (a feature of incrementalism) and the distribution of policy changes becomes less

punctuated. Baumgartner et al's (2017) recent comparative work also finds support that more democratised system has lower level of punctuations. Therefore, the first of the two counter hypotheses states:

> $H_{6.2a}$ (information exchange and regime change hypothesis) : *Policy change in a period of a higher degree of political liberalisation has a lower level of punctuations than in a period of a lower degree of political liberalisation.*

However, regime liberalisation could have an opposite effect. As regimes liberalise, a greater number of political parties increases bargaining cost in the legislative process. The reason is that more inclusive and competitive elections allow more political oppositions to get into the legislature. It increases the number of veto players in the legislature and thus it becomes harder to compromise among these players who possess different political ideologies and interests (Tsebelis, 2002). As such, it creates greater institutional friction in the legislature and it becomes harder to deliver policy change. The autocrats thus have to be more selective on policy issues and process incoming policy signals disproportionally. The competing hypothesis states that:

> $H_{6.2b}$ (bargaining cost and regime change hypothesis) : *Policy change in a period of higher degree of political liberalisation has a higher level of punctuations than in a period of lower degree of political liberalisation.*

The third set of hypotheses is concerned with how different regime types—authoritarian regimes against democracies—have different distribution of policy change in legislative bills. Lam & Chan (2015) compare and find that the punctuation of the budgetary allocation in Hong Kong is more punctuated in Hong Kong than in many democratic countries documented in other research in Denmark, US, Germany, UK and France. Chan & Zhao (2016) further document that the

budgetary allocation in China has an even higher level of punctuation. They explained that this is due to the information disadvantage of authoritarian governments. Although autocrats have less formal checks and balances and can maneuver quickly if they need to, they do not know how they have to act if the underpinning problems are not made manifest to them. The unaddressed problems and grievances accumulate until these issues become urgent and unavoidable that the autocrats must act and address. Similarly, Baumgartner et al. (2017) analyse budget data and also find that more democratic systems have less punctuated distribution of policy change and they explain that democracies have more frequent and easier access to policy-relevant information. However, it is also possible that policymakers are more inundated with more available policy-relevant information. A more democratised system has more checks and balances and thus it creates more constraints to governments' policymaking. Yet, drawing from many of these insights and findings, the third hypothesis expects that:

> $H_{6.3a}$ (information exchange and regime type hypothesis): *Policy change in authoritarian regimes has a higher level of punctuations than in democratic systems.*

As mentioned, autocrats have more centralised government and policymaking power. The lack of representation, electoral incentives and accountability also give autocrats less constraints to deliver policy change. Moreover, the abundance of information could inform the policymakers what to do but the bombardment of information may indeed make policymakers overloaded. In order to cope with information overload, more effort to filter and identify useful and reliable information is required (Walgrave & Dejaeghere, 2017). From this perspective, extra information gained from the process of political liberalisation is not beneficial to policymaking but slow down the policymaking process. In contrast, autocrats make policy with less noise and distortion. Therefore, the competing hypothesis states:

$H_{6.3b}$ (bargaining cost and regime type hypothesis): *The change of legislative bills in authoritarian regimes has a lower level of punctuations than in democratic systems.*

6.3 Data and methods

This study leverages the unique feature of Hong Kong's gradual political liberalisation (Sing, 2004; A. Y. So, 1999) to address a set of hypotheses on the distribution of policy change. It analyses the legislative bills of the Legislative Council (LegCo) between 1975 and 2016. Hong Kong's political liberalisation did not take place until 1985. Between 1975 and 1984, all members in the legislature were appointed by the Hong Kong government. Later, a number of gradual electoral reforms were implemented in the next decade from 1985.

In the first election in 1985, only elites in business and professional sectors and members of municipal and district councils have the right to vote. They elected slightly less than half of LegCo members. The remaining were still appointed members. The proportion is then gradually increased to over 60 per cent in 1991. The appointment system was completely abolished in 1995. All seats became directly elected by either business elites from the functional constituencies or citizens from different geographical constituencies. Each of the two constituencies constitutes half of the total number of lawmakers in LegCo.

The lawmaking process in Hong Kong can either be initiated by the government (known as the Government bills) or the lawmakers (known as the Member's bills). Both types of bills need to go through three readings in the legislature before they are enacted. Government bills requires a simple majority vote of lawmakers present to turn into law. The hurdle of the Member's bills is higher than that of the Government bills. The passages of Member's bills requires simple majority vote of

both functional constituencies and geographical constituencies.

I collected the legislative bill dataset from the LegCo website (`https://legco.gov.hk`) by web-scrapping. Each bill is coded according to the policy content coding system of the Comparative Agendas Project (CAP) (`https://www.comparativeagendas.net/`) which comprises 21 major policy areas such as economy, health, transportation and government operations. There is a slight revision to the coding system to fit the unique context of Hong Kong. Following Lam and Chan's (2015) codebook, I added topic number 32 to denote any legislative bills about the sovereign and related constitutional affairs. It is largely concerned with the transition of colonial laws into the Basic Law in post-handover Hong Kong. Thus, there are 22 major policy topics in total.

In addition, to compare the distribution of policy change for different countries, I collected the legislative bill datasets from the Comparative Agendas Project website. As of 23 June 2018, the CAP website contains legislative bills or laws dataset from Belgium, Denmark, France, Hungary, Italy, Netherlands, Spain, Switzerland, United Kingdom and United States. They are available for download and analysis.

In this study, policy change is defined as the annual attention change in a specific policy area. Following other similar studies mentioned earlier, this study uses percentage-percentage approach to measure the relative policy change as a percentage of total agenda in a particular year. The equation is defined as

$$S_{i,t} = 100 * (\frac{p_{i,t} - p_{i,t-1}}{p_{i,t-1}})$$

where $S_{i,t}$ is the annual percentage change of legislative bills in policy topic i at time t. $p_{i,t}$ and $p_{i,t-1}$ are the measures of the proportion of legislative bills allocated to policy topic i at time t and $t-1$ respectively. Take a hypothetical example. If legislative bills on economy constituted 15 per cent of the total agenda in 2001 and

10 per cent in 2000, the amount of relative change is then $(0.15 - 0.10)/0.10 = 0.50$. It means that the proportion of policy change allocated to the economy is increased by 50 per cent. This method is commonly used in the calculation of policy change particular for the calculation of the kurtosis (that measures the distribution of policy change) (Baumgartner et al., 2017; John & Jennings, 2010; Jones & Baumgartner, 2005, p. 202; Lam & Chan, 2015).

There are two occasions in which the values of the annual percentage change require some attention. When $p_{i,t-1} = 0$ and $p_{i,t} \neq 0$, $S_{i,t}$ becomes infinity. This would, however, lead to a heavier tail (extreme large changes). The existence of infinity would favour the acceptance of $H_{6.1}$. To avoid this, $S_{i,t}$ is set as missing value in this case. Similarly, when both $p_{i,t} = p_{i,t-1} = 0$, $S_{i,t}$ becomes indeterminable. In some cases, for example, no bills in health issues for two consecutive years may be seen as no policy change. However, some policy topics, such as defence in Hong Kong, have no empirical relevance to the state policymaking. Such policy decision is handled by the central government of China. The empirical redundancy of some policy codes is likely to make more annual percentage changes equal to zero and produce a greater value of kurtosis score (higher central peak) (John & Jennings, 2010, p. 572). As such, $H_{6.1}$ is more likely to be accepted. Again, these annual percentage changes are then treated as missing values to avoid the false acceptance of $H_{6.1}$. There are in total 880 observations for 22 policy topics from 1975 to 2016. After setting the two cases as missing values addressed above, the number of observations is reduced to 581.

To measure the distribution of policy change, this study uses stochastic process methods (also called distributional analysis) (Breunig & Jones, 2011; Jones & Baumgartner, 2005; Jones et al., 2003). It constructs a distribution of the annual percentage change and assesses its shape. To be specific, it plots a histogram and each histogram bar represents the density of each annual percentage change (that is,

the proportion of frequency of a certain range of value of annual percentage change over all annual percentage change). This allows for a systematic study of the distribution of policy change. A normal distribution with the same mean and standard deviation is overlaid on the histogram. This eases visual inspection and shows to what extent the distribution of annual percentage change is similar to or different from the normal distribution, which characterises incrementalism in policy change, resulting from a process of proportionate information processing (Jones & Baumgartner, 2004).

The shape of the distribution of policy change can be assessed by L-kurtosis (Hosking, 1990) that measures the height of the central 'peak' and the size of the 'two tails' of the distribution. The value of L-kurtosis ranges between 0 and 1. If the distribution follows perfect normal (Gaussian) distribution, the value of L-kurtosis is equal to 0.123. When L-kurtosis exceeds 0.123, it indicates a leptokurtic distribution—higher central peak and two heavier tails. When L-kurtosis is small than 0.123, the distribution is platykurtic—lower central peak and two thinner tails. In other words, higher L-kurtosis value represents more punctuations in the distribution of policy change.

Alternatively, kurtosis statistics is also commonly used to assess the shape of the distribution. Similar to L-kurtosis statistics, for normal distribution, the kurtosis score is equal to three. If the kurtosis score is larger than three, the distribution is leptokurtic. If the kurtosis score is smaller than three, the distribution is platykurtic. A higher kurtosis score denote more punctuations in the distribution of policy change.

This research reports both L-kurtosis and kurtosis. But it mainly uses L-kurtosis to do the hypothesis testing. In fact, L-kurtosis is a normalised measure of kurtosis (Hosking, 1990). More importantly, compared to kurtosis statistics, L-moment statistics is a more robust tool to measure the degree of leptokurtosis

with smaller number of observations and is less sensitive to extreme outliers (Breunig & Jones, 2011).

Apart from the overlay of normal distribution on the histogram, quantile-quantile plot (qq-plot) is also constructed in this study to provide supplementary assessment of the normality (or the lack of) of the distribution of policy change. It is also a graphical technique as in the normal distribution overlay on a histogram, but it does not affect by the size of the bin width (the width of each histogram bar) used in a histogram which may affect the visual inspection of the normality of the distribution. A qq-plot plots the quantiles of a distribution against a quantile of normal distribution. A 45-degree reference line is on the graph which denotes a perfect normal distribution. Any observation overlaps the reference line represents that particular observation of the distribution under examination follows a normal distribution. If an observation is above the reference line, it means that the density of a particular annual percentage change is greater than the level of density of a normal distribution. If an observation is below the reference line, the density is smaller than the level of density of a normal distribution.

To provide a more rigorous statistical comparison of two distributions of policy change of different liberalisation periods or of different political regimes), I use two-sample Kolmogorov-Smirnov test (Lilliefors, 1969; Massey, 1951). It is a non-parametric (i.e. no assumed distribution) test of the equality of two continuous distribution. The Kolmogorov-Smirnov statistics accounts for the distance between two cumulative distribution function of the two distributions.

6.3.1 Trajectories of change in legislative bills in Hong Kong LegCo, 1975-2016

Figure 6.1 presents the total number of legislative bills in Hong Kong LegCo. This shows a stable number of bills initiated every year between 1975 to 1988 with a mean

number of 81 bills. The number of bills inflated in the following years from 1989 to 1998 and the mean number of bills reached 102.5 in that period. From 1999, the total number of bills started to decline sharply. Between 1999 and 2002, the average number of bills was lowered to 45.5, dropping by more than 50 per cent compared to the previous period. From 2003 onwards, the average number of bills dropped further to 23.4, a level that is about one fourth of the number of bills initiated in the 1970s, 1980s and 1990s. In sum, the number of bills initiated had a clear upward trend in the 1980s and plunged in the 2000s. The changes represent both stability and instability in legislative bills. The volatility of lawmaking is obviously larger in a decade from the late 1980s, which is the period of gradual political liberalisation. It suggests the LegCo has notable shifts in constitutional, political and lawmaking function over time. The gradual process of political liberalisation seems to have a profound impact on the role of the LegCo in legislative function.

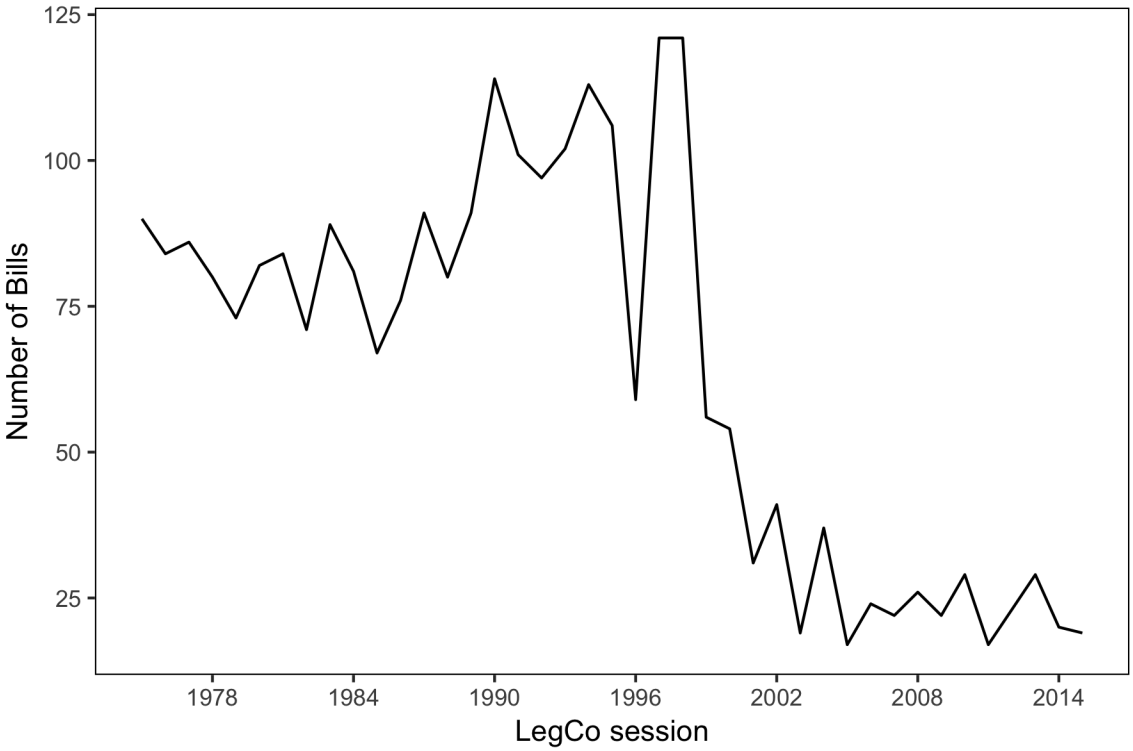

Figure 6.1: Number of legislative bills in Hong Kong, 1975-2016

Figure 6.2 shows how the proportions of each of the 22 policy areas changed over time with the use of a proportional stacked area plot. The area of each colour represents the proportion of each policy area. A greater area represents a greater proportion and vice versa.

There are observed patterns of both stability and change as indicated in figure 6.2. For example, the proportion of legislative bills on the economy issue (topic 1) is the most salient policy issue over the period. Yet, it experienced a period of mild shrinkage in the 1990s but then a continuous expansion from 2000s and onwards. The proportion of law-related bills (topic 12) was high in the agenda in the 1970s and 1980s but its attention faded out gradually over time. Legislative bills related to constitutional and sovereignty affairs (topic 32) were unseen in the 1970s and 1980s but attention and interests on this issue surged in 1997, the year of handover of Hong Kong's sovereignty to China from the United Kingdom. Bills related to energy issue (topic 8) was always unnoticed over time in the period understudy. Figure 6.2 showing the variations in interests in different policy contents over time reveals that the pattern of policy change has both stability and extreme change in different years in the LegCo.

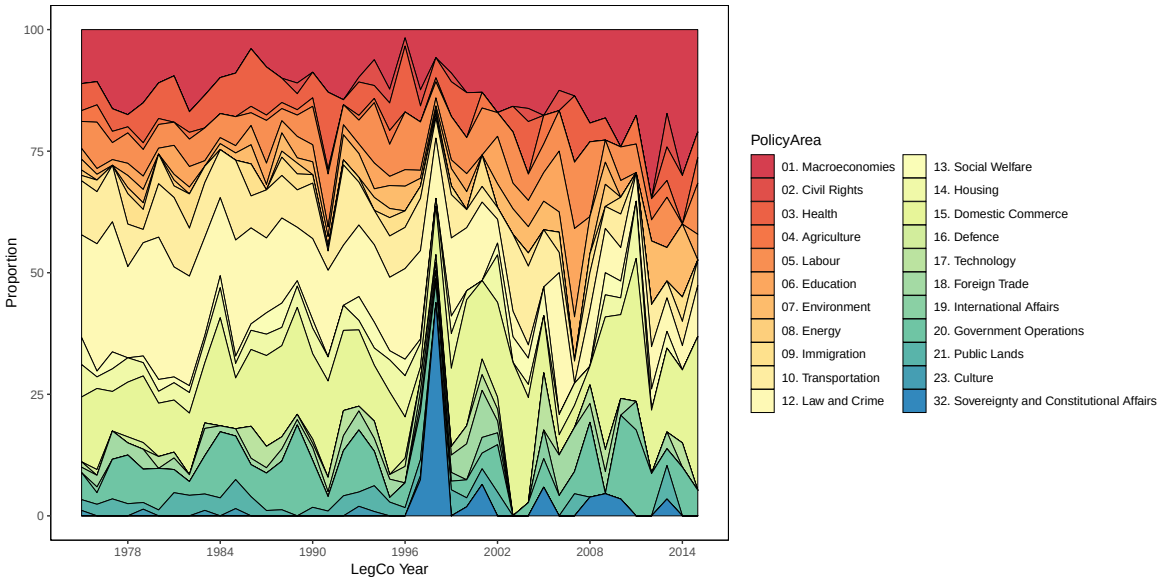

Figure 6.2: The policy content of the Hong Kong's legislative bills, 1975-2016

6.4 Findings and discussions

This section shows empirical results on whether the distribution of policy change is punctuated in authoritarian regimes, and how distribution varies at different degree of political liberalisation. Figure 6.1 and 6.2 indicate the pattern of both stability and extreme change. It reflects the variation in the political and lawmaking function of the legislature over time. To examine this pattern systematically, the following section presents a series of diagnostics tests (L-kurtosis, distributional analysis, qq-plot and Kolmogorov-Smirnov test) to scrutinise the pattern of policy change.

6.4.1 The general distribution of policy change of Hong Kong's legislative bills

PET implies a leptokurtic instead of normal distribution of policy change (Jones & Baumgartner, 2005; Jones et al., 2003). Previous studies show that autocrats process information disproportionally due to cognitive biases and institutional

friction (Baumgartner et al., 2017; Jones & Baumgartner, 2005; Lam & Chan, 2015). This suggests that policymaking in authoritarian regimes is also leptokurtic and this expectation is set out in $H_{6.1}$ according to the PET. The kurtosis score of the distribution of all policy change in legislative bills is 11.19 between 1975 and 2016. It means that the distribution is leptokurtic which provides support to $H_{6.1}$. According to PET, it can be inferred that institutional friction exists in Hong Kong's legislative process.

To look at the distribution of policy change visually, the histogram (figure 6.3) shows the distribution of the annual percentage change of Hong Kong's legislative bills from 1975 to 2016. A hypothetical normal (Gaussian) distribution with an identical mean and standard deviation is plotted against the distribution to show how they are similar to or different from each other. Figure 6.3 shows that the distribution of policy change does not follow normal distribution but is leptokurtic. The histogram shows two distinct features of leptokurtic distribution. First, the central peak of the distribution of policy change (around the annual percentage change of zero) is higher than the hypothetical normal distribution. Second, the two tails are also heavier. For the positive tail (on the right), the annual percentage change that are greater than 300 occurs more frequently than it is expected in the hypothetical normal distribution. For the negative tail (on the left), a very tall histogram bar is observed for the annual percentage change at -100 (mathematically, the lowest possible number of the annual percentage change is -100) and is again there are more observations at this point than expected by the normal distribution. The visual inspection of the distribution of policy change in legislative bills shows that it is a leptokurtic distribution. It provides support to $H_{6.1}$ and shows the LegCo's legislative agenda has large punctuations.

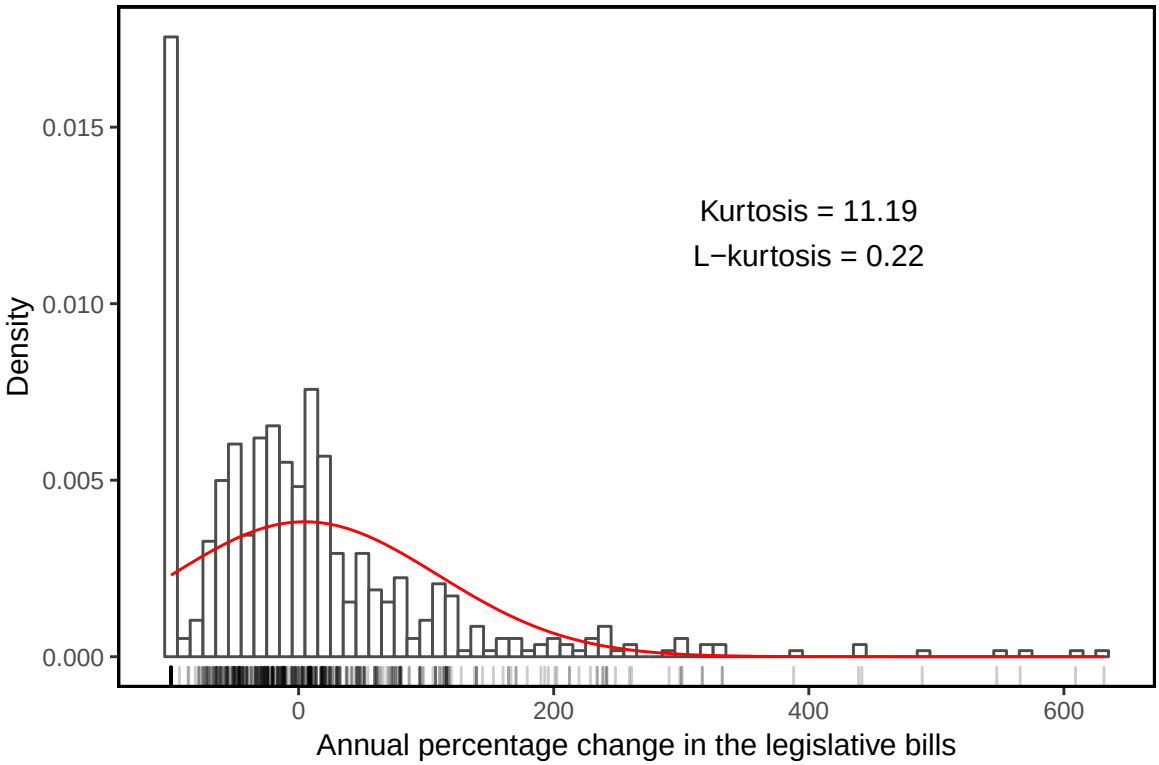

Figure 6.3: The density distribution of changes in legislative bills between 1975 and 2016. The histogram is based on the annual percentage change using the percentage-percentage method.

The L-kurtosis and kurtosis statistics also provide support to $H_{6.1}$. The L-kurtosis is 0.22 (0.123 for normal distribution). Meanwhile, the kurtosis score is 11.19 (3 for normal distribution). Both values are in excess of the level of the normal distribution and suggest the distribution of policy change in Hong Kong's legislative agenda is leptokurtic between 1975 and 2016.

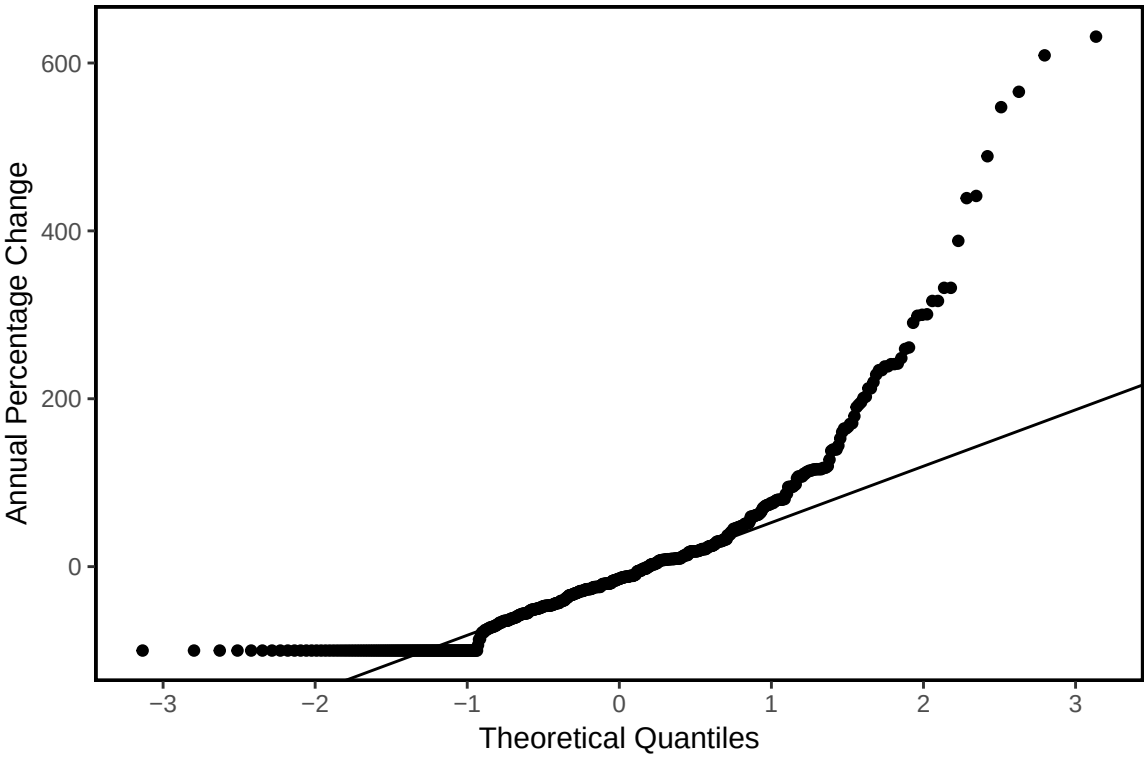

Figure 6.4: Normal qq-plot for the distribution of annual percentage change. A theoretical Gaussian distribution is represented by the solid 45-degree straight line.

I also created a qq-plot to provide another graphical inspection of the normality of the distribution. If all the observations are laid on the solid reference line, it denotes a perfect normal distribution. From figure 6.4, the observations of the two tails (quantiles bigger than +1 or smaller than -1) are obviously marked above the solid reference line. It reaffirms that the distribution of policy change in Hong Kong's legislative bills across the whole period under examination is leptokurtic (with two heavy tails) instead of normal distribution, and it supports $H_{6.1}$. Using Hong Kong's legislative bills, this research provides strong evidence that policy change in Hong Kong support the PET, but not incrementalism.

6.4.2 Regime change

To answer how different degrees of political liberalisation change the distribution of policy change, this study divided the period under study (1975-2016) into three stages of political liberalisation—1975 to 1984, 1985 to 1996 and 1997 to 2016. As mentioned in the data and method section, there is no election for the LegCo in the pre-reform period from 1975 to 1984 and all members of the legislature are appointed by the Hong Kong colonial government. Year 1985 to 1996 marked the reform period and the gradual political liberalisation took place. Year 1997 to 2016 was the post-reform period and has the highest degree of political liberalisation. $H_{6.2a}$ and $H_{6.2b}$ can be tested by examining the level of punctuations in the distribution of policy change in these three stages.

Figure 6.5 shows the distribution of policy change in Hong Kong's legislative agenda in three different reform stages (from left to right). All three histograms show leptokurtic feature instead of normal distribution—they all show the higher central peaks and heavier tails at both ends. By visual examination, it is hard to tell which of the three distributions of policy change is more punctuated than the others. It is hard to tell which distribution has a heavier right tail by visual inspection[1]. The distribution of policy change in the post-reform period (1997 to 2016) has a remarkably heavier left tail (as shown in the histogram bar of the annual percentage change at -100) than that in the pre-reform period (1975 to 1984) and reform period (1985 to 1996). Similarly, the left tail of the pre-reform period (1975 to 1984) is taller than that in the reform period (1985 to 1996).

The three normal qq-plots in figure 6.6 show a clear distinction of the right tails. Recall that if an observation is greater than the level of the 45-degree reference line, it means that the observation has a greater density than expected in a normal distribution. Comparing the right tails of the three qq-plots (for theoretical

[1]Therefore, a more systematic comparison with rigorous statistical tools is required

quantiles greater than +1), there seems to be more observations with greater deviations from the reference line in the post-reform period. That deviations seems to come next in the reform period and is least deviated in the pre-reform period. Combining the heaviness of the left and right tails from the histograms and qq-plots, it is found that the post-reform period has the greatest level of punctuation (that is, more stability and extreme changes) in the distribution of policy change in Hong Kong's legislative bills. The reform period ranks second and pre-reform period comes third. It provides support to the bargaining cost hypothesis ($H_{6.2b}$) but not the information exchange hypothesis ($H_{6.2a}$) using graphical examination.

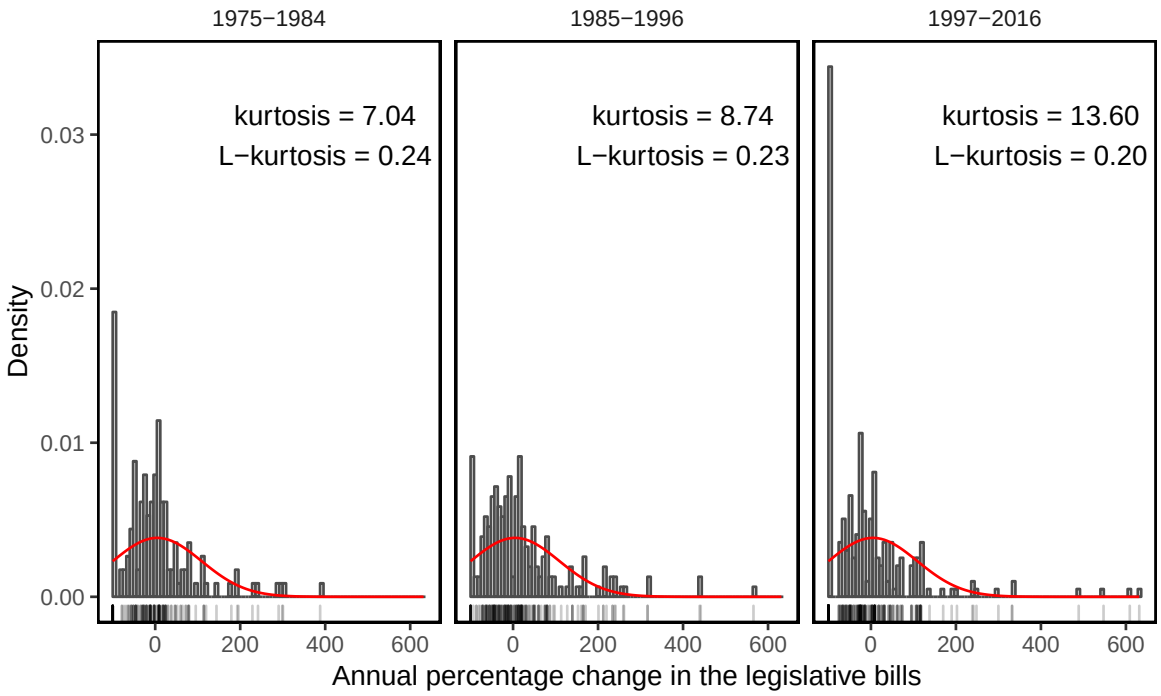

Figure 6.5: The density distribution of changes in legislative bills in three stages of political liberalisation. The histogram is based on the annual percentage change using the percentage-percentage method.

The use of L-kurtosis and kurtosis scores provide a quantifiable value so that we can compare which period has a greater level of punctuations in policy change. From figure 6.5 (also table 6.1), the L-kurtosis score is equal to 0.24 in the pre-reform period between 1975 and 1984. It then drops to 0.23 in the reform

period between 1985 and 1996. After the reform (1997 to 2016), the L-kurtosis score further drops to 0.20. The L-kurtosis scores suggest that the distribution of policy change in a system with a greater degree of political liberalisation is less punctuated and it supports the information exchange hypothesis $H_{6.2a}$, but not the bargaining cost hypothesis ($H_{6.2b}$).

In contrast, the kurtosis score in the pre-reform period is 7.04, lower than that in the reform period (8.74) as well as that in the post-reform period (13.60). The increasing kurtosis score suggests the distribution of policy change is more punctutated as the regime liberalises. Aligning with the graphical inspection, the result of Kurtosis statistics thus provides support to the bargaining cost hypothesis ($H_{6.2b}$) but not the information exchange hypothesis ($H_{6.2a}$). Using kurtosis score, the result contradicts the findings by Lam & Chan (2015), Chan & Zhao (2016) and Baumgartner et al. (2017).

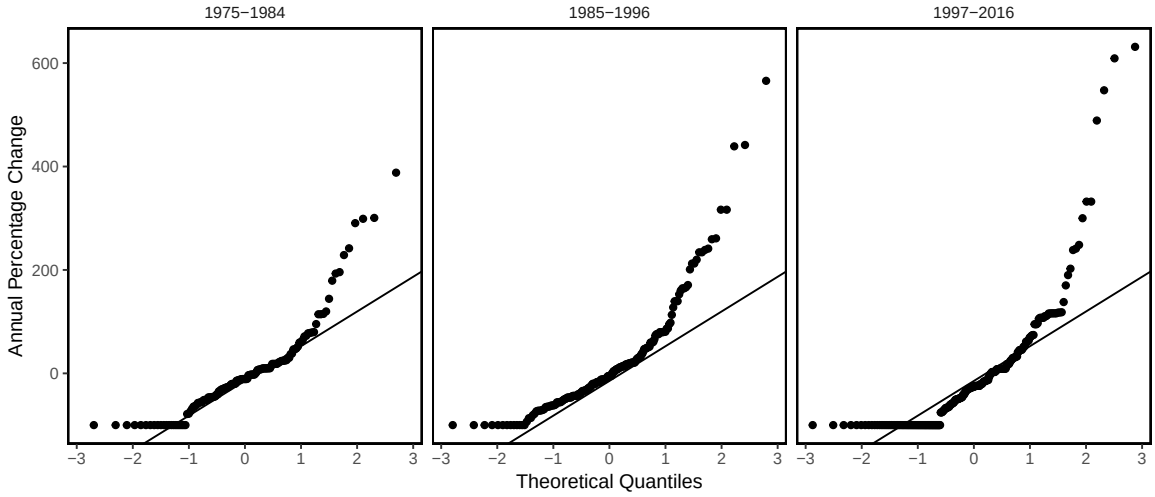

Figure 6.6: Normal qq-plot for the distribution of annual percentage change of the three stages of political liberalisation. A theoretical Gaussian distribution is represented by the solid 45-degree straight line.

Recall that L-kurtosis is a more robust measurement of the leptokurtosis of a distribution with less sensitivity to outliers (Breunig & Jones, 2011; Hosking, 1990). Therefore, I believe the findings shall favour the information exchange and regime

change hypothesis ($H_{6.2a}$) and it aligns with results found in Lam & Chan (2015) and Baumgartner et al. (2017), even though the result of L-kurtosis score contradicts the findings of the graphical examination and kurtosis score. If we look at the qq-plot (figure 6.6), the number of observations that are largely deviated from the solid reference line (the extreme outliers) is small. As L-kurtosis is less sensitive to outliers, the dispersed patterns of outliers in qqplots suggest why L-kurtosis and kurtosis scores reveal different trend in the change of the distribution at different stages of political reform. Yet, the inconsistent results of L-kurtosis and kurtosis scores raises an interesting question of under what circumstances we shall favour the result of L-kurtosis statistics and when to favour the kurtosis score. Future research could examine this further.

The Kolmogorov-Smirnov test provides a systematic additional test and check whether two distributions are identical or not. It is useful to distinguish whether two L-kurtosis scores are statistically different or not. For instance, in 6.5, the two L-kurtosis scores in 1975-1984 and 1985-1996 are 0.24 and 0.23 respectively. The Kolmogorov-Smirnov test provides a robust test to check the distance of the distributions of policy change at each observation in these two periods. Table 6.2 shows the results of the Kolmogorov-Smirnov test. As the Kolmogorov-Smirnov test can only examine two distributions at each time. Testing 3 distributions with Kolmogorov-Smirnov test thus then gives three different combinations (dyads) as shown in table 6.2. The Kolmogorov-Smirnov statistics (D) is 0.1136 for the distributions of policy change between periods 1975-1984 and 1985-1996 and it implies that the two distributions are not signficantly different ($p - value = 0.2432$). In contrast, the Kolmogorov-Smirnov statistics (D) between 1975-1984 and 1997-2016 and between 1985-1996 and 1997-2016 are 0.1594 ($p - value = 0.0204$) and 0.2076 ($p - value = 0.0002$) respectively, meaning that these distributions are statistically different to each other. In brief, the distributions of policy change from

Table 6.1: L-kurtosis and kurtosis scores of Hong Kong's legislative bills in various periods.

Periods	Observations	L-kurtosis	Kurtosis
Hong Kong Legislative Bills (1975-2016)	581	0.22	11.19
Hong Kong Legislative Bills (1975-1984)	142	0.24	7.04
Hong Kong Legislative Bills (1985-1996)	192	0.23	8.74
Hong Kong Legislative Bills (1997-2016)	247	0.20	13.60

Table 6.2: Comparing distributions of policy change in Hong Kong in different periods using Kolmogorove-Smirnov statistics.

Dyad	Kolmogorov-Smirnov statistics, D	p-value
1975-1984 and 1985-1996	0.1136	0.2432
1975-1984 and 1997-2016	0.1594	0.0204
1985-1996 and 1997-2016	0.2076	0.0002

1975-1984 to 1985-1996 are not different according to the Kolmogorov-Smirnov test. Whereas, the distribution of policy change in 1997-2016 is different from the two earlier periods (1975-1984 and 1985-1996).

6.4.3 Regime types

Hypotheses $H_{6.3a}$ and $H_{6.3b}$ are concerned with the effect of different regime types on the distribution of policy change. Table 6.3 and 6.5 compile and compare the L-kurtosis and kurtosis estimates of legislative bill data in Hong Kong with other advanced democracies in CAP. I also included Hungary, which experienced political liberalisation in 1989, in my analysis. The L-kurtosis and kurtosis scores of all countries across the entire period of the datasets are listed in the appendix table B.1. As each of them has different time period, a more meaningful comparison is by comparing different legislative bills that share the same time period. I selected two different time periods. The longer period is from 1975 to 2012 and the shorter one is from 1988 to 2009. The advantage of comparing countries using a longer period is that it contains more observation points to construct the distribution of policy

Table 6.3: L-kurtosis and kurtosis scores of various legislative bills 1975-2012

Bills	Observations	L-kurtosis	Kurtosis
UK Acts of Parliament	591	0.18	12.10
France Laws	620	0.21	21.39
Hong Kong Bills	549	0.23	11.22
Denmark Bills and governmental reports	755	0.26	13.40
Hungary Laws	486	0.26	17.98
US Bill introductions, House	790	0.34	494.57
US Bill introductions, Senate	782	0.38	217.77

change. However, due to data availability, more countries would be excluded from this comparison. Therefore, I also conduct the comparison using a shorter period so that I can compare more countries. These two comparisons reveal a similar picture and confirm that the findings are robust. Table 6.3 compares the L-kurtosis and kurtosis scores of Hong Kong with five other countries between 1975 and 2012, sorted in ascending order according to the value of the L-kurtosis score. The L-kurtosis provides a more robust estimates of the level of punctuations of the distribution of policy change. The kurtosis is also commonly reported so I also show them here. In this period, Hong Kong has a L-kurtosis score at 0.23. Hungary also experienced political transition to democracy in 1989 and has a L-kurtosis score at 0.26. The results show that Hong Kong and Hungary has higher scores than the UK (L-kurtosis = 0.18) and France (L-kurtosis = 0.21). In contrast, Hong Kong has a lower score than Denmark (L-kurtosis = 0.26) and US (L-kurtosis for House = 0.34, L-kurtosis for Senate = 0.38). Hungary is on a par with Denmark but also scores lower than the two legislatures in the US. Using kurtosis estimates, punctuation in Hong Kong's legislative bills between 1975 and 2016 (kurtosis = 11.19) is the lowest compared with other advanced democracies. Hungary (kurtosis = 17.98), in contrast, has a higher score than the UK and Denmark but has a lower score than France and the US. Similarly, figure 6.7 presents the histograms that show the

distribution of policy change of different countries between 1975 and 2012. The order is again sorted in ascending order of the L-kurtosis score (from left to right, then from top to bottom). It shows that the high central peak is a distinct feature of a greater L-kurtosis score. The mean value of L-kurtosis of transitioning regimes is 0.25, while that of advanced democracies is 0.27. It provides some evidence that the level of punctuations of policy change is lower in transitioning regimes than advanced democracies. To our surprise, these findings do not provide support to either $H_{6.3a}$ or $H_{6.3b}$ that are informed by prior studies. Hong Kong and Hungary, the two transitioning regimes, have higher level of punctuations than some advanced democracies, but not Denmark and the US.

Table 6.4 shows the results of the Kolmogorov-Smirnov test that provides a more robust test of the equality of two distributions between Hong Kong and other countries from 1975 and 2012. The Kolmogorov-Smirnov statistics (D) are small between Hong Kong and UK (D = 0.0528, p-value = 0.4048) and France (D = 0.0670, p-value = 0.1464), even though the L-kurtosis of the distributions from these countries are numerically smaller than that of Hong Kong (see table 6.3). The Kolmogorov-Smirnov statistics (D) are larger between Hong Kong and Denmark (D = 0.2156, p-value = 0.0000), Hungary (D = 0.0873, p-value = 0.0393), US House (D = 0.2832, p-value = 0.0000) and US Senate (D = 0.2493, p-value = 0.0000). It means that the distributions of policy change of these countries are very different from that of Hong Kong. From table 6.3, the L-kurtosis scores in these countries are all numerically greater than that in Hong Kong. Combining the use of L-kurtosis statistics and the Kolmogorov-Smirnov test, some democracies have a greater level of punctuations (as measured by the L-kurtosis) than Hong Kong (support $H_{6.3b}$) but there is no evidence that democracies have a lower level of punctuations (as measured by the L-kurtosis) than Hong Kong (no evidence to support $H_{6.3a}$).

Table 6.4: Comparing distributions of policy change of different legislatures between 1975 and 2012 using Kolmogorove-Smirnov statistics.

Dyad	Kolmogorov-Smirnov statistics, D	p-value
Hong Kong and UK	0.0528	0.4048
Hong Kong and France	0.0670	0.1464
Hong Kong and Denmark	0.2156	0.0000
Hong Kong and Hungary	0.0873	0.0393
Hong Kong and US House	0.2832	0.0000
Hong Kong and US Senate	0.2493	0.0000

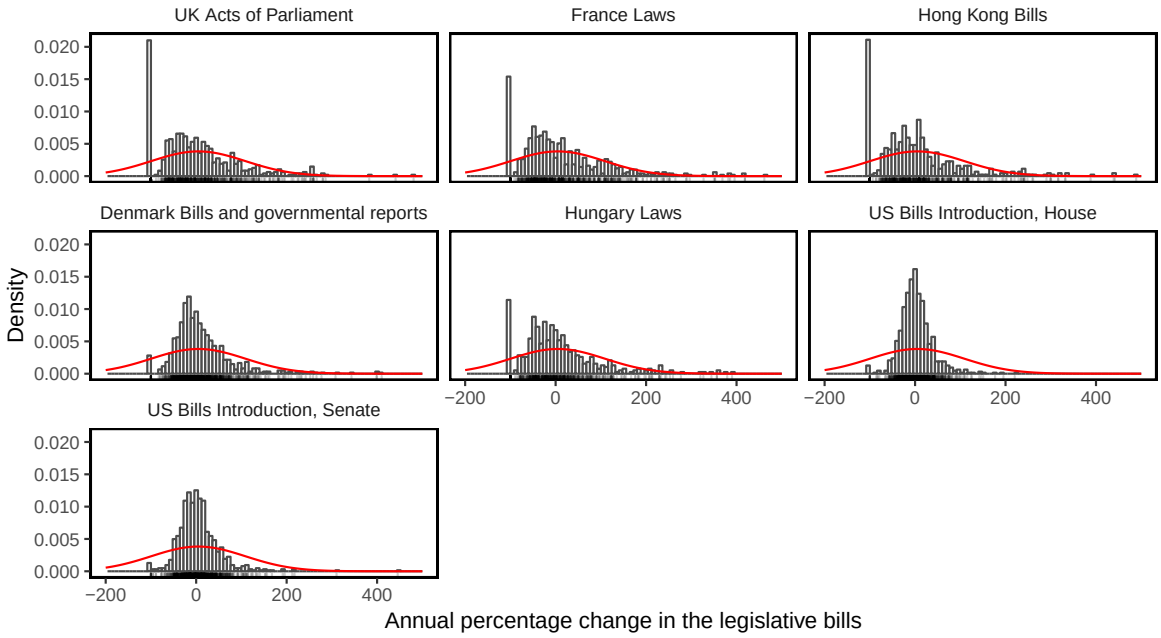

Figure 6.7: Comparing distribution of policy changes 1975-2012. To ease comparison, the x-axis is limited from -200 to 500.

To include more countries for comparison, table 6.5 shows the L-kurtosis and kurtosis scores of 11 datasets of legislative bills between 1988 and 2009. In this shorter period, Hong Kong has a L-kurtosis score at 0.23. Recall that Hong Kong's prolonged process of political liberalisation started from 1985 and did not progress further from 1995. Hungary still has a higher L-kurtosis score than Hong Kong at 0.28, but it turned into a democracy in 1989. Therefore, in this period, only Hong Kong is used to test whether $H_{6.3a}$ or $H_{6.3b}$ are supported. The results show that

Table 6.5: L-kurtosis and kurtosis scores of various legislative bills 1988-2009

Bills	Observations	L-kurtosis	Kurtosis
UK Acts of Parliament	329	0.16	14.63
Spain Parliamentary Bills	318	0.21	10.35
France Laws	401	0.22	25.46
Hong Kong Bills	316	0.23	10.64
Italy Legislative Decrees	269	0.23	13.56
Netherlands Bills	411	0.23	13.87
Belgium Bills	426	0.26	8.34
Denmark Bills and governmental reports	430	0.26	11.25
US Bill introductions, House	446	0.27	48.06
Hungary Laws	385	0.28	18.45
US Bill introductions, Senate	441	0.39	119.29

Hong Kong has a higher level of punctuations than the UK (kurtosis = 0.16), Spain (kurtosis = 0.21) and France (kurtosis = 0.22). In contrast, Hong Kong's level of punctuation is on a par with Italy (kurtosis = 0.23) and the Netherlands (kurtosis = 0.23), but is lower than that of Belgium (kurtosis = 0.26), Denmark (kurtosis = 0.26) and the US (kurtosis = 0.27 for House bills and kurtosis = 0.39 for Senate bills). In addition, the mean value of L-kurtosis of advanced democracies is at 0.25, higher than that in Hong Kong (L-kurtosis = 0.23). Again, to our surprise, the findings show no support to $H_{6.3a}$ and $H_{6.3b}$, meaning that policy change in authoritarian regimes are not more punctuated than that in advanced democracies. Again, the Kolmogorov-Smirnov test provides a more robust checking on whether the two distributions are different or not. Table 6.6 compares the distribution of policy change in Hong Kong and that of other countries between 1988 and 2009. The Kolmogorov-Smirnov statistics (D) are small between Hong Kong and the UK (D = 0.0576, p-value = 0.6586), Spain (D = 0.0559, p-value = 0.7057), France (D = 0.0865, p-value = 0.1423) and Italy (D = 0.0803, p-value = 0.3064). It means that the distributions of policy change from these countries are not statistically different from that of Hong Kong even though some of these L-kurtosis and kurtosis scores

Table 6.6: Comparing distributions of policy change of different legislatures between 1988 and 2009 using Kolmogorove-Smirnov statistics.

Dyad	Kolmogorov-Smirnov statistics, D	p-value
Hong Kong and UK	0.0576	0.6586
Hong Kong and Spain	0.0559	0.7057
Hong Kong and France	0.0865	0.1423
Hong Kong and Italy	0.0803	0.3064
Hong Kong and Netherlands	0.2211	0.0000
Hong Kong and Belgium	0.1323	0.0035
Hong Kong and Denmark	0.2531	0.0000
Hong Kong and US House	0.3246	0.0000
Hong Kong and Hungary	0.1408	0.0021
Hong Kong and US Senate	0.2900	0.0000

are different (see table 6.5). The Kolmogorov-Smirnov statistics (D) are larger between Hong Kong and Netherlands (D = 0.2211, p-value = 0.0000), Belgium (D = 0.1323, p-value = 0.0035), Denmark (D = 0.2531, p = 0.0000), Hungary (D = 0.1408, p-value = 0.0021), US House (D = 0.3246, p-value = 0.0000) and US Senate (D = 0.2900, p-value = 0.0000). It means that the distributions of policy change of these countries are very different from that of Hong Kong. From table 6.5, the L-kurtosis scores of these countries are generally greater than that of Hong Kong except Italy. Combining the use of L-kurtosis statistics and the Kolmogorov-Smirnov test, it is shown that some democracies have a greater level of punctuations (as measured by the L-kurtosis) than Hong Kong (support $H_{6.3b}$) but there is no evidence that democracies have a lower level of punctuations than Hong Kong (no evidence to support $H_{6.3a}$). These results align with the same analysis for the period between 1975 and 2012.

6.5 Discussion and conclusion

Leveraging the unique political liberalisation of Hong Kong's political system, this study has a number of important empirical findings. Firstly, legislative agenda in Hong Kong follows the leptokurtic distribution as expected by the PET. It suggests that changes in legislative agenda in authoritarian regimes also reveal a pattern of stability and extreme changes similar to those in advanced democracies. PET provides a better description of policy change than the theory of incrementalism. This empirical finding contributes by strengthening the generalisability of the PET in explaining policy change beyond advanced democracies. Supplementing similar studies on authoritarian regimes with budgetary data (Baumgartner et al., 2017; Chan & Zhao, 2016; Lam & Chan, 2015; Sebők & Berki, 2018), this study contributes by providing support to the PET with the use of legislative data.

Secondly, this study finds that the distribution of policy change becomes less punctuated as the regimes liberalise. Using graphical examination of the normality of the distribution and L-kurtosis statistics, this study suggests more punctuated policy changes in more liberalised political systems. It aligns with the results of the prior studies (Baumgartner et al., 2017; Chan & Zhao, 2016; Lam & Chan, 2015; Sebők & Berki, 2018) that suggests more liberalised political systems provide autocrats with more informational advantage that generates less punctuated policy changes. It implies that autocrats receive more policy signals as the regimes liberalise and make more efficient and adaptable policy changes.

Thirdly, to our surprise, this study finds that the level of punctuations of the distribution of policy change in Hong Kong is smaller than a number of democracies after the cross-countries comparisons. Although the levels of punctuations (as measured by L-kurtosis) in countries such as the UK and France are smaller than that in Hong Kong, the application of the Kolmogorov-Smirnov test shows that these distributions are not statistically very different from the distribution of policy

change in Hong Kong. As such, the level of punctuations of policy change in authoritarian regimes do not appear to be greater in the advanced democracies under study.

This is one of the first systematic comparison of the levels of punctuations across regime types—democracies against authoritarian regimes—and it challenges similar but less rigorous comparisons across regime types in the past. For instance, Chan & Zhao (2016) found that the levels of punctuations in budgets are generally greater in Hong Kong and China (notable examples of non-democracies) than democracies (2016, p. 147). In all respects, Chan and Zhang's work provides a good illustration and starting point to call for more comparisons across regime types. However, a more rigorous examination shall compare the levels of punctuations with the same time period. A more systematic test such as the Kolmogorov-Smirnov test used here is also essential to check whether the differences in the levels of punctuations are substantial statistically. A more systematic study requires more country data to ascertain the effect of the regime types. Nonetheless, this chapter presents a major advancement in methodological rigour when comparing the levels of punctuations across countries and it paves the way for more cross country comparison when more countries data, authoritarian countries in particular, becomes available.

This study presents an interesting and puzzling findings that suggest the bargaining/information hybrid model is a better model than the separate models. The regime-change study found that the level of punctuations in policy change is lower in a more liberalised Hong Kong and it provides support to the information exchange perspective. However, the regime-type study found that more liberalised countries have a higher level of punctuations than that of Hong Kong and it provides support to the bargaining perspective.

If we treat the two model as mutually exclusive, it is difficult to explain this

puzzling picture. A more inclusive hybrid model that treats the bargaining and information exchange processes as complementary, rather than exclusive, is well positioned in explaining this puzzle. The hybrid model predicts that early process of political liberalisation (without full democratisation) receives more benefits from the information exchange process and it has a relatively lower level of bargaining costs. This explains why we found support in information exchange perspective in the regime change study. When the regime liberalises further to a full democracy, the total bargaining costs become greater than the total benefits from the information exchange. Therefore, we found support to the bargaining perspective from the regime-type study. Setting up bargaining and information exchange perspectives as mutually exclusive fail to understand the puzzling phenomena in the regime-change and regime-type studies. A hybrid theory presented in this thesis manages to include the strengths of both perspectives and explain this peculiar findings.

Chapter 7

Explaining issue diversity of the policy agenda

Different policy issues compete with each other and are at the heart of the study of the policymaking processes (Bevan, 2015; Green & Hobolt, 2008; Greene, 2016; Green-Pedersen & Mortensen, 2015; Jennings, Bevan, et al., 2011; John & Margetts, 2003). Competition between issues inundates policymakers with a vast amount of information. Different political actors advocate different policy concerns and problems from a wide range of issues such as the economy, trades, labour, public services, crime, transportation, welfare, education, and health. The overwhelming information requires policymakers to decide what to pay attention to and what to ignore (Chan & Lam, 2018; Jones, 2001; Jones & Baumgartner, 2005; Walgrave & Dejaeghere, 2017). If the policymakers pay no attention to a certain piece of information (e.g., illegal immigration), policy change cannot take place (Baumgartner, Jones, & Wilkerson, 2011, pp. 948–9; Boswell, 2012). Therefore, understanding the allocation of attention has a profound implication on policy change.

This study examines issue diversity of the policy agenda—the concentration of

policymakers' attention across different policy issues. It looks at a portfolio of policy issues rather than a single or a few issues. The allocation of attention to issues are not independent; paying more attention to one issue would inevitably mean less to another (Zhu, 1992). The study of issue diversity of the policy agenda can capture the interdependence of policy attention (True, Jones, & Baumgartner, 2007).

Despite extant studies in advanced democracies, research on policymaking in authoritarian regimes is lacking. This chapter aims to consider how autocrats decide to expand or narrow their focus on policy issues in their finite policy portfolio, with elections that are not fully open and inclusive, and in some cases, non-existent. Most related works focusing on advanced democracies suggest that the electoral process has a vital role in shaping the political attention in advanced democracies (Green & Hobolt, 2008; Greene, 2016; Green-Pedersen & Mortensen, 2010; Jennings, Bevan, et al., 2011). They do not consider, however, the possible effect of regime liberalisation on issue diversity of the policy agenda. This research examines how issues compete in illiberal and authoritarian regimes and it provides an opportunity to understand the effect of institutional change and political parties on issue diversity of the policy agenda.

Regimes liberalisation can be defined as the introduction of more inclusive and competitive elections that allows political actors from a broader spectrum, including the opposition, to participate in the electoral process (Coppedge et al., 2008; Dahl, 1973). The introduction of more inclusive and competitive elections also increases the likelihood of having more political parties in the legislature, moving the authoritarian regimes away from the common one-party system or one-party dominant system. It changes the partisan composition of the legislature.

In this chapter, I offer a hybrid model by combining the insights of the bargaining and information exchange perspectives on policy processes. These two perspectives are distinct proponents developed in advanced democracies that

explain how the changes in the composition of the legislature affects the policy processes. The bargaining process, informed by the veto player and political gridlock literature, asserts that political parties constrain policymaking (Franchino & Høyland, 2009; Mayhew, 1991; Tsebelis, 2002). A larger number of political parties becomes an obstacle to the policymaking processes. It becomes more difficult to coordinate and secure consensus. In this way, a higher bargaining cost reduces the total number of policies. The entire agenda space thus shrinks, and issue diversity of the policy agenda also diminishes. Whereas, the information exchange process, informed by the issue competition literature, suggests that political parties provide policy-relevant information, expand policymakers' political attention and result in a greater issue diversity of the policy agenda, meaning that policymakers become more attentive to policy issues from broader policy topics (Green & Hobolt, 2008; Greene, 2016; Green-Pedersen & Mortensen, 2010). These two perspectives, however, yield opposite and unresolved theoretical expectations.

Following Walgrave & Varone (2008), my hybrid model of issue diversity of the policy agenda treats political parties as the key actors in the policy process. It argues that the electoral systems and the corresponding changes in the partisan composition of the legislature are both the source of bargaining and source of information exchange. It asserts that, as regimes liberalise, a larger number of political parties provide a diminishing marginal benefit of information exchange but also incurs an increasing marginal bargaining cost. As such, the hybrid model of these two countervailing processes expects that the two effects cancel each other when reaching a maximum equilibrium point, and thus results in a negative quadratic (inverted-U) relationship between the number of political parties and issue diversity of the policy agenda. Although the focus of this chapter is autocracies, my model is developed by combining theories in democracies as well as autocracies. It thus has an important implication on the study of comparative

public policy. I will explain this theory in greater details and list out the observable implication for empirical testing.

Obviously, political parties are not the only political actors that influence how the government allocates its political attention across policy issues. Extant research show that different political actors such as bureaucrats (Chan & Lam, 2018; Johansson, 2012; May et al., 2008) and the court (Owens, 2010) have an impact on the policy processes. In particular, when regimes liberalise, interest groups (Breunig & Koski, 2018; Bunea & Thomson, 2015) and civil society (Zhan & Tang, 2013) could have substantial influences on policy change should they become more vocal. Moreover, different actors of different sectors (e.g., the governing party and business elites or the opposition party and the civil society) can form a stronger network to influence the policy processes (Teets, 2018; Wahman, 2011). Still, some research focuses only on the effect of political parties on policy change (König et al., 2010; Tsebelis, 2002). More importantly, many of the social demands from the interest groups and the civil society create social cleavages. These social cleavages are reflected in the electoral arena that determines the number of political parties in the legislature (Ferrara, 2011; Neto & Cox, 1997). Therefore, it is theoretically interesting to focus on the influence of political parties and examine how it changes issue diversity of the policy agenda.

To test the effect of political parties during a period of political liberalisation, this chapter analyses a novel and unique dataset from an undemocratic but transitioning system: the legislative bills of the Hong Kong Legislative Council (LegCo) between 1975 and 2016. Hong Kong's unique path of prolonged democratisation offers a valuable opportunity to observe the effect of political liberalisation and partisan composition of the legislature on issue diversity of the policy agenda.

This chapter is structured as follows. First, it presents different theories of

issue diversity of the policy agenda based on the partisan composition of the legislature. Then, it generates a hypothesis of the effect of political liberalisation on issue diversity of the policy agenda. Next, to test the hypothesis, it undertakes a time-series analysis of the issue diversity of the legislative agenda in Hong Kong and evaluates to what extent the empirical evidence supports different theoretical expectations.

7.1 Political liberalisation

Following Dahl's classic work *Polyarchy* (1973), political liberalisation is defined as more inclusive and competitive elections (see also Coppedge et al., 2008).[1] Political liberalisation leads autocrats to have less control and political advantage over the political affairs. The process of political liberalisation injects the systems with more democratic elements such as the right to elect and the right to be elected. In more inclusive and competitive elections, candidates that do not belong to the governing party can participate in the electoral process and have a chance to enter the legislature through electoral campaigns. Candidates thus have more freedom to organise and form a political party so that they can have more political capital (Wahman, 2011) and have greater chance to defeat the autocrats (Bunce & Wolchik, 2010; Levitsky & Way, 2010). An implication of the process of political liberalisation, defined as more inclusive and competitive elections, is that it increases the number of political parties and changes the partisan composition of the legislature (e.g., from a single party system to a multi-party system). As such, it changes the party system and power distribution of the political system and alters the policymaking processes.

[1] Another definition is from O'Donnell & Schmitter (1986) that focuses more on the protection of "individual and social groups from arbitrary or illegal acts by the state" (1986, p. 6)

7.2 Models on issue diversity of the policy agenda

Prior studies show two countervailing processes on how different partisan composition of legislature affects issue diversity of the policy agenda, namely, the bargaining cost and information exchange. This section discusses the theoretical perspective that combines the insights of these two processes and presents the observable implication.

7.2.1 Bargaining process

Policymaking is a bargaining process (Eguia & Shepsle, 2015; Krehbiel, Meirowitz, & Wiseman, 2015; Tsebelis, 2002). The change in rules and ideological positions would change the bargaining costs and thus the policy outcome. Bargaining process, as informed by the veto player and political gridlock literature, states that a larger number of political parties increases the bargaining costs of policymaking and thus it is harder to produce more legislation. As such, fewer legislation reduce issue diversity of the policy agenda.

As discussed, the selectorate theory asserts that autocrats have to pay attention to a small group of selectorate only (Bueno de Mesquita et al., 2003; Gallagher & Hanson, 2015). Although disagreements could exist among the selectorate (Gallagher & Hanson, 2015; Miners, 1994), their ideological positions are more homogenous than the public. Some call authoritarian legislatures as rubber's stamps (Truex, 2014). Similar to many previous works, I assume selectorates as homogenous. As such, the bargaining process of the policymaking in authoritarian regimes is smooth and easy.

The process of political liberalisation in authoritarian regimes increases the size of the selectorate. It is because the introduction of more inclusive and competitive elections allows more people to be elected and compete in the electoral process

(Dahl, 1973). As such, it requires a more considerable effort to reach a consensus between actors with different political motives, stances, ideas, and interests (Immergut, 1990; König et al., 2010; Tsebelis, 2002). It thus increases the bargaining costs for policymaking. Although autocrats usually possess more resources and thus have more advantage in mobilisation (Gandhi & Lust-Okar, 2009; Svolik, 2012; Wong, 2014), more inclusive and competitive elections also increase the likelihood that political opposition and political parties with wider socio-economic backgrounds will be elected to the legislature. Each of these political parties, because of their diverse backgrounds, possesses different knowledge, ideas, and political stances. To deal with inundating information, opinions, ideas, and beliefs, the government is thus required to spend more time and effort to sort and filter out the diverse information in their formulation of public policy (Baumgartner & Jones, 2015).

Through more inclusive and competitive elections, political parties with diverse political and socio-economic backgrounds make it more difficult to adjudicate multiple competing interests. This increases the level of institutional friction (Hong & Sohn, 2014; Jones & Baumgartner, 2005) and the system is more prone to political gridlock (Baumgartner et al., 2013; Edwards et al., 1997; Mayhew, 1991), though it may not affect important legislation (Adler & Wilkerson, 2012). Besides, the veto player theory (Cox & McCubbins, 2005; Tsebelis, 2002) dictates that more political parties in the legislature increase the total number of veto points, if their policy positions are very different in multiple policy domains. In effect, more veto points reduce the likelihood of the passage of a legislative bill. Thus, various theories seem to suggest that, when a regime liberalises, the diverse political stances and socio-economic backgrounds of the legislature increases the bargaining costs. It inevitably deters autocrats from producing more policies. As agenda space and policy outputs are more constrained, autocrats have less room to adjust their policy

portfolio. As a result, they have to focus on fewer policy issues and thus issue diversity of the policy agenda shrinks. In brief, a larger number of political parties increases bargaining costs, and therefore the government will find it more difficult to produce more policies to address a wider variety of issues.

7.2.2 Information exchange process

Information is valuable for policymaking (Alexander, Lewis, & Considine, 2011). The diversity of information matters to good policy outcomes because diversity leads to different competing and debatable perspectives (Schattschneider, 1960), through which a more competitive and convincing solution is more likely to be adopted to drive the society forward (Page, 2008). The information exchange process states that a larger number of political parties provide more information for policymaking and thus it increases issue diversity of the policy agenda in liberalising authoritarian regimes.

Compared to democracies, autocrats have far less access to information due to the systematic constraints of their politically illiberal environment (Chan & Zhao, 2016; Wallace, 2016). For instance, in the absence of a genuine election, autocrats have incentives to pay attention to a few powerful elites (the selectorate) only (Bueno de Mesquita et al., 2003; Gallagher & Hanson, 2015). The selectorate has a more homogenous interest than the public. The selectorate theory implies that information exchange is limited in authoritarian regimes.

In addition, in order to maintain the regime stability, autocrats suppress information by repressing the media (Stockmann & Gallagher, 2011) and social contentions (Fu, 2017). Ironically, however, as the media and public express less about their concerns and discontents, the autocrats receive fewer policy-relevant information and are more reluctant to make policy change (Chan & Zhao, 2016).

To minimize the unfavourable outcomes due to the lack of supply of

policy-relevant information, some autocrats seek independent, credible and diversified information sources that can improve their policymaking and governance (Dickson, 2016). That requires the liberalisation of the information environment and allowing truly independent information and opinions to flow relatively freely within the region. For instance, Egorov, Guriev, & Sonin (2009) found that autocrats in countries with poorer natural resources tend to liberalise its media environment so that the autocrats and the bureaucrats can receive an independent source of information from free media. Alternatively, autocrats obtain key and diverse information for policymaking through the establishment of elections, legislatures and other forms of consultative institutions that are not normally achieved without liberalising the regime to some degree (Miller, 2015; Truex, 2016).

When regimes liberalise, the number of political parties increases. As such, autocrats receive more policy-relevant information from these parties. The first notable explanation is the representation of interests. A larger number of elected lawmakers from different political parties in authoritarian legislature represent more diverse constituencies. Motivated by the incentive of re-election, elected political parties in authoritarian legislatures are more likely to represent the interests and expectations of their constituencies (Manion, 2017; Truex, 2016). If autocrats propose policies that could harm the interests of members of the constituencies, their representatives are likely to speak up, ask for major amendments or reject these policy proposals in order to protect their interests. Therefore, driven by representation to more diverse constituencies, autocrats' issue diversity of the policy agenda is likely to increase.

The second explanation is a larger number of political parties brings in more diverse political stances and socio-economic backgrounds. These wider backgrounds lead to the production of more diverse policy agenda and vice-versa. For example, Greene & O'Brien (2016) found that more female lawmakers in the legislature would

lead to a greater issue diversity of the policy agenda and more left-leaning policies. Tam (2017) found that female lawmakers and liberal lawmakers are more likely to represent women's interests. Political parties from more diverse socio-economic backgrounds, political ideologies and experiences provide more diverse information to policymakers and thus government produces policies that address a wider spread of issues (i.e. a more diverse policy agenda).

The third explanation is about problem definition (Kingdon, 1984; Rochefort & Cobb, 1993). Because of electoral incentives, a larger number of political parties are more likely to present and advocate their problems to the policymakers. For example, political parties in the labour sectors are more likely to voice out problems related to employment, working conditions and labour welfares. Yet, the more problem the policymakers look at, the more problems they shall discover (Baumgartner & Jones, 2015, pt. 1), and therefore the autocrats end up having to deal with a wider range of issues. The government thus have to seek opinions and solutions on more diverse issues from different government agencies (Alexander et al., 2011), consultative committees and experts (e.g., scientists and economists) (Wilkinson, Lowe, & Donaldson, 2010). Because of greater freedom of speech and association, independent think tanks, non-governmental organisations, the media and citizens also have greater freedom and capacity to generate more policy-relevant reports to evaluate and monitor government's performance and identify policy problems.

In this way, autocrats face an increased quantity of information and informational diversity as the regimes liberalise. This, in theory, should result in a more diverse policy agenda with the attention of government having to be spread across a wider range of policy areas. It contradicts the bargaining perspective and results in a greater issue diversity of the policy agenda.

7.2.3 A hybrid theory

This chapter argues that the effects of the two competing processes—the bargaining process and information exchange process—on issue diversity of the policy agenda are not mutually exclusive. The two effects could have different degrees of impacts when the partisan composition of the legislature varies. Before the start of the political liberalisation, a single political party (or single party dominant system) in authoritarian regimes provides a narrower scope of policy-relevant information to the governments. The level of issue diversity of the policy agenda is thus lower. As regimes liberalise, the political systems change from a single party system to a multiple party system. The level of information exchange thus increases. In this process, governments benefit from receiving greater amount of policy-relevant information from a wider range of perspectives and political ideologies. This pushes the governments to allocate attention to a wider range of policy issues. However, one additional political party provide less new information as the total number of political parties increases. As a result, the marginal benefit of information exchange would be smaller when the number of political parties increases[2] On the other hand, the increasing number of political parties increases the marginal bargaining cost—more parties involved would make the bargaining process more difficult—and as dictated by the bargaining hypothesis, it reduces issue diversity of the policy agenda. As the marginal effect of information exchange diminishes and the marginal effect of the bargaining cost magnifies, it is expected that the two effects cancel each other and reach an equilibrium point, thus resulting in a maximum level of issue diversity of the policy agenda.

Beyond the equilibrium, the marginal bargaining cost outweighs the marginal benefit of the information exchange. A very large number of political parties

[2]Marginal benefits of diversity is also observed in other social phenomena. For example, Cerasi & Daltung (2000) observe that some degree of diversification of the financial asset improves the financial performance of the banks but more diversification would lower the performance.

increases the bargaining costs and thus reduces the number of policies produced. Lower policy outputs constrain the total size of the policy agenda space. Because of the confined agenda space, governments have to be strategic on the allocation of their political attention, and prioritise a narrower scope of policies (Jennings, Bevan, et al., 2011). Thus, issue diversity of the policy agenda declines as the number of political parties further increases. Therefore, by combining the insights of information exchange and bargaining cost perspectives, a hybrid model of the two countervailing processes predicts a negative quadratic (inverted-U) relationship between the number of political parties and issue diversity of the policy agenda. The hypothesis therefore states that:

> $H_{7.1}$ (hybrid hypothesis): *There is a negative quadratic (inverted-U) relationship between the number of political parties and issue diversity of the policy agenda.*

7.3 Data

7.3.1 Hong Kong's legislative bills

To test the hypothesis, this chapter uses a novel dataset of Hong Kong's legislative bills between 1975 and 2016. Policymaking in Hong Kong is dominated by the executive branch (Lam, 2005). Lawmakers have limited lawmaking power in both colonial and post-colonial Hong Kong and the bill introduction power is concentrated in the government (Gu, 2015; Miners, 1994, 1998). The unique case of Hong Kong offers a theoretically valuable contribution to the understanding of policymaking during a period of political liberalisation. There is a number of reasons for this. First, Hong Kong's gradual, and often embattled, political liberalisation process started in 1985 and is still ongoing (Ma, 2007; Sing, 2004).

The lengthy process of political liberalisation allows political scientists to observe its dynamics and effects in a greater detail than a sharp transition that occurred in other cases such as the Czech Republic after the Velvet Revolution and the Spain transition in the late 1970s.

Second, Baumgartner et al. (2017) have expressed concern over the data quality of the reported budgetary data in authoritarian regimes. In my case, Hong Kong LegCo's legislative activities are well documented and recorded by the authority. Unlike budgetary data, the legislature has less incentive to cover the introduction of a certain bill or distort its details. This provides a high-quality data for systematic examination.

Third, unlike many authoritarian regimes, Hong Kong has experienced a long period of press freedom and civil liberty since the colonial era. This provides more open and transparent information for rulers to make policies than many other autocrats. The implication is that the level of information supply from the press and civil society is stably high over the period of study. As such, the advantage of studying the case of Hong Kong is that one can focus only on the change of information provision as observed from the liberalisation of the political systems, while avoiding the confounding effect of information provision from the liberalising media and civil society that are likely observed in other liberalising regimes.

With all these reasons, Hong Kong is a unique and important case for examining the effect of political liberalisation in a setting with stably high level of information supply from the media and civil society during the period.

7.3.2 Political liberalisation in Hong Kong

Figure 4.1 represents the degree of political liberalisation of Hong Kong as reflected by the proportion of elected members (versus appointed members) in LegCo. Before 1985, the colonial Governors appointed all members of LegCo. In 1985, elections

were introduced in Hong Kong, composing of functional constituencies—the professional and business interests—and electoral college—elected by members of municipal and district councils who are directly elected by the public. These non-directly elected members, accounting for over 40 per cent of all lawmakers in the LegCo between 1985 and 1991, joined the appointed members to scrutinise government bills. The first direct election took place in 1991. The electoral college was abolished in the same year and replaced by geographical constituencies by direct election from the public. The proportion of elected members (versus appointed members) then increased to over 60 per cent from 1991. In 1995, appointed seats in LegCo were totally abolished and all members of LegCo are then directly elected by the electorates either in functional constituencies or geographical constituencies from 1995 onwards[3]. The system remains the same as of the submission of this thesis.

The novel dataset of legislative bills is scrapped from the LegCo website `http://legco.gov.hk/`. The policy contents of the legislative bills are coded according to the policy content coding system of the Comparative Agendas Project (CAP) `http://www.comparativeagendas.net/` with slight revisions to adapt to the unique context of Hong Kong. The original CAP coding system contains 21 major areas of public policy (e.g., health, energy, transport) and has been applied to 23 national, supranational and subnational states such as the US, the UK, Canada, Italy, Belgium, Netherland and Hong Kong. Hong Kong experienced a sovereignty transfer from the UK to China in 1997. Therefore, following Lam and Chan's (2015) codebook, I created topic number 32 "Relationship with the sovereign and related constitutional matters" to record any legislative bills that are related to the adaptation of colonial laws to the Basic Law. As such, the coding system for Hong

[3]Even though both functional constituencies and geographical constituencies are directly elected by the electorates. The formation of electorates in these two constituencies are very different. As mentioned, electorates in geographical constituencies are the citizens in the corresponding geographical area with one person one vote. In functional constituencies, electorates vary and are decided by the sectorial interests. Some electorates are individuals (e.g., social workers and teachers). Some other electorates are corporates (e.g., insurance and accounting).

Kong legislative bills contains 22 major topics (see Table 3.1) instead of 21 topics in CAP.

7.3.3 Issue diversity of the policy agenda

The concept of issue diversity of the policy agenda is operationalised as the distribution of policy output across policy topics. Following the recommendation by Boydstun et al. (2014), I use Shannon's H to measure issue diversity, which is defined as:

$$Issue \quad Diversity = -\sum(p(x_i)) \times \ln(p(x_i))$$

where x_i represents a policy topic. $p(x_i)$ is the proportion of total bills in policy topic x_i. $\ln(p(x_i))$ is the natural log of $p(x_i)$. A greater value of Shannon's H represents a greater issue diversity, and vice versa. Between 1975 and 2016, the mean value of issue diversity is 2.3300. The standard deviation is 0.1902.

7.3.4 Effective number of political parties

The number of political parties is measured by Laakso and Taagepera's (1979) effective number of political parties (ENPP) and the incomplete data is adjusted according to Taagepera (1997). ENPP represents the total number of influential political parties as measured by either vote share or seat share in a legislature. It is also a common measurement of party fragmentation in political science literature (e.g., Anckar, 2000; Grofman & Kline, 2012; Maeda, 2015). ENPP represents the number of sizable political parties in the legislature and is a good indication of the partisan composition in the legislature. When the ENPP equals to about one, the political system is typically labelled as a one-party system or one-party-dominant system (e.g., mainland China and Singapore). By the same token, when ENPP equals to about two, it means that two comparable parties exist and compete in the

political system (e.g., the US and the UK). A greater ENPP implies more equally sizable political parties participate in the political system. For more discussion of the calculation of the ENPP, please refer to chapter 3.

Figure 3.1 shows the adjusted and unadjusted ENPP between 1975 and 2016. The dashed line and dotted line represent the upper and lower bounds of ENPP by assuming that political parties or candidates that coded as "others" or "no political affiliation" demonstrate extreme fragmentation and extreme united respectively. The solid line represents adjusted value of ENPP based on the mentioned rules according to the ideology of political parties or candidates that are coded as "others" or "no political affiliation".

After adjustment, in general, the ENPP of Hong Kong LegCo goes upward over time. It was at 1 from 1975 to 1985 because all lawmakers were appointed. When indirect elections were introduced subsequently, the ENPP went upward to about 2.72 from 1985 and 2.83 from 1988. When direct election was introduced in 1991, ENPP jumped to 5.01 and further jumped to over 6 from 1995. Between 2004 and 2008, it further increased to 8.41. It lowered to 7.26 between 2008 and 2012 and jumped to 10.84 from 2012 to 2016. Between 1975 and 2016, the mean value of effective number of political parties is 5.1769. The standard deviation is at 3.2244.

7.4 Results

How do autocrats allocate their attention and how does issue diversity of the policy agenda change over time during a period of political liberalisation? This chapter answers these questions by using the time-series data of LegCo's legislative bills between 1975 and 2016. Issue diversity of the policy agenda is measured by Shannon's H as recommended by Boydstun et al. (2014). When the score of issue diversity of the policy agenda is zero, it means that the attention is concentrated on

a single topic out of the twenty-two possible topics. The maximum score of the issue diversity across twenty-two possible policy topic is $\ln(22) = 3.0910$. Different values of the issue diversity show the variation in attention to a range of possible policy topics over time. This section first provides some visual inspection and later conducts a more rigorous time-series analysis.

Figure 7.1 shows the relationship between the number of political parties and issue diversity of the policy agenda. This figure shows a marginal upward trend in the issue diversity when the number of political parties was smaller than 3 (in and before 1990). When the party fragmentation is greater than 3 (after 1990), any additional increase in number of political parties reduces issue diversity of the policy agenda. The general pattern is a negative quadratic relationship and can be fitted in an inverted-U curve as shown in figure 7.1. It provides support to $H_{7.1}$.

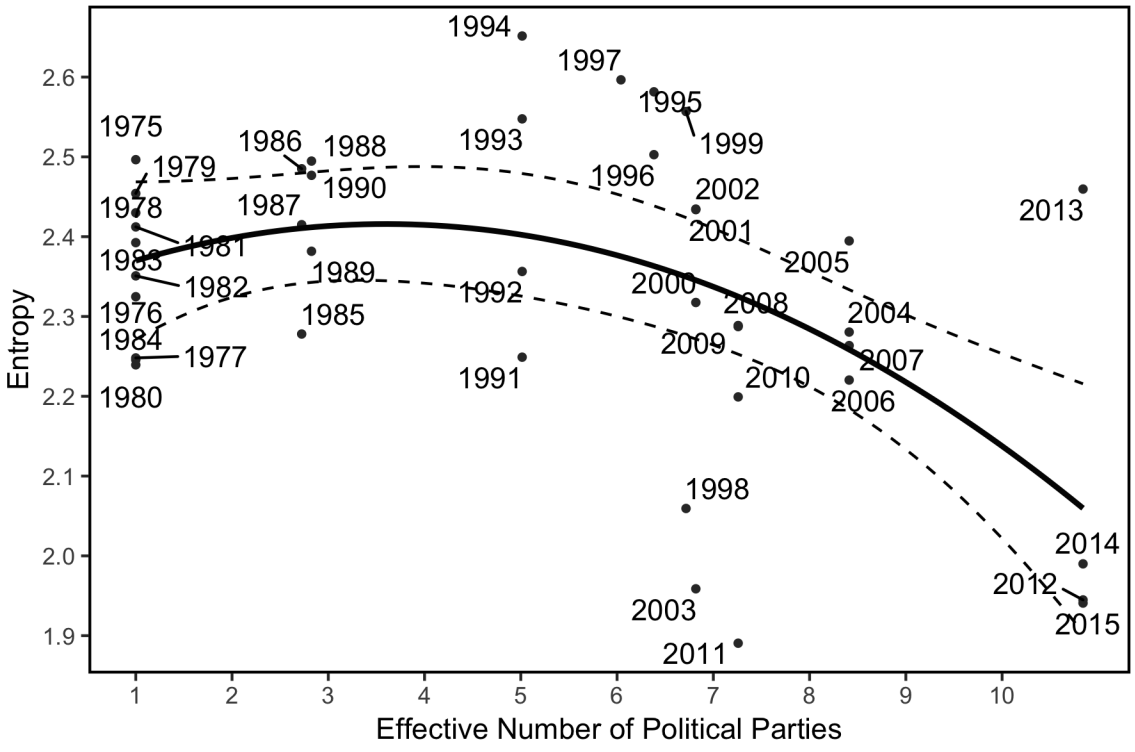

Figure 7.1: A negative quadratic (inverted-U) relationship between issue diversity and party fragmentation.

7.4.1 Time series regression analysis

To conduct a more rigorous test of $H_{7.1}$ with time-series data, I apply an autoregressive distributed-lag (ADL) model. The merit of the ADL model is that it can account for the autoregressive effect of the lagged values of the dependent variable commonly presented in time-series data. A full model for this research is represented in the following form:

$$Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \beta_1 X_t + \beta_2 X_t^2 + \beta_3 C_t + \epsilon_t$$

where issue diversity of the policy agenda Y_t is a function of a linear combination of a constant term α_0, the past values of issue diversity of the policy agenda Y_{t-1}, the number of political parties X_t and its squared term X_t^2, and the number of legislation C_t as a control variable. ϵ_t is a random shock.

As mentioned, the issue diversity is measured by the entropy of policy areas, and the number of political parties is measured by the effective number of political parties. To support $H_{7.1}$, it is expected that a negative quadratic relationship between the number of political parties and issue diversity of the policy agenda. Therefore, β_1 is expected to be positive, and β_2 is expected to be negative. For the control variable, it is expected that a larger number of legislation would allow the governments to diversify the policy outputs than a lower number of legislation. In addition, when a government faces more pressing problems (e.g., economic crisis), they are also more likely to focus on fewer issues. Therefore, the economy is also controlled in this model and it is measured by the GDP per capita released by Hong Kong's Census and Statistics Department. An augmented Dickey-Fuller test shows co-integration does not exist and thus the autoregressive distributed-lag model is an appropriate model.

Table 7.1 shows the results of the time-series analysis with different

autoregressive distributed-lag models based on the full model described above. Model 1 and 2 are the linear model of the number of political parties. Model 2 further adds the number of legislation and economy as control. Model 3 to 5 are a non-linear model with the squared term of the number of political parties. Model 4 added the number of legislation as control and model 5 is the full model described in the formula.

Table 7.1: Time-series autoregressive distributed-lag model of issue diversity of the policy agenda.

	Issue Diversity of the Policy Agenda				
	(1)	(2)	(3)	(4)	(5)
Issue Diversity (lag 1)	0.165	0.023	−0.033	−0.123	−0.125
	(0.208)	(0.202)	(0.186)	(0.177)	(0.183)
Number of Political Parties	−0.019*	−0.008	0.056+	0.061*	0.070+
	(0.009)	(0.015)	(0.032)	(0.030)	(0.041)
Number of Political Parties (squared)			−0.007*	−0.007*	−0.007+
			(0.003)	(0.003)	(0.004)
Number of Legislation		0.003		0.002	0.002
		(0.002)		(0.002)	(0.002)
Economy		−0.002			0.002
		(0.006)			(0.007)
Constant	2.039***	2.178***	2.388***	2.412***	2.377***
	(0.502)	(0.472)	(0.442)	(0.453)	(0.417)
N	40	40	40	40	40
R^2	0.164	0.252	0.272	0.332	0.335
Adjusted R^2	0.119	0.167	0.211	0.255	0.237

Note: Entries represent unstandardized coefficients with robust standard errors in parentheses. Significance levels: ***p < .001; **p < .01; *p < .05; +p < .1

Model 1 and 2 test the linear effect of the number of political parties on issue diversity of the policy agenda. The linear term of the number of political parties is significant (-0.019, p<.05) and is negatively associated with issue diversity of the policy agenda. However, after controlling the number of legislation and economy, model 2 shows that the linear term of the number of political parties is not significant at all conventional level of significance. It clearly shows that a larger number of political parties has no linear effect on issue diversity of the policy agenda in the presence of control variables.

Model 3 to 5 test the non-linear effect of the number of political parties on issue diversity of the policy agenda. Model 3 shows that the negative quadratic effect is significant ($\beta_1 = .056$, $p < .1$ and $\beta_2 = -.007$, $p < .05$). Model 4, after controlling for the effect of the number of legislation, shows that the negative quadratic effect is also significant ($\beta_1 = .061$, $p < .05$ and $\beta_2 = -.007$, $p < .05$). Model 5 shows the negative quadratic relationship is still robust but is only significant at 10% level of significance ($\beta_1 = .07$, $p < .1$ and $\beta_2 = -.007$, $p < .1$), after controlling for the effects of the number of legislation and economy. It provides a strong evidence to support $H_{7.1}$: there is a negative quadratic relationship between the number of political parties and issue diversity of the policy agenda. Using the Akaike information criterion (AIC) and Bayesian information criterion (BIC), the results show that model 5 has the lowest value of AIC and BIC compared to other four models. Thus, model 5 should be selected.

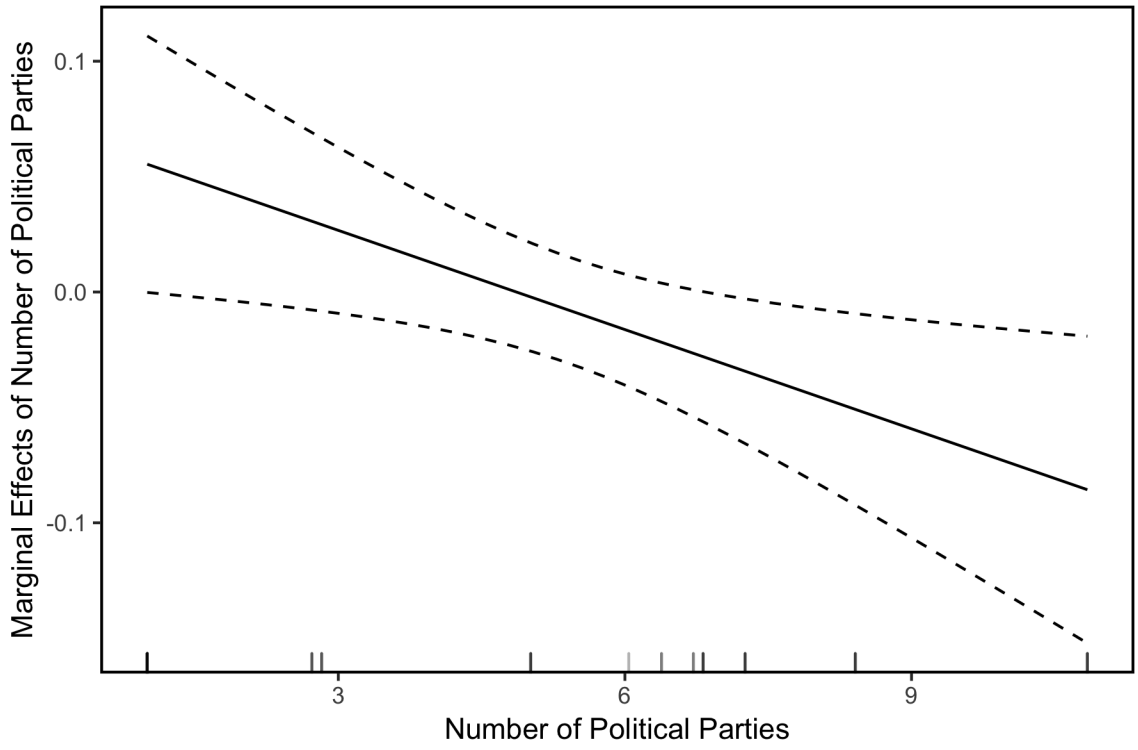

Figure 7.2: Marginal effects of the number of political parties at 90 per cent confidence interval.

Figure 7.2 shows the marginal-effect plot of model 5. It shows the marginal effect of the number of political parties, as quadratic polynomial, on issue diversity of the policy agenda, after controlling for the number of legislation and the economy[4]. It represents how each unit change of the number of political parties have different effects on issue diversity of the policy agenda. Figure 7.2 shows a negative slope and the marginal effect declines as the number of political parties increases. The marginal effect is positive when the number of political parties is less than 4.5 and is negative beyond that point. It means that the issue diversity expands when the number of political parties is less than 4.5 and shrinks when it is greater than 4.5. This again provides a clear evidence to show a negative-quadratic relationship between the number of political parties and issue diversity of the policy agenda as stated in $H_{7.1}$. The marginal benefit of information exchange diminishes, and the marginal bargaining costs magnifies as the number of the political parties increases in liberalising regimes.

7.5 Discussion and conclusion

This chapter considers how autocrats allocate their political attention and change their issue diversity of the policy agenda during a period of gradual political liberalisation. Prior studies use either the bargaining approach or the information exchange approach to understand the effect of regime change on policymaking. This study provides a refined way of thinking by combining the two distinct approaches. As regime liberalises, the number of political parties in the legislature increases and it changes the partisan composition of the legislature. The change in electoral systems and the corresponding changes in the partisan composition of the legislature represent the duality of bargaining and information exchange processes—they are both the source of bargaining and the source of information exchange. This

[4]for more discussion of the use of marginal-effect plot, see Berry, Golder, & Milton (2012)

increased number of political parties in turn increases both the level of information exchange and bargaining costs for policymaking. My theory combines the insights of these two competing processes that dictate how autocrats allocate their political attention across different policy issues over time. It proposes that, in liberalising regimes, increase in the number of political parties diminishes the marginal benefit of the information exchange supplied by the lawmakers but at the same time magnifies the marginal bargaining costs. My model has important implication not just for the study of autocracies but also for policymaking in democracies.

I tested the hypothesis drawing on my hybrid theory. Analysing a unique and new time-series dataset of legislative bill from LegCo, the finding shows an unambiguous support to the hybrid hypothesis—as regime liberalises, increase in the number of political parties have a negative quadratic (inverted-U) relationship with issue diversity of the policy agenda ($H_{7.1}$), even after controlling for the effects of the number of legislation and the economy. The empirical evidence shows that the two competing processes—information exchange and bargaining—both take place together at different rates as the number of political parties varies. A small but increasing number of political parties, as seen from the initial liberalising period 1975 to 1995, increases issue diversity of the policy agenda. Large but increasing number of political parties in the subsequent period shrinks issue diversity of the policy agenda.

Building on prior studies (Baumgartner et al., 2013; Cox & McCubbins, 2005; Mayhew, 1991; Tsebelis, 2002), this study contributes by connecting the literature of regime transition, party politics and public policy by distinguishing the bargaining and information exchange processes in politics. In particular, it advances our understanding of how the regime transition and the corresponding change in partisan composition of the legislature influence issue diversity of the policy agenda. Extant studies on issue diversity of the policy agenda focus on advanced

democracies (Alexandrova et al., 2012; Jennings, Bevan, et al., 2011). The effect of regime transition is understudied. Similarly, the Comparative Agendas Project (CAP) is mostly featured in advanced democracies such as the US, the UK, Germany, Italy, and Canada. There are only a few studies that examine policy agendas in non-democratic regimes (Baumgartner et al., 2017; Chan & Zhao, 2016; Lam & Chan, 2015). Baumgartner et al. (2017) have recently called for more studies to examine authoritarian regimes using the CAP system. This research responds to this gap by taking advantage of Hong Kong's unique path of prolonged democratisation, in which Hong Kong offers an important opportunity to observe the effect of political liberalisation on issue diversity of the policy agenda. In addition, this study is also the first of its kind to use legislative bills to study autocratic policymaking while the existing studies primarily use budget data. As such, it contributes to the comparative studies of policy agendas.

There are some unaddressed issues in this study that could warrant more future research to ascertain the effect of political liberalisation on policymaking. This study may not be able to generalise the understanding of different forms of political liberalisation. In some authoritarian regimes, elections may not be truly competitive and inclusive (e.g., Russia and Singapore) (Ambrosio, 2009; Tan, 2013). It means that elected lawmakers are more likely to have a closer relationship with the regimes. Because of this proximity, any increase in the number of political parties may not significantly increase the informational diversity—as autocrats and parties share similar views, concerns and ideology—nor increase the bargaining costs—because they share similar political ideas and interests. More fine-grained comparative studies should be done to address different form of political liberalisation and ascertain the effect of political liberalisation on issue diversity of the policy agenda and other aspects of policymaking in general. The extension of the CAP coding systems to more non-democratic countries could close this gap and

offer a promising research agenda.

Chapter 8

Conclusion

8.1 Conceptual and theoretical contribution

Public policymaking is a political process that has to deal with struggles and conflicts constantly. It is concerned with "who gets what, when and how" (Lasswell, 1936) and the "authoritative allocation of values" (Easton, 1957, 1965). To resolve struggles and conflicts, it is essential to bargain with different stakeholders. Policymaking is a bargaining and negotiation process between multiple political actors that have different power, interests and ideologies. The power, interests and ideologies of these political actors as well as the design of the political institutions determine the outcome of the bargaining process. In the study of policymaking and political process, the bargaining process is at the centre of the academic debate in different perspectives (e.g., see the discussion of incrementalism in Lindblom (1959), Wildavsky (1964) and Davis et al. (1966), see Sabatier & Jenkins-Smith (1993) for the advocacy coalition framework, see Tsebelis (2002) for veto player theory, see Mayhew (1991) for divided government and political gridlock).

Policymaking as a bargaining process is being challenged by recent works on policymaking and legislative politics in authoritarian regimes (Gandhi &

Przeworski, 2007; Magaloni, 2008; Malesky & Schuler, 2011; Truex, 2016, 2017; Wu, 2015). Unlike democracies, autocrats face far less "checks and balances" from the formal political institutions. According to the selectorate theory, autocrats only have to deal with a small group of political actors in order to maintain regime survival and longevity (Bueno de Mesquita et al., 2003; Gallagher & Hanson, 2015). Autocrats can manoeuvre resources and implement new programmes quickly. For instance, China shows that they can orchestrate the abortion of the one-child policy (Feng, Gu, & Cai, 2016) and the removal of the two-term limit of the presidency (McDonell, 2018) in a short period of time. In contrast, the removal of the term limit of the presidency is likely to be opposed in advanced democracies. The limited checks and balances in autocracies lead theorists to believe that the bargaining perspective does not apply. They believe that the lack of policy-relevant information or the informational disadvantage (Baumgartner et al., 2017; Chan & Zhao, 2016; Sebők & Berki, 2018) rather than the slow and lengthy bargaining process creates more problems for the autocrats. Extant studies also found autocrats' challenges to receive reliable information such as the manipulated economic statistics and fiscal data (Tsai, 2008; Wallace, 2016), falsified public preferences (Jiang & Yang, 2016; Kuran, 1987) and deliberated distortion of local performance statistics (Gao, 2016). Unlike democracies that receive abundant information from the environment and the political institutions (such as the freedom of the press and free and fair elections), autocrats receive limited policy-relevant information to make effective and adaptive policies to cope with the uncertain environment (Miller, 2015; Schedler, 2013). To improve the policy process, autocrats have to liberalise the political systems and information environment.

This thesis has made an important contribution by going beyond the rigid dichotomy between bargaining and information perspectives in prior studies (e.g., Baumgartner et al. (2017) and Sebők & Berki (2018) set up competing hypotheses

to test the two perspectives). As mentioned in chapter 1, whenever there is a political struggle, there is information exchange about policy issues. In turn, when political actors exchange information about policy issues, they would inevitably discover policy problems that lead to political struggles. In brief, political bargaining and information exchange coexist. The two effects are inclusive and complementary. These two perspectives are not novel but combining these two perspectives provides a refined way of thinking about public policymaking and the political process. This thesis resolves the theoretical contradiction of the bargaining and information exchange perspectives on policy processes by integrating them into a hybrid model. This provides an important step to capture and appreciate the complex nature of the political process (Cairney, 2012; Page, 2011, 2008; Miller2007; Epp & Baumgartner, 2017).

The duality of bargaining and information exchange can be saliently observed in this thesis when regimes liberalise. The process of political liberalisation increases the competitiveness and inclusiveness of the electoral systems and it changes the political systems and institutions substantially (Brown, 2011; Dahl, 1973; Dahl et al., 2003). As such, there is a substantial change in the bargaining and information exchange processes. In chapter 1 and 2, I have detailed the mechanisms and processes of how regimes liberalisation would move away the one-party or one-party dominant system that is common in authoritarian regimes (e.g., Singapore and Malaysia) to multi-party systems (e.g., Taiwan and Korea). A one-party or one-party-dominant system faces limited "checks and balances". To adopt a policy, autocrats only have to bargain with the selectorates (Bueno de Mesquita et al., 2003; Gallagher & Hanson, 2015) and thus policymaking is relatively easy and smooth. However, the selectorates hold limited information and thus the information exchange process is also confined. When the regimes liberalise and the political systems move from a one-party or one-party-dominant system to a

multi-party system, the scope of the selectorates expands. As such, the bargaining process becomes more difficult and complex (because of increased bargaining costs) but the information possessed by the expanded selectorates also increases in quantity and becomes more diversified in quality.

In this thesis, the electoral system is conceptualised as a vital source of bargaining and is also a key source of information exchange. The change of the electoral system changes the number of political parties in the legislature. An increase in the number of political parties when regimes liberalise increases the bargaining costs. A more competitive and inclusive election increases the number of political parties and makes the bargaining process more difficult. Legislatures become where policy compromises take place between autocrats and elected representatives and where they maintain frequent interactions (Boix & Svolik, 2013; Gehlbach & Keefer, 2011, 2012; Svolik, 2012). But at the same time, a freer and fairer election also provides additional information benefits which are difficult to achieve in a closed political and electoral system (George, 2007; Lorentzen, 2014; Miller, 2015; Stockmann, 2013). Interestingly, a more difficult bargaining process does not necessarily undermine the policymaking process. The emergence of information exchange from a more difficult bargaining process facilitates policymaking. This thesis provides strong empirical support for this argument.

To build a solid and comprehensive theoretical framework, I introduced and explained how the bargaining and information exchange perspectives can be merged into a complementary hybrid theory with formal mathematical notations and simulations in chapter 2. This thesis builds on Jones and Baumgartner's pioneering works (2004, 2005) of the multiplicative cost structure (also known as the institutional friction) that explains the phenomenon of disproportionate policy change and positive and negative policy feedbacks (Pierson, 1993b). Policy change becomes more punctuated when the multiplicative cost increases, that is, policy

change is predominantly stable and incremental but it also features abrupt and radical changes occasionally. In contrast, policy change becomes less punctuated (or more moderated) when the multiplicative cost decreases. It means that the abrupt and radical policy changes become less frequent. The distribution of the policy change also becomes closer to a normal distribution.

My thesis discusses how the change of the political systems changes the multiplicative cost structure. A more difficult bargaining process increases the bargaining costs. Therefore, we observe a greater multiplicative cost and more punctuated policy change.

The multiplicative cost is central to the existing debate in policy change and agenda-setting (Baumgartner, Breunig, et al., 2009; Jennings & John, 2009; John & Jennings, 2010; Jones & Baumgartner, 2005). I have made a substantial contribution by discussing and theorising how the benefit side of the multiplicative cost model works to moderate the policy change. I call it the multiplicative benefit structure. As discussed in greater details in chapter 2, more information exchange as regimes liberalise benefits the autocrats with more policy-relevant information. It helps the autocrats to produce more moderate (less punctuated) policy change.

Another important contribution of this thesis is the introduction of the concepts of marginal cost and marginal benefit of the multiplicative cost (and benefit) structure. To be specific, as regimes liberalise, each unit increase in the number of political parties decreases the marginal benefit of information exchange and increases the marginal cost of the bargaining process. This model is an extension and also a refinement of the works of Chan & Zhao (2016) and Baumgartner et al. (2017) who treat bargaining and information exchange processes as competing hypotheses. This thesis expands their works with a more inclusive framework to understand the two distinct processes. The marginal cost and benefit framework also provides new insights to the students of political science and other

social sciences to look for more non-linear solutions to understand complex political and social phenomena.

Mathematically, the ideas of marginal cost and marginal benefit predict a maximum point when the cost and benefit are equal and cancel out each other. It produces a concave downward curve (inverted-U shaped). When the number of political parties is small, any increase of the number of political parties when the regimes liberalise provides more benefits than incurs more costs because the marginal benefit of the information exchange is greater than the marginal bargaining cost. When the number of political parties is large, any increase of the number of political parties when the regimes liberalise incurs more costs than the benefits because the marginal bargaining cost is greater than the marginal benefit of the information exchange.

My thesis presents a bargaining/information exchange hybrid theory that provides a novel lens to examine policy processes. The hybrid theory does not challenge the validity of the bargaining and information perspectives in policymaking and political process. In all respects, these perspectives have laid down important foundations and advance our understanding of many political phenomena. Yet, the competing theoretical expectations of these two perspectives require a resolution. The hybrid theory combines the strengths and merits of the two individual perspectives and provides a refined way of thinking to resolve the theoretical tensions and unexplained phenomena by appreciating the complexity, non-linearity and duality of the reality.

This theoretical contribution is likely to benefit future and relevant discussion in the literature and has substantial implications. This thesis will contribute to other studies of authoritarian regimes, regimes in transition and comparative politics. The hybrid theory developed in this thesis will warrant more comparative studies to answer questions related to the effect of regime liberalisation on other

variables of interests.

The bargaining and information exchange processes are not unique and specific to the contexts presented in this thesis—regimes liberalisation and policymaking in authoritarian regimes and in Hong Kong. As shown in prior studies, the bargaining and information exchange processes operate separately in democracies. The combination of the two perspectives is likely to inform researchers in democracies to search for finer measurement tools and techniques to uncover the duality of bargaining and information exchange processes in other political phenomena. For instance, it is possible to translate the ideas of the hybrid theory to a broader types of institutional change such as decentralisation of the public administration and increasing self-censorship in the media environment.

8.2 Methodological advances

This thesis applied a number of advanced quantitative methods to study different policy processes and it has made a vital contribution to the literature. Specifically, it employed the stochastic process methods (Jones & Baumgartner, 2004; Jones et al., 2009) that is a non-regression based statistical method to understand whether the policy change is purely random that follows a normal (bell-shaped) distribution (see chapter 6). The study of the randomness of political phenomena is far less common than its regression-based analysis counterpart in political science. The extension of the stochastic process methods will warrant more interesting findings in political science in the future.

Prior comparative studies of the distribution of policy change simply compare the values of kurtosis scores or L-kurtosis scores without the use of rigorous statistical test (see Chan & Zhao, 2016; Baumgartner et al., 2017; Sebők & Berki, 2018). In my study of the distribution of policy change, I apply the two-sample

Kolmogorov-Smirnov test (Lilliefors, 1969; Massey, 1951) to examine whether two distributions are statistically different. In future comparative studies, the Kolmogorov-Smirnov test or other rigorous statistical tests should be applied.

Apart from stochastic process methods, this thesis also applied two types of frequentist regression analysis, namely, the event history analysis and time-series analysis. They are both suitable for analysing phenomena that involve time. The event history analysis is specifically developed to model time-to-event variables—the total time taken until the occurrence of an event (Box-Steffensmeier & Jones, 2004). The application is common for medical research (more commonly known as the survival analysis) and is increasingly being employed in political science and other social sciences. On the other hand, I applied the distributed-lag model of the time series analysis which is a common technique to examine time-series data (a certain variable with values that change across time) (Box-Steffensmeier et al., 2014). The response and explanatory variables do not have to be time as in event history analysis, but an observed value of a variable at a certain time period. Statisticians have developed techniques to deal with the issue of autocorrelation—the value of a variable observed at current period is correlated with the value(s) in the previous time period(s)—-in time-series data.

8.3 Substantive findings

This thesis has provided clear answers to the question of how political liberalisation affects policy processes with original data from Hong Kong's legislature. It found that autocrats' policy processes change unambiguously when regimes liberalise. More importantly, the bargaining/information exchange hybrid model possesses a better explanatory power on how the effect of regime liberalisation affects policy processes than the bargaining and information perspectives in prior works. Three

policy processes, namely, legislative speed, distribution of policy change and issue diversity of the policy agenda, have been examined. The theoretical expectations and the main findings of this thesis are summarised in table 8.1. I discuss each of them briefly in the following:

Table 8.1: Summary table of theoretical expectations and findings.

Chapter	Dependent variable	Theoretical expectations		Findings
		Bargaining process	Information exchange process	
5	Legislative speed	-	-	Positive relationship
6	Distribution of policy change (regime change)	+	-	Negative relationship
	Distribution of policy change (regime type)	+	-	Positive relationship
7	Issue diversity of the policy agenda	-	+	Negative quadratic relationship

8.3.1 Legislative speed

Legislative speed is particularly relevant to the evaluation of the policymaking capacity and legislative productivity in authoritarian regimes. It is because the success rate, a common measurement for policymaking capacity and legislative productivity, is usually very high in different authoritarian regimes. Comparing very high success rates (e.g., 93% versus 97%) does not tell the substantial difference. The study of legislative speed provides an additional dimension to examine legislative productivity and is key to examine and compare policymaking in authoritarian regimes.

Legislative speed measures how quickly the governments can turn bills into law. A quicker legislative process is vital to every government because it represents whether the governments can tackle one policy issue quickly and move on to tackle the next. A slower legislative process shows a poorer policymaking capacity. It is

worth noting that making policy too quickly can generate policy disasters (Dunleavy, 1995). Yet, as time is scarce, a more efficient legislative process can potentially allow governments to move on and focus on other policy issues. Thus, a government with a faster legislative speed have a greater capacity to react to different policy problems.

The bargaining perspective has been the dominant theory in explaining the legislative process and output. Divided government and gridlock are the major perspective that concerns how the composition of the government—whether different branches of the government is ruled by a single political party or different parties—would produce different legislative output (Adler & Wilkerson, 2012; Edwards et al., 1997; Howell et al., 2000; Mayhew, 1991). A divided government—different branches of the government is ruled by different parties—increases the bargaining costs. Higher bargaining costs could mean it takes the governments a longer time to secure consensus among different political parties. Different political parties have different interests and ideological positions on different policy issues and it is more difficult to resolve these differences (Tsebelis, 2002).

However, as shown in chapter 5, the bargaining perspective is only a part of the whole story to explain legislative speed. It has largely ignored the information exchange perspective. A more diverse composition of the government means that the government also possesses more diverse information and perspectives. As such, a more diverse composition of the government facilitates more information exchange. More available information means that the government has to spend more time to sort out useful and relevant information which would in effect take a longer time to process this. The information perspective predicts that more information exchange slows down the legislative process.

The bargaining/information exchange hybrid model has the advantage of

taking both bargaining costs and the benefits of information exchange into consideration and allowing us to determine how each of these processes changes the legislative process differently. This research does not offer a solution to disentangle the effects of these two processes but the hybrid model introduces a refined way of thinking and warrants more future research agenda to ascertain these two distinct effects. The use of comparative studies would allow us to disentangle the bargaining and information effects in the future.

8.3.2 Distribution of policy change

The study of the distribution of policy change, introduced by Jones & Baumgartner (2004), is vital to the test of the multiplicative cost structure and multiplicative benefit structure. The distribution of policy change reveals whether the policy process is incremental or not. An incremental policy process follows a normal (random) distribution of policy change. The existence of cost (or institutional friction) creates a leptokurtic distribution with a higher central peaks and larger tails on the two sides (as shown in figure 2.2). I follow in the footsteps of Jones & Baumgartner (2004) and many others to examine the distribution of policy change and test the bargaining/information exchange hybrid model.

This research has three key findings on the distribution of policy change in liberalising authoritarian regimes (see chapter 6). First, the overall distribution of policy change in Hong Kong follows a leptokurtic distribution rather than a normal distribution. Although autocrats are known for their advantage in speed, they still cannot perform perfect adaptive policymaking according to the theory of incrementalism. In other words, the evidence from Hong Kong's policymaking suggests that autocratic policymaking is better described by the punctuated equilibrium theory rather than incrementalism, which is similar to policymaking in democracies. Second, as regimes liberalise, the distribution of policy change

becomes more leptokurtic and moves farther away from normal distribution. The level of punctuations—which is measured by the height of the central peaks and the size of the two tails—is greater in a more liberalised period. It provides good support to the information exchange process as political liberalisation provides the autocrats more policy-relevant information and helps the governments to perform a more adaptive policymaking process.

However, when we compare different regime types—authoritarian regimes against democracies—using the Kolmogorov-Smirnov test (a robust statistical test), I found that the level of punctuations is lower in authoritarian regimes than that in democracies. This is an interesting finding because it does not agree with the information exchange process but it supports the bargaining process. It creates a theoretical puzzle. If we treat the information exchange process and bargaining process as distinct processes, it is unclear why the regime change (when regimes liberalise) would result in a less punctuated distribution of policy change, while a more liberalised regime type (that is, the democracy) would have a more punctuated distribution of policy change.

The bargaining/information exchange hybrid theory, however, provide a more inclusive answer to this puzzle because it regards the bargaining and information exchange processes as complementary rather than mutually exclusive. When regimes liberalise well before a full democratisation (as seen in the case of Hong Kong), the information exchange process is more salient than the bargaining process. In other words, the marginal benefit of the information exchange process is greater than the marginal bargaining cost which has been fully discussed in Chapter 2. When the regimes further liberalise to full democracy, the bargaining/information exchange hybrid theory would expect that the bargaining process would become more dominant. In other words, the increase in bargaining costs is then greater than the benefits of the information exchange. As such, the

distribution of policy change of a full democracy would then become more punctuated, that is, mostly stable but occasionally radical and abrupt changes. This shows how a more inclusive hybrid model can explain the phenomena better than treating the bargaining and information exchange processes as mutually exclusive.

8.3.3 Issue diversity of the policy agenda

The issue diversity of the policy agenda, as I have argued, is sensitive to the dual process of the bargaining/information exchange hybrid model when regimes liberalise. Therefore, it is vital to examine how it changes in this thesis.

Issue diversity of the policy agenda considers whether policymakers pay attention to a broad or narrow scope of policy issues such as health, transportation and defence. Expanding and narrowing the attention to a broader or narrower scope of policy issues has substantial implications for public policy and politics because it affects and limits the policy options available to the policymakers and subsequently shapes the policy contents and outputs. In chapter 7 of this thesis, the issue diversity of the policy agenda in Hong Kong's legislature shows a non-linear and inverted-U pattern between 1975 and 2016.

The bargaining perspective predicts that a greater number of political parties when regimes liberalise would result in a lower issue diversity of the policy agenda. This is because a higher bargaining cost would shrink the agenda space and thus the policymakers have to allocate their attention more strategically. In other words, the governments have to focus on a few policy issues rather than expanding the attention.

The information exchange perspective, on the other hand, predicts that a greater number of political parties during regime liberalisation would result in a greater issue diversity of the policy agenda. There are more diverse agendas because more diverse political parties in a period of political liberalisation would provide the

governments with more diverse information to deliberate on. A more informed government is more likely to be aware of the policy problems in different areas and would expand their attention to different policy issues.

However, these two perspectives only predict a linear relationship between the number of political parties when regimes liberalise and the issue diversity of the policy agenda. It fails to exlpain why the pattern of issue diversity of the policy agenda is non-linear and follows an inverted-U shaped curve.

The bargaining/information exchange hybrid theory has a better explanatory power than the distinct bargaining and information perspectives to understand the change of issue diversity of the policy agenda during a period of political liberalisation. The hybrid model features the ideas of the marginal benefit of information exchange and the marginal bargaining cost and it provides an unambiguous framework to understand why the issue diversity of the policy agenda follows a negative quadratic (inverted-U) relationship.

8.4 Informing future research

This thesis has clearly made several theoretical and methodological contributions. The new empirical evidence presented in this thesis provides clear support for the bargaining/information exchange hybrid model. It also warrants more future research to ask questions related to the effect of regime liberalisation on policy processes and the implication of the bargaining/information model for policy change. There are at least four aspects to look into further.

First, future research could identify more case studies with an observable period of political liberalisation. This would ascertain the effect of the political liberalisation on policy processes. Besides, more comparative studies can provide more rigorous tests of the generalisability of the bargaining/information exchange

hybrid theory. A large-N design with different countries would allow us to reveal whether there is a variation in bargaining costs and information benefits for countries with different degrees of political liberalisation. To do so, there is a need to develop a rigorous measurement strategy to measure the bargaining cost and the benefit of information exchange.

Second, the bargaining and information exchange processes represent the multiplicative cost structure and multiplicative benefit structure respectively (in chapter 2, they are called the n-th power and m-th root processes respectively in mathematical terms). The design of the political institution would increase the institutional friction (the imposed costs of decision-making in the institution) (Jones & Baumgartner, 2005) but my conceptualisation also emphasises it is possible to lower the institutional friction. The discussion of the multiplicative benefit structure is lacking in the literature compared with the multiplicative cost structure. For instance, Jones et al. (2003) found that the multiplicative cost structure increases as policy agendas pass from the input side (e.g., election and newspaper) to the output side (e.g., budget allocation and statues). A comparative study of the US, Denmark and Belgium conducted by Baumgartner, Breunig, et al. (2009) found a similar phenomenon. This study has made a pioneer attempt to theorise how the information exchange process could increase the multiplicative benefit structure. As such, this contribution points out an important and influential direction to the future study of the punctuated equilibrium theory.

Third, the new conceptualisations of the marginal bargaining cost and marginal benefit of information exchange present an opportunity on how it should be measured. In my theoretical framework, the marginal bargaining cost is increasing and the marginal benefit of information exchange is diminishing (see figure 2.4). Future studies could ascertain these relationship using experimental methods on group behaviours.

Fourth, although the CAP content coding system is well calibrated and is ready to be applied to different countries, developing new country datasets is time-consuming and costly. As such, data availability is the main obstacle to the development of the above-mentioned studies. With the advancement of quantitative text analysis in multiple languages (e.g., Chinese, Korean, Vietnamese) using machine learning techniques, a more rigorous automated coding process shall be developed. It also provides an opportunity to compare the results of the automated methods with the large amount of human-coded data available in the CAP website. As such, a large-N cross-country comparison would be facilitated.

Appendix A

Appendix for chapter 5

Table A.1 shows a Schoenfeld residual test to check the proportional hazards assumption for model 3 of table 5.2. The null hypothesis of the Schoenfeld residual test is that the proportional hazards assumption is fulfilled. The result shows that the proportional hazards assumption is violated for the size of the legislature ($p < .0001$) and the setup of bill committee ($p < .0001$). The proportional hazards assumption for some of the dummy variables of the executive are also violated. The global value of the test also shows the violation of the proportional hazards assumption ($p < .0001$).Therefore, it is necessary to add a time-varying covariate to interact with the variables mentioned above. Table A.2 shows the Schoenfeld

Table A.1: Schoenfield residual test for model 3 of table 5.2

	rho	chisq	p
Number of Political Parties	-0.0207800	1.3652421	0.2426310
Size	0.0910862	33.0921869	0.0000000
Bill Committee	0.2619102	195.5283806	0.0000000
Executive:Edward Youde 1982-87	0.0172945	1.1272500	0.2883627
Executive:David Wilson 1987-92	0.0118928	0.5192234	0.4711731
Executive:Chris Patten 1992-97	0.0462314	7.9250337	0.0048755
Executive:Tung Chee-hwa 1997-05	0.0609586	13.9319686	0.0001895
Executive: Donald Tsang 2005-12	0.0615612	13.8621118	0.0001967
GLOBAL	NA	388.6140058	0.0000000

residual test that checks the proportional hazards assumption for model 4 of table 5.2. With time-varying covariates added, the result shows that the proportional hazards assumption is fulfilled for each of the variables and also at the global level ($p = .10$).

Table A.2: Schoenfield residual test for model 4 of table 5.2

	rho	chisq	p
Number of Political Parties	0.0247062	1.3041634	0.2534541
Size	0.0237336	1.3409860	0.2468602
Bill Committee	-0.0165395	0.6672836	0.4140003
Executive:Edward Youde 1982-87	0.0111811	0.2473655	0.6189362
Executive:David Wilson 1987-92	0.0132461	0.3175189	0.5731026
Executive:Chris Patten 1992-97	-0.0009041	0.0014791	0.9693218
Executive:Tung Chee-hwa 1997-05	-0.0057825	0.0580443	0.8096141
Executive: Donald Tsang 2005-12	-0.0035369	0.0226587	0.8803479
Size * Time	-0.0162234	0.6241971	0.4294919
Bill Committee * Time	0.0321372	2.5360414	0.1112735
Executive:Edward Youde 1982-87 * Time	0.0050069	0.0537358	0.8166858
Executive:David Wilson 1987-92 * Time	-0.0051415	0.0606496	0.8054721
Executive:Chris Patten 1992-97 * Time	0.0054852	0.0685956	0.7933926
Executive:Tung Chee-hwa 1997-05 * Time	0.0048506	0.0533760	0.8172896
Executive: Donald Tsang 2005-12 * Time	0.0026524	0.0159048	0.8996415
GLOBAL	NA	22.2443892	0.1015541

Appendix B

Appendix for chapter 6

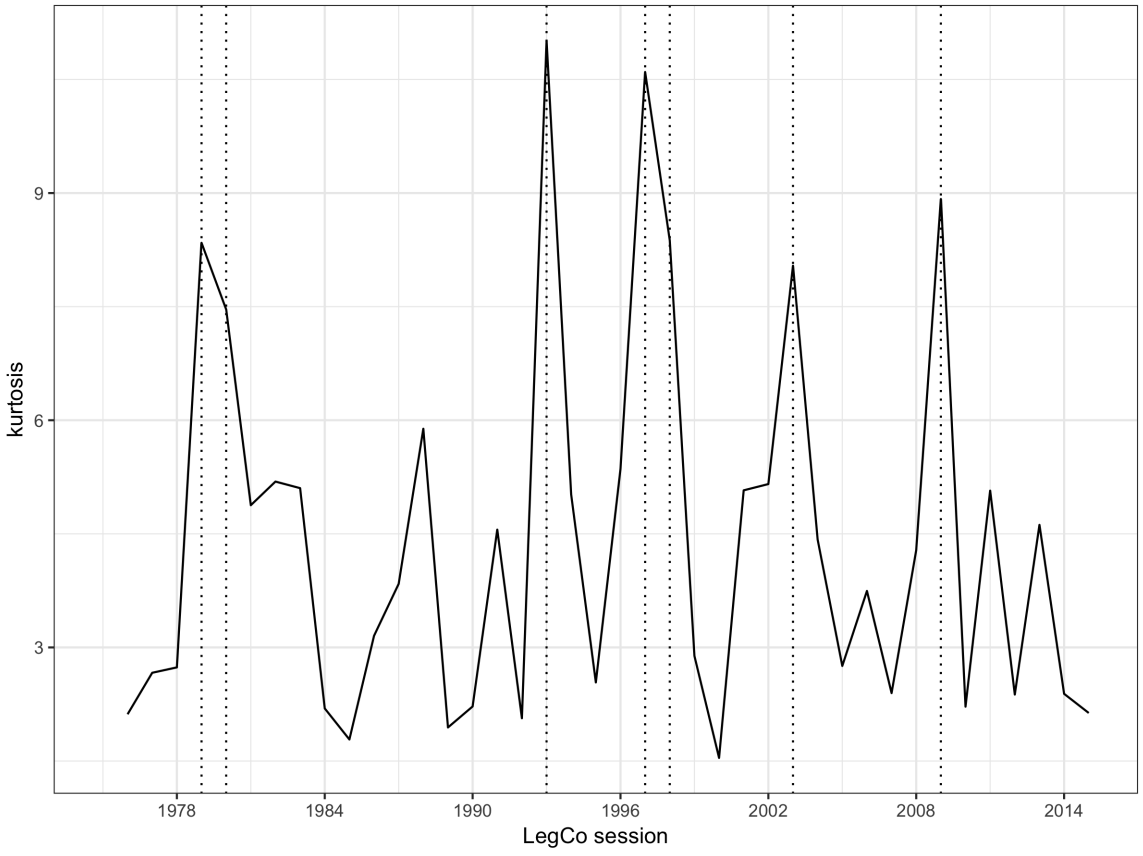

Figure B.1: The change of the annual kurtosis score of the distribution of policy change in legislative bills in Hong Kong, 1975-2016.

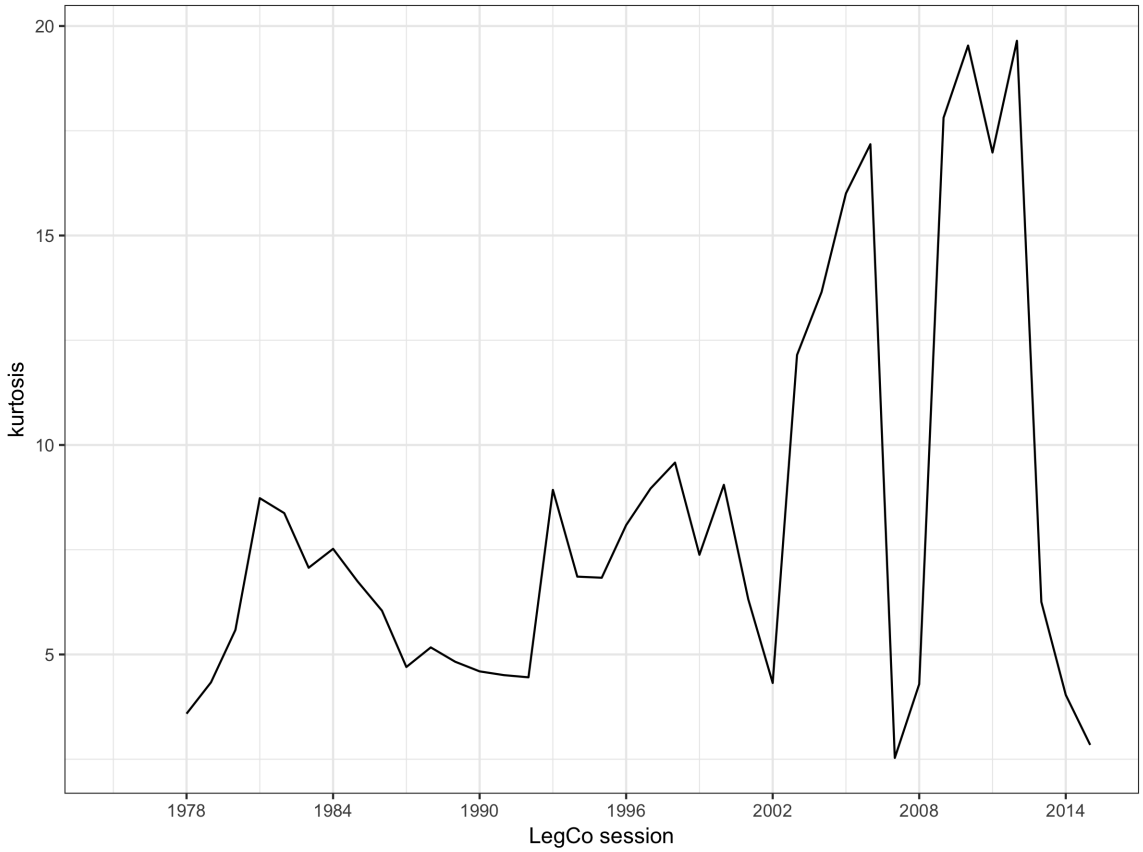

Figure B.2: The change of the 4-year aggregated kurtosis score of the distribution of policy change in legislative bills in Hong Kong, 1975-2016. Each observation is the kurtosis estimates by aggregating the annual percentage changes of the current year and that of the last three years.

Table B1: L-kurtosis and kurtosis scores of various legislative bills in different periods

Bills	Observations	L-kurtosis
Switzerland Legislation (1988-2010)	491	0.18
Spain Parliamentary Bills (1982-2011)	434	0.19
UK Acts of Parliament (1911-2015)	1,657	0.20
France Laws (1979-2013)	635	0.20
Hong Kong Bills (1975-2016)	581	0.22
Italy Legislative Decrees (1988-2013)	325	0.23

Bills	Observations	L-kurtosis
Hungary Laws (1791-2018)	1,628	0.24
Denmark Bills and governmental reports (1953-2012)	1,185	0.25
Netherlands Bills (1980-2009)	564	0.25
Belgium Bills (1988-2010)	443	0.26
US Bill introductions, House (1947-2016)	1,468	0.30
US Bill introductions, Senate (1947-2014)	1,413	0.33

Table B2: L-kurtosis and kurtosis scores of Hungary's legislative bills in various periods

Bills	Observations	L-kurtosis	Kurtosis
Hungary Laws (1959-2018)	668	0.29	134.85
Hungary Laws (1959-1988)	95	0.08	6.35
Hungary Laws (1989-2018)	563	0.32	129.23

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