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Abstract

Although the development of punctuated equilibrium theory (PET) makes broad reference to the bureaucratic procedures that regulate budgetary decision-making and makes reasonable assumptions about the influence of those procedures on the dynamic of resource allocation, little is known about how the specific mechanisms work. This has led to a call to understand the processes that cause friction in greater detail (Baumgartner et al., 2009). This study examines how budgetary output patterns may be influenced by governments' strategic fiscal choices. Using an approach that highlights the roles of various fiscal policymaking processes, we found significant deviations of budgetary output patterns in capital projects, restricted funds, and entitlement spending, thus signifying the influence of fiscal practices on resource allocation decisions. We further examined how fiscal influences may be realized in the political process of democratization in Hong Kong. By examining legislative filibuster cases related to capital projects, we found evidence associating democratization with greater institutional friction and consequently with larger budgetary output punctuations.

Keywords: budgetary punctuation, fiscal management, fiscal capacity building

Introduction

Research on punctuated equilibrium theory (PET) has established that policy changes are more pronounced in the budgetary output phase—because of friction created by competing institutional forces (Baumgartner et al., 2009; Lam & Chan, 2015)—than they are in the political input and policy processes, in which rival interests exhibit fewer sources of friction and lower stakeholder engagement. Although the empirical evidence and theory behind this observation, including evidence from a study of multiple nations (Baumgartner et al., 2009), seem to be strongly in support of a pattern of relatively greater punctuation during the budgetary output process, the literature lacks a detailed understanding of how this could happen.

Through various communication systems and institutional structures, human cognitive capacities and institutional arrangements that are more saliently demonstrated in Western-style democracies are expected to create policymaking barriers or checks and balances among individuals and groups and thereby cause “organizational friction” at the policymaking level (Baumgartner et al., 2009; Flink, 2017). The bureaucratic processes that regulate the implementation of a policy should serve to illustrate how such forces play out and therefore answer the question of how the bureaucratic processes lead to institutional friction that causes variations in budgetary output. This research addresses that question.

Hong Kong’s fiscal policy provides a case study for examining the mechanisms in which budgetary output patterns vary from the fiscal management perspective. Hong Kong implements many fiscal regulations and strategies that are prevalent in modern economies (Tang, 1997). Meanwhile, its evolution from an administrative regime under British colonial rule to a semi-democratic region with democratic institutions established to represent diverse societal interests provides a natural social experiment that allows observation of how

institutional forces are formed to create friction that influences budgetary outputs (Fong, 2017; Wong, 2017).

The literature makes broad-brush political references to bureaucratic forces and procedures, and little attention has been given to distinguishing significant policy differences among projects of various natures and significance in processes, that might explain how these forces work together to influence budgetary outputs. The political explanation of punctuated equilibrium (PE) should benefit from a better understanding of how fiscal practices—such as the approval, monitoring, and assessment of public funds—are implemented to influence budgetary outputs. As Baumgartner et al. (2017, p. 805) noted, “A focus [of PET] on political regimes appears insufficient ... we would hope to gain a better understanding of all factors—political, social or economic—that affect the stability of government agendas.” We respond to this suggestion by exploring the question: How do fiscal policymaking and fiscal management affect budgetary outputs? Our goal is to stimulate new ideas on how fiscal processes may work, within the political structure, to influence budgetary output patterns and the setting of policy agendas.

In the following sections, we first discuss the literature that helps us to frame the role of fiscal policies in budgetary outputs into several key hypotheses, and then we elaborate on fiscal practices in Hong Kong and how they come to influence policymaking in general. We next present our methods and data. In the Findings section, we present key empirical results concerning the influence of fiscal strategies on budgetary outputs, followed by a discussion of theoretical and policy implications for PET. We conclude with a discussion of the key contributions and limitations of the study.

Fiscal Management and Budgetary Outputs

The research to date on budgetary punctuations in the context of PET is fruitful. In addition to providing evidence that government spending in various countries is in line with the PET propositions rather than with incrementalism (Benson & Russel, 2015; Boushey, 2012; Cairney, 2013; Fowler et al., 2017; John & Margetts, 2003; Princen, 2013), researchers have asserted and also provided evidence for the idea that punctuations are caused by political and institutional factors, such as political ideologies, gubernatorial powers, institutional performance, and democratization (Baumgartner et al., 2017; Breunig, 2006; Breunig & Koski, 2009; Chan & Zhao, 2016; Flink, 2017; Rey, Epp, & Baumgartner, 2015).

Despite these developments in the study of punctuation patterns, there is a lack of research on how the patterns arise—that is, on the specific mechanisms that lead to punctuations—as Baumgartner et al. (2009) stated earlier and Hegelich, Fraune, and Knollmann (2015) reinforced more recently. More specifically in terms of our research, even though the PET relies heavily on budgetary data, as yet little empirical research has linked PE to the general theories and practices of fiscal management. To a large extent, the PET literature, with its recent examinations of the institutional contributing factors that apply in Western democracies, mirrors political behaviors at the policy-formulation stage and largely leaves unexamined the fiscal issues that could also lead to variations in budgetary outputs.

Fiscal issues stand at the heart of all modes of governance and broadly determine the capacity of governments to provide services, manage transparently, and ensure stability (Andrews, 2010). Fiscal management in the public sector has two broadly defined and interrelated aims—fiscal accountability and fiscal capacity building to provide services. The public sector serves a broad range of stakeholders, in the form of taxpayers and service recipients, who have vital interests in the fiscal condition of government. Meanwhile, the need for fiscal accountability often translates into (or reflect) calls for strengthening or adjusting fiscal capacity to provide better services.

The Role of Fiscal Management in Policymaking

How do political players use fiscal tools? In this section we present a perspective on the fiscal process that describes how fiscal tools work in the political process of policymaking, and we discuss how political players use fiscal tools to influence policy changes and budgetary output. In this study, the term “fiscal processes” refers to policy mechanisms in which choices about financial resource allocation, utilization, and assessment are made in various phases of the policy cycle. We intend this definition of fiscal processes to put emphasis on the execution and consequences of fiscal policy—a definition that differs slightly from the conceptual focus of the budget cycle that is applied mainly to understand resource allocation decisions. Of course, both processes consist of the components of policymaking and implementation that, in fiscal terms, are essential to achieving the goals of fiscal accountability and capacity. An assessment of fiscal capacity and constraints interacts unavoidably with policy decisions. More specifically, the influence of fiscal management is largely manifested in policymakers’ application of various fiscal instruments in their evaluation and implementation of policies of different magnitudes or significance in fiscal processes. Inspired by the PET literature (Jones & Baumgartner, 2012; Workman, Jones, & Jochim, 2009), we look at both the institutional and individual policymaker levels of fiscal management to investigate how fiscal management causes PE.

In terms of their fiscal consequences and constraints, various policies require corresponding decision-making processes in which policymakers play varying roles. For example, due to the significant implications and influences of budget for service delivery, infrastructure spending projects are often debated and assessed in the capital budgeting process—which is formally known as Capital Improvement Planning (CIP) in the U.S. and as Resource Allocation Exercise (RAE) in Hong Kong. The fact that policymakers employ separate processes for capital and recurrent spending projects suggests that they use distinct

political strategies to achieve their desired policy goals. Indeed, legislators play a more salient role in the capital planning process than in other budgetary planning processes, because capital (non-recurrent) projects often carry significant political, fiscal, and symbolic meanings, and because specific decision-making mechanisms—such as fiscal committees dedicated to capital spending projects—allow legislators to be actively engaged and versed in capital spending (Wehner, 2006). On the other hand, bureaucrats' budget requests on recurrent (operating) projects are challenged comparatively rarely because recurrent projects, by definition, have already been debated and approved by the legislature and represent incremental interests that are already invested in the political process and that bureaucrats are eager and able to protect by changing (and even diverting) legislative attention and activities (Workman, 2015).

Decision-making horizons and mentalities also vary in the processes at the individual policymaker level (Workman, Jones, & Jochim, 2009). The CIP process gives policymakers (both legislators and administrators) a long-term decision perspective (often more than five years), with a consideration of future costs and available flows of financial resources. Such a long-term perspective allows legislators to consider the more expensive projects that often are associated with larger policy changes.

Similarly, a special funding apparatus—a Special Revenue Fund, for example—can be established to protect funding sources that are restricted for specific purposes. Such funding sources require a separate decision-making process to ensure the accountability of the project and availability of resources. Funding sources going through a specifically purposed process are restricted. Although funding restrictions are necessary in order to secure the availability of funds for specific designated areas, they can also allow bureaucrats to protect certain resources from going through the normal budget appropriation process and, in so doing, can ensure greater administrative control over funding and policies (Mikesell, 2011).

In restricted funding, fund accounting follows a specific set of accounting rules that are different from those governing governmental funds, a fact that could further strengthen administrative authority and autonomy in spending control due to administrative practices and expertise in governmental accounting. Fiscal processes for governments' many fiscal decisions are also distinct, such as earmarking (e.g., rule-based spending), investment decisions (e.g., enterprise funds), cash management (e.g., cash pools), and debt management (e.g., managing various types of bonds). It is important to note that although these fiscal processes are distinct in decision-making, they are not independent decision streams (Breunig & Koski, 2009, p. 1118). For example, in the U.S., the CIP must be reconciled with the operating budget in a fiscal feasibility analysis. Most countries commonly include both recurrent budgets and capital budgets in a comprehensive budget book presented to the legislature (Mikesell, 2011). Similarly, although restricted funds involve different decision-making criteria from unrestricted funds, their size and scope are determined largely on the basis of needs and the capacity of unrestricted funding.

An existing theoretical explanation of policy changes in PET is that institutions filter, block, and amplify information and therefore shape how policy players allocate their attention. Consistent with that theory is the fact that the fiscal constraints and consequences perceived by the players, and manifested in various fiscal processes, can shape the policy players' attention allocation to different types of spending within a particular context—a scenario that has significant implications for the players' disproportionate information processing (Flink, 2017; Workman, 2015; Workman, Jones, & Jochim, 2009). Specifically, fiscal constraints broadly affect the cost of allocating the fiscal resources that are available. Certain fiscal constraints, such as those with detailed formal rules and regulations for determining recurrent spending projects, often are highly predictable in the allocation of money and therefore are more likely to generate policy consensus. Such situations lead to low

levels of attention from policymakers, and specifically from legislators, who seek political exposure and benefits from new spending projects. This budgeting pattern is well captured by incrementalism theory in the budgeting literature (Wildavsky & Caiden, 2004). By contrast, other fiscal constraints could reflect the greater cost of the uncertainty in allocating the money and thus lead to policymakers paying significant attention to spending, as was demonstrated in a recent study on congressional behaviors in the face of high uncertainty (Workman, Shafran, & Bark, 2017). Spending on large new capital projects or certain public utility functions that directly serve the public—such as the water or power supply—could be driven by strong political will or by market factors that reflect the law of fluctuation and uncertainty in the business cycle.

Hypotheses about Fiscal Management and Budgetary Outputs

Furthering the PET argument that “different mixes of institutional costs and attention limitations will produce varying degrees of PE” (Workman, Jones, & Jochim, 2009, p. 81), in this section we continue to consider a fiscal explanation of PET by providing several hypotheses on how fiscal practices affect policymaking and therefore budgetary outputs. In this study, we build on the limited literature that suggests a significant role of fiscal management in various policy areas (Breunig & Koski, 2012, p. 61; Epp & Baumgartner, 2017; John & Margetts, 2003) and focus on important and popular fiscal processes that have salient policy intents and potentially long-lasting impacts on budgetary outputs.

As institutional choices regarding the mobilizing of financial resources for long-term institutional goals, various fiscal processes can be understood to be using fiscal strategies to serve fiscal goals in accountability and capacity building and to facilitate efficient financial operations. All fiscal strategic choices made, and all fiscal processes used, should affect budgetary outputs (John & Margetts, 2003). This research addresses major fiscal choices that are commonly seen in almost all modern economies and examines how those choices work to

influence policy changes that are reflected as budgetary outputs. These fiscal choices include capital financing, use of restricted funds, and entitlement financing.

First, financing capital projects through borrowing, which is a common practice in many governments, is designed with a strong policy intention to grow financial capital, adjust the tax burden, and smooth revenue streams and thus spending patterns. Depreciation of capital projects, a financial reporting practice increasingly popular in governments, could result in a fairer estimation of capital project usage and a more accurate forecast of replacement or maintenance costs, and thus smoother spending patterns.

Capital budgeting is defined differently in various fiscal settings. Nevertheless, a commonly accepted notion, resulting from the need to manage high-impact fixed assets, concerns the practice of planning and financing expensive, non-recurrent, and multi-year spending projects. Clearly, the fiscal consequences of financing an interstate highway are very different from those of financing the relatively minor costs of planning travel, and policymakers' attention varies greatly between those types of projects. The non-recurrent nature of capital spending increases the uncertainty for budget planning and service delivery capacity. In order to gain additional resources from capital spending projects, more attention and information processing are required from policymakers, and specifically from the legislators who approve requests. Several key features of capital budgeting practices can significantly alter the policymaking of a government and therefore can affect budgetary outputs, as is demonstrated in PE.

Capital projects, because of their relatively high uncertainties in spending, their impactful consequences, and their occasional symbolic meaning, often attract the attention of stakeholders and therefore become the center of political debates that can lead to compromise but may also cause stalemate and gridlock in policymaking. Budgetary strategies, played out by legislators and bureaucrats, can result in a significant scaling down or boosting up of the

proposed budgets (Mikesell, 2011). Capital projects may require complex financing tools. A government that cannot or does not want to draw from its current revenue accounts to pay for capital projects must resort to other methods of financing—such as borrowing, which could result in a change in spending patterns that is dictated by debt terms and interest payments.

In contrast, recurrent spending normally consists of personnel and other regular spending items that are more predictable due to their fixed costs and cost less in information processing. Studies of PET usually employ the overall budget, including both types of expenditures, which may lead to a potential bias (John & Margetts, 2003). Although Mortensen (2005) noted the difference between capital spending and non-capital spending (sometimes known as operating or recurrent spending), few studies have specified their potentially different spending patterns. In this research, we hypothesize that:

H1: Budgetary spending is more punctuated in capital funds than it is in operating (recurrent) funds.

Fiscal constraints can take the form of funding restrictions imposed by governments to protect fiscal resources in case of fiscal emergency, limited funding sources, and fiscal mandates in policy implementation. Restrictions are realized through earmarking and entitlement financing—restricted funds that are increasingly popular (Wang, 2014). The placement of restrictions on funding suggests that the spending patterns of restricted funds differ from those of unrestricted funds.

This study looks into two specific types of funding restrictions. First, restrictions can be imposed to regulate the spending purpose of a fund, by identifying a specific funding designation. For example, a fund can be established specifically for hurricane relief efforts only. Restricting the funding purpose protects the resources allocated to a specific

designation. Although such limits can lead to disciplined spending behaviors, restrictions themselves could also mean that funding follows its own paths, as designated by the restriction, and evades certain rules that govern governmental spending or legislative oversight. For example, in U.S. state and local governments, businesslike activities (water and wastewater treatment, for example) can be funded and accounted for with an enterprise fund that is governed by accounting/reporting rules that differ from those for governmental funds. The reporting focus of an enterprise fund is income determination, not the process accountability required for a governmental fund (Wang, 2014). The income determination purpose, which is often associated with the intent to break even under market conditions, may lead to riskier investment spending behaviors—thereby reflecting higher costs of information processing for more restricted spending. In contrast, more commonly accepted fiscal rules and legislative oversights apply to non-restricted funds—such as the requirement for a balanced budget and a compliance audit—so that the consensus of budgetary decisions is often relatively easy to achieve. In this study, we hypothesize that:

H2: Budgetary spending is more punctuated in restricted funds than it is in non-restricted funds.

The second spending restriction concerns financial efforts to regulate funding through funding schemes that are mandated by laws or regulations. In such circumstances, restrictions are not imposed on fund purposes, but rather on rulings that regulate spending behaviors. One example of such restrictions is the entitlement (mandatory) spending in the U.S. federal government, which represents approximately two-thirds of total federal spending (National Priorities Project, 2015). While discretionary spending indicates a certain degree of freedom in budgetary maneuvering, freedom that can cause greater over-year fluctuations, entitlement spending changes less because it has restrictions that dictate compliance with spending laws.

Thus, entitlement spending can present changes in spending direction due to changes in the law (True, 2000). Studies have found that non-allocational/discretionary spending is subject to more debate and greater punctuation than allocational categories (Breunig & Koski, 2012). Tight restrictions in entitlement spending, reflecting cumulative historical effects of legislation, allow little room for spending variations. These constraints suggest a relatively simple information process. Unless the wider environment sends very strong signals to change/amend the existing entitlement, thereby triggering a re-evaluation process (Breunig, 2011; Jones & Baumgartner, 2012), entitlement spending will remain highly stable. Because of these factors, we further hypothesize that budgetary outputs are associated with fiscal management in the following fashion:

H3: Budgetary spending is less punctuated in entitlement spending than it is in discretionary spending.

Fiscal Practices in Hong Kong

To be consistent with the perspective of this study, which emphasizes distinctive fiscal processes in decision-making, we identify Hong Kong as a case study due to its richness in modern fiscal practices in the various decision-making processes of government. Indeed, as do many modern governments, the Hong Kong government executes all of the fiscal management strategies mentioned above and has established a process to assess new capital projects. The process, known as the Resource Allocation Exercise (RAE), allows spending agencies to submit new capital proposals to compete for new revenue in the coming fiscal year and allows the Chief Executive to include new initiatives with fiscal implications in the Policy Address. In addition, the region's legislative body, the Legislative Council (LegCo), with the support of its Finance Committee, usually reviews, assesses, and approves new

capital spending bills proposed by the administration more carefully than it does with recurrent spending (Scott, 2010).

Capital project financing in Hong Kong is characterized by a process commonly known as “pay as you go” (PAYGO), which allows the government to finance its capital projects through existing funds (normally known as the “general revenues”) rather than through borrowing. This financing method is possible because the government maintains significant fiscal reserves and a fund balance, reflecting a fiscal prudence principle, a tradition inherited from the British colonial period (Hong Kong Government, 2016). Clearly, the availability of a large fiscal cushion makes possible the financing of large capital projects without resorting to the controversial and tedious process of borrowing, as is seen in many other governments. The PAYGO financing process and abundant fiscal reserves make it possible to finance large, expensive capital projects with fewer direct up-front costs. Consequently, the PAYGO approach could make government spending on capital projects more likely than would the borrowing approach, which inevitably incurs long-term financial liabilities.

In addition to using the PAYGO approach and possessing sufficient fiscal reserves, the Hong Kong government has also established special-purpose funds to provide for financial transactions that serve specific purposes or face restrictions. For example, the Capital Works Reserve Fund, one of the largest funds in terms of financial transactions, is used to finance Hong Kong’s public works projects and land acquisition. The Capital Investment Fund is used to finance investments in the Mass Transit Railway Corporation, the Hong Kong Housing Authority, and other quasi-governmental operations. These funds represented approximately 25% of total governmental expenditure, on average, from 1986 to 2014, thereby reflecting the significant role of restricted funds in Hong Kong’s fiscal management.¹ In addition to being influenced by the fiscal prudence approach and large

budgetary surpluses, Hong Kong's fiscal policies and practices are also influenced by the democratization process, which has yielded a legislature that is more willing to exert influence over policies and spending priorities in response to the needs of political constituencies (Fong, 2014; Ma, 2016; Scott, 2010).

It would perhaps be an exaggeration to state that any finding about spending patterns from the Hong Kong context can be generalized to other countries. The Hong Kong government implements its modern fiscal practices within a fiscal tradition that is prudent in spending philosophy and reactive in responding to socioeconomic circumstances (Cheung, 2009; Tang, 1997). Indeed, few other advanced economies present a similar deeply rooted fiscal conservatism, which has a significant influence on fiscal practices and specifically on the maintenance of a very large fund balance for fiscal emergencies. The PAYGO approach grants the Hong Kong government the freedom of fewer restrictions to spending control than do bond issues, a popular method in other countries. Nevertheless certain distinct fiscal processes of capital projects and fiscal restrictions on certain funds commonly exist among almost all advanced economies. These fiscal practices, as well as the political contexts in which they operate—a budgetary process with an independent legislature—make it possible to use the Hong Kong case as a basis from which to generate hypotheses or provide evidence related to the role of fiscal practices in PET globally.

Data and Methods

The budgetary outputs we measured in this study follow the tradition in the PET literature, in which the patterns of budget punctuation are measured as the frequency of large-scale budget changes in relation to small or medium-size changes. With PET, large-scale changes occur more frequently than is suggested by incrementalism, which is framed statistically as representing the normal probability distribution of spending changes. Researchers studying

PET use the kurtosis values of annual expenditure growth rates to create a measure of budget punctuations (Breunig, 2006; Breunig & Koski, 2009; John & Margetts, 2003; True, 2000).

Kurtosis measures the shape of the peakedness of the probability distribution. A high value of kurtosis (i.e., a distribution with a tall peak, lean shoulders, and fat tails) indicates a situation with more large-scale budget changes than normal and reflects a probability distribution with more large- and small-scale changes and fewer medium-sized changes than normal. In this study, we also used a more robust and reliable form of kurtosis, L-kurtosis (Breunig & Jones, 2011; Chan & Zhao, 2016; Fagan, Jones, & Wlezien, 2017). Moreover, because kurtosis measures the shape of spending patterns, rather than their variation, this study also calculated the variance or standard deviation of the expenditure growth rate, as suggested by DeCarlo (1997).

We used actual spending data for the fiscal management measures needed for this research because of their availability.² Although appropriation data are a more direct measure of budgetary outputs, there is no significant difference between the two types of data in measuring and interpreting policy changes and their implications (Baumgartner et al., 2017). From the fiscal management perspective, actual spending data are always a better measure of spending patterns than budgetary data, because expenditures more accurately reflect fiscal conditions and activities (Wang, 2014). The expenditure data we employed concern the period 1976–2016 and were mainly compiled from four sources: *Hong Kong Annual Yearbook*, *Hong Kong Estimates*, *Hong Kong Annual Digest Statistics*, and the website of the Treasury.

In this study, “recurrent expenditure,” as the name suggests, refers to spending that is of a repeated nature, such as personnel expenditures or daily operations, whereas capital/non-recurrent spending refers to spending for newly approved capital projects within the fiscal year. The general revenue account in Hong Kong reports the government’s unrestricted

revenues and expenditures, which we used for comparison with the restricted fund accounts established by the government for specific purposes. Although the term “entitlement spending” is not normally used in Hong Kong, the expenditures of social welfare include several spending items of an entitlement nature—such as pensions, vocational training for disabilities, services for the elderly, and social security. We used entitlement spending for comparison with spending on housing, education, health, and public safety, which are discretionary in nature.

Our analysis employed a quantitative method and supported the findings with a qualitative case study of budgetary filibustering, thereby adopting a mixed method, as recommended by Gerring (2007). Unlike most PET studies, which use quantitative methods to detect punctuation patterns, the mixed method also examines how punctuations happen and thus affords a more in-depth exploration, as was suggested by Jones and Baumgartner (2012).

The first step was an analysis of kurtosis (L-kurtosis) statistics, probability distributions, and variation measures to examine the spending patterns of the Hong Kong government at different levels, with the aim of testing the hypotheses on spending punctuation patterns. This was followed by an in-depth study of filibustering cases in the Hong Kong Legislative Council, which were intended to explain how new capital projects are debated and legislated and thus to reveal what makes the punctuation patterns of capital projects significantly different from those of total budgetary outputs.

Findings

Budgetary Outputs

[Table 1 about here]

The results in Table 1 show that the spending distribution we studied, as measured by its kurtosis and L-kurtosis values, is more leptokurtic in capital spending, restricted funds, and discretionary spending accounts. The L-kurtosis value of the capital account is 0.31, compared with 0.19 in the recurrent account. The kurtosis value of the capital account (8.10) deviates significantly from a normal distribution, while that of the recurrent account (3.25) does not. The approximately normal distribution of the recurrent account in Hong Kong is somewhat different from findings in other contexts (Jones et al., 2009), where recurrent spending also shows a leptokurtic distribution. As hypothesized above, recurrent spending reflects a more predictable spending behavioral pattern than capital spending.³ The punctuation of total expenditures (capital plus recurrent), which also has a very high L-kurtosis value (0.31), may primarily reflect the pattern in capital spending. This suggests a need to explore spending punctuations beyond total expenditures, to gain an in-depth understanding of budgetary punctuations.⁴

The L-kurtosis (L-K) value of restricted-fund accounts (L-K=0.31) is significantly higher than that of the non-restricted general account (L-K=0.21), thus providing evidence that special-purpose funds, which exist outside of the normal budgetary appropriation process and monitoring practice, are subject to greater than normal change. Similarly, discretionary spending appears to be more punctuated than entitlement spending. Hong Kong's budgetary system does not directly provide information for the entitlement and discretionary spending categories. Nevertheless, the system produces information on spending by program and spending function, which shows that the programs of the Social Welfare Department follow certain spending formulas. These programs, including the Comprehensive Social Security Assistance (CSSA) Scheme, the Social Security Allowance (SSA) Scheme, and the Old Age Living Allowance (OALA), are classified as "Social Security" and account for approximately

70% of all social welfare spending (e.g., 52,109 of 72,151 million, or 72.2% during the 2017–18 budget year; Social Welfare Department, 2017).⁵

These findings provide supporting evidence for our hypotheses, which postulate that budgetary outputs are punctuated differently in capital project accounts than they are in recurrent spending, in restricted funds than in general funds, and in discretionary spending than in entitlement spending. By examining the case of capital spending, the following section attempts to present an explanation of these differences.

Why the Variation? The Case of Capital Spending

As shown in Figure 1, the annual growth rate of capital spending covers a much wider range than does the rate of recurrent spending, with the kurtosis statistics clearly demonstrating the different punctuations. In 10 of the 41 years of data (i.e., 24% of the time), capital spending grew by 20% or more over the previous year—a ceiling that has never been reached by recurrent spending. Also, in 17 years (42% of the time), capital spending declined by 3% or more compared with the previous year—another ceiling that recurrent spending has never reached.

[Figure 1 about here]

Why does capital spending display a different punctuation pattern from recurrent spending?

The observation that new capital spending shows significantly more punctuation than recurrent spending suggests that different policy strategies may be employed in the legislative process. Hong Kong has been undergoing a gradual democratization since the 1980s, from being a tightly controlled administrative state under British colonial rule, to a quasi-democratic region with a fully elected legislature and burgeoning civic institutions and engagement (Lam et al., 2007; Ma, 2007). Hong Kong society's increasingly differing views

on policy directions and service priorities are often generally reflected in legislative budgetary proceedings, with the so-called “pro-establishment legislators” supporting further economic integration with mainland China and the opposing pan-democratic faction advocating a populist agenda that focuses on social services (Scott, 2010, p. 160). Most of the primary examples of this political chasm can be seen in the budgetary debates on large, expensive, far-reaching capital projects that symbolize political positions much more saliently than recurrent operating spending does.

As is shown in Figure 2, recurrent spending grew smoothly and gradually for most of the period that we studied, with a slight drop during 2003 and 2007, whereas capital expenditures fluctuated more, especially after 2007.

[Figure 2 about here]

The Basic Law, Hong Kong’s constitution, does not grant the legislature the power to propose spending projects. Nevertheless, legislators are given the power to vote on executive budget proposals. Legislators have used that power in debating and approving new capital projects, which are legislated in the RAE process separately from the process for recurrent projects. Legislative approval is needed for new capital projects. Since 2007, pan-democratic legislators have increasingly attempted to delay or stop the budget bills by employing the so-called “filibuster strategy.”

In our analysis, we looked into all of the capital projects that have been filibustered in the history of the Hong Kong Legislative Council. Of the 22 cases of filibuster, we focused on the 18 cases that had budgetary implications. The practice of filibustering is a fairly recent phenomenon in Hong Kong; there was no filibuster case prior to 1997, the year of Hong Kong’s handover from Britain to China. The first case with a budgetary implication came in 2009. The fiscal year 2014 saw nine cases, the largest number ever. Of the 18 cases we

studied, 16 (89%) were orchestrated by the pan-democrats, the opposition party in the Legislative Council. The budgets that were filibustered totaled HK\$119.1 billion (US\$15.2 billion). More than half of the projects (10 of 18, or 56%) concerned infrastructure development—a finding that supports the long-standing allegation that pan-democratic legislators, believed to be rooted in populism, prefer to vote against infrastructure projects, favoring social welfare projects (Scott, 2010, p. 160). On average, the projects were delayed for 196 days.

Filibustering can cause greater than average spending fluctuations and punctuation. Delays in capital spending during one fiscal year can only add pressure to spend more in subsequent years, with the result that project costs increase and combine with the impact from the PAYGO method of capital project financing, thus leading to greater over-year spending fluctuations. Moreover, the threat of a delay in legislative approval for capital projects may lead the executive office to reduce capital spending in one year and then increase it in subsequent years, as the need for capital spending is compounded. Long, chronic delays in capital spending, which have occurred increasingly frequently since 2007, build pressure for a sudden spending increase in subsequent years, thus causing greater spending punctuations. That effect was reflected in the fiscal year 2014, when the budget being filibustered represented 39% of the total capital budget of that year. As Figure 2 shows, a large reduction in capital spending between 2013 and 2014 served as a prelude to a sharp increase in 2015 and 2016 (the latest data available), thereby providing further evidence that filibustering contributes to spending punctuations.

[Table 2 about here]

Hong Kong has experienced a gradual process of democratization since the 1980s. Following its handover from Great Britain to China in 1997, the territory has seen increasing legislative engagement and has also adopted administrative changes that have exposed

bureaucratic processes to political conflicts and public scrutiny (Lam & Chan, 2015). With an increasingly independent Legislative Council and the development of political parties, the budgetary process has evolved from being merely a bureaucratic game to an object of dynamic politics within the legislative arena (Cheung, 2009, p. 11; Fong, 2015). Thus, the budgetary process is characterized by various political actors competing for financial resources (Fong, 2014, p. 144). Table 3 compares spending punctuation before and after the handover. Confirming the results from Lam and Chan (2015), the spending in our data for the post-handover period exhibits fewer punctuations, but only at the total spending level (0.38 vs. 0.31 for L-K). At the capital-spending level, the opposite is true, and the implication is that democratic institutional development is associated with more punctuations. The L-K values increased from 0.28 before the handover to 0.40 after 1997, supporting the hypothesis that, although democratization can facilitate the information flow for service demands more efficiently and thereby foster less drastic policy change and smoother budgetary punctuations (Baumgartner & Jones, 2015; Chan & Zhao, 2016; Lam & Chan, 2015), it may also create gridlock, especially in large capital projects, and that gridlock may lead to a more leptokurtic distribution of capital spending.⁶ This finding calls for a more nuanced analysis of the relationship between democracy and budgetary outputs.

Indeed, with the democratization in Hong Kong, overall budgetary outputs—as measured by total spending—have become less punctuated. That trend supports the so-called “information hypothesis” that the development of democratic institutional facilitates a smoother information flow for decision-making, and in doing so reduces decision friction and therefore the need for abnormally large budgetary changes (Baumgartner et al., 2017; Chan & Zhao, 2016). Nevertheless, decision friction created by the democratization process in Hong Kong is clearly manifested in the capital budgeting process. Institutionalization as the result of democratization has allowed different political forces to voice their views in the capital

budgeting process, as veto players in the legislature (Jones et al., 2009). In the Hong Kong government, as in many others (the U.S. government in particular), the capital budgeting process is separate because of the significant budgetary consequences of capital projects. It is possible that in democratizing Hong Kong, the capital budgeting process is providing a political arena for debates about heated issues, whereas the vested interests are protected in the recurrent budgeting process. That recurrent budgeting process, controlled by a still-dominant executive power, leads to a less punctuated overall pattern. This finding indicates that, at least during fiscal decision-making, various fiscal processes can exhibit different patterns in agenda setting and budgetary outputs.

[Table 3 about here]

Discussion

In this study we provide a fiscal perspective that should enrich the PET discussion, which attributes policy changes to institutional friction and attention allocation (Breunig, 2006; Jones & Baumgartner, 2012), and their different combinations, within various information processes (Workman, Jones, & Jochim, 2009). We find that the fiscal tools used in various fiscal processes have a significant impact on policy agenda setting and budgetary outputs. The roles of policymakers in different fiscal processes, rooted as they are in their attention to policies of varying magnitude and significance, may determine the funding outcomes of policies and therefore budgetary output patterns.

Our finding that various fiscal processes demonstrate different budgetary output punctuation challenges the assumption that policymaking is a homogeneous process in which decisions are made following the same or similar patterns. The idea that stakeholders could play very different roles in the various fiscal processes indicates that, when proper policy

situations occur that allow heightened political debates, decisions are more punctuated in some decision processes than in others. This is the case in Hong Kong, where capital budgeting follows a separate process from recurrent budgeting, and where the government uses PAYGO financing methods for capital projects.

Capital spending, with its substantial impact and at times pivotal symbolism, is an arena for policy battles that can lead to significant policy changes. Capital projects must go through a careful planning and assessment phase that requires bureaucratic justification for, and legislative approval of, each project's demands, needs, fiscal feasibility, and impacts. Legislators can choose to actively engage in the planning process, as is noted here in the discussion of filibusters. In today's era of tax aversion, the difficulty in obtaining financing has led many governments to resort to debt in order to finance capital projects, a choice that multiplies the complexity of their financing procedures and can tilt the decision-making power toward the administration, which often holds significant technical expertise in financing. Indeed, capital budgeting gives legislators a large political space within which to demonstrate their funding intentions, but it also allows executive managers to exercise their influence over the process by using their technical expertise in financing and budgeting issues. Patterns in policy changes, as observed in PET studies, should reflect this political dynamic of capital spending in theoretical refinement.

What should also be realized in regard to PET is the possible influence that is exerted by fiscal constraints, which are imposed through laws, restrictions, and mandates placed on the budget execution in the ensuing budget implementation phase for purposes of fiscal accountability and capacity building. Budgetary output patterns are partly the outcome of restricted funding practices in which funds increasingly are placed in budgetary systems that have restrictions designed to protect funding sources, to grow fiscal capacity for specific service areas, and to regulate resource use.

There are two types of restrictions in fund accounting. Funds can be developed to handle the so-called “businesslike activities” that may require an outcome of breaking even fiscally. The special nature of these activities suggests that they are more susceptible than other activities to market forces and business cycles and are subject to fewer administrative regulations and less legislative oversight. Also, in practice, the requirement of financing these activities, often from revenues generated from income-based revenue bonds, indicates a regulatory regime that is different from governmental activities. In Hong Kong, for example, investment decisions about quasi-government funds are made by an investment board that is normally not subject to governmental regulations. Because the proportion of restricted funding reaches 25–30% of total government spending in Hong Kong, and is even higher in many other places, policy changes reflected in the restricted-funding areas (e.g., in businesslike activities such as public utilities) may dictate a spending pattern that differs significantly from that in governmental fund or general fund activities.

The second type of restriction in fund accounting includes special requirements for, and treatment of, a government’s fiduciary responsibilities. Pension funds, for example, are governed by a specific set of accounting rules and regulations and are placed in specific funds, as are trust funds. Specific requirements in accounting and financial reporting practices indicate that operations in these funds are subject to a specific set of rules that are different from those for governmental activities, which may lead to policy changes and budgetary outcomes that also differ from those of governmental activities.

Finally, budgetary output patterns should also be examined in connection with the decline in the share of discretionary spending in budgets. In theory, discretionary spending is the result of fiscal policy choices, not the outcome of the fiscal capacity-building process. Nevertheless, discretionary services allow policymakers, especially legislators, greater flexibility in setting spending priorities and levels. Given the increasingly aging population in

many advanced economies (Hong Kong included) and the growing income gap throughout the world, both of which require greater fiscal inputs into healthcare and welfare, it is expected that the government will continue to spend on entitlement programs. Furthermore, such spending implies a decline in discretionary spending. The policy outcomes, reflected at the budget level in the form of budgetary output punctuations, may reflect this trend.

Conclusions

The fiscal crises in the U.S. during the period 2007–09, and those in Europe during 2014–16, illustrate the important role of government fiscal capacity, as the prolonged period of status quo in fiscal practices was ultimately followed by drastic cutbacks, either in the form of a breakdown or decline in services, as in the U.S., or a debt crisis, as in Europe. Responding to Baumgartner et al.'s (2017) call for explanations of policy change beyond political factors, this study has provided a fiscal management perspective that calls attention to the strategic fiscal choices adopted by policymakers engaged in making and implementing policies.

Fiscal management practices in the public sector serve to improve fiscal capacity and accountability. These practices can explain a significant portion of the PE variations that are measured at the budgetary output level. We call for attention to be focused on providing a fiscal explanation through PET and on the roles of different policy stakeholders in the various fiscal processes. We emphasize a specific interest in understanding the ways that fiscal management may explain extreme spending gridlock or fluctuating trends. Budgetary outputs are affected by these fiscal management tools, as well as by the practices of fiscal management strategies that interest political stakeholders in the capital budgeting process, restricted-funding practices, and discretionary funding.

New capital spending projects clearly have increasingly become a focal point in legislative debates, and such debates may lead to gridlock, delays, stalemates, or uncertainties in funding. These results in turn may increase spending fluctuations, and consequently affect when and how additional and new services are provided. A complex capital budgeting process, combined with a smooth approval process for recurrent projects, suggests that the budgeting process is also one of reconciliation. In that reconciliation, information is used and interpreted, and decisions are made in an effort to reach a compromise position that protects existing political and fiscal interests while setting a relatively tough standard for new capital projects, which are sometimes used for grandstanding or symbolic political gain. This study calls for mindfulness in investigating the various types of spending in different fiscal processes and, more importantly, it calls for more attention to be paid to the new large capital projects that often dictate legislative agendas.

This research has several limitations. Methodologically, we employed a single case that has a specific sociopolitical context. The fiscal environment in Hong Kong, and especially the principle of fiscal conservatism described above, may not allow generalization to other countries. Another limitation is the lack of comprehensive coverage of certain other potential fiscal management strategies that could influence the punctuation patterns of budgetary output significantly. Debt financing and management, for example, are strongly associated with debt capacity, which has been a major culprit leading to recent fiscal crises in many governments. Other potentially important fiscal management strategies that could influence budgetary output patterns include investment management strategies and tax/charge rate choices, both of which have been blamed for several cases of municipal bankruptcy in the U.S.

Nevertheless, our research identifies a very important factor in explaining certain variations of budgetary outputs and the complexity involved in policy changes. The outcomes

of this research—the first attempt to employ a fiscal perspective to explain budgetary punctuations—should add significantly to a research agenda that has tended to be increasingly fiscal (Breunig & Koski, 2012; Jordan, 2003). Thus, it contributes to “the whole network of research and to the final synthesis” (Jensen & Rodgers, 2001, p. 239; Yin, 2003).

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Notes

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1. These figures are derived from *Hong Kong Estimates*, for various years. All nominal figures are adjusted by the Consumer Price Index (CPI). See Table 1 for more information.
2. The Hong Kong government has historically used various accounting standards in financial reporting. Accrual-basis accounting is available only after 2002 and does not contain enough data to test our hypotheses. This study thus used the cash basis to maintain consistency in reporting fiscal data.
3. This different finding deserves elaboration. Hong Kong was largely executive-led during this period, and the interest of the legislature is not as strongly demonstrated in capital spending. More importantly, although Hong Kong’s revenue is very vulnerable to the external economy, due to its high dependence on external economic factors, it has large fiscal reserves to maintain the stability of recurrent spending.

4. It is possible that an analysis of the total aggregate spending obscures the underlying distribution of changes at the level of individual spending categories. All of these individual (functional) expenditures are broken down by capital and recurrent spending in Table 1, and we further analyzed their distributions. It was found that all capital functional expenditures were leptokurtic, and were statistically different from a normal distribution, and that three functional recurrent expenditures (for education, health, and social welfare) showed normal distribution. This finding provides additional evidence at the individual spending level to support Hypothesis 1.
5. Additional tests, including the Shapiro-Wilk (W) test, the Shapiro-Francia (W') test, and the Kolmogorov-Smirnov test, were conducted for these three hypotheses and showed the same results.
6. Unlike the situation with capital budgeting, there has been little change in terms of legislative engagement in the regulation of restricted and entitlement funding in Hong Kong since the handover, so there is not enough variation in the data to test the two hypotheses (H2 and H3).

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Table 1: Budgetary Outputs by Fiscal Practice

Spending	Annual Growth Rate (Mean)	Annual Growth Rate (Standard Deviation)	Annual Growth Rate (Minimum)	Annual Growth Rate (Maximum)	Kurtosis	L-Kurtosis
1. Capital Spending vs. Recurrent Spending¹						
Recurrent (1976–2016)	0.06	0.05	-0.03	0.20	3.25	0.19
Capital/Non-recurrent (1976–2016)	0.10	0.35	-0.38	1.49	8.10***	0.31
Total (Recurrent + Capital/Non-recurrent, 1976–2016)	0.07	0.11	-0.12	0.47	7.10**	0.31
2. General Accounts Spending (Non-Restricted) vs. Fund Accounts Spending (Restricted)²						
General Accounts (1986–2014)	0.04	0.08	-0.13	0.22	3.32	0.21
Fund Accounts (1986–2014)	0.20	0.53	-0.32	1.98	6.64**	0.31
3. Discretionary Spending vs. Entitlement Spending³						
Discretionary–Housing (1976–2016)	0.14	0.59	-0.52	3.04	17.46***	0.50
Discretionary–Education (1976–2016)	0.06	0.09	-0.23	0.35	6.68**	0.33
Discretionary–Health (1976–2016)	0.08	0.09	-0.19	0.27	3.91	0.19
Discretionary – Security (1982–2016)	0.03	0.07	-0.08	0.22	4.37	0.17
Entitlement – Social Welfare (1976–2013)	0.09	0.08	-0.03	0.28	2.54	0.07

Notes: All spending data are adjusted by CPI. Spending figures for 2016 are revised estimates, and all other figures are actual spending.

*, **, ***: the values of Kurtosis are statistically significantly different from those of a normal distribution at the level of 5%, 1%, and 0.1% significance, respectively.

Sources: 1: *Hong Kong Annual Yearbook*; 2: *Hong Kong Estimates* and the Treasury of Hong Kong (<http://www.try.gov.hk/index.html>); 3: *Hong Kong Annual Yearbook*.

Table 2: Cases of Budgetary Filibustering in Hong Kong History

Year	Areas	Case Title	Budget filibustered (million HKD)	Delay Days	Proposing Parties
2009	Transportation	Shenzhen-HK Railway	66,906.00	30	Pan-Democrats
2012	Social Welfare	Old Age Living Allowance	100.00	43	Pan-Democrats
2012	Administrative Restructuring	Reorganization of Government	63.00	16	Pan-Democrats; Pan- Establishment
2012	Administrative Restructuring	Innovation and Technology Bureau	22.00	1,249	Pan-Democrats
2013	Security	Kowloon East Police Headquarter	2,850.00	1,061	Pan-Democrats
2013	Social Welfare	Sichuan Disaster Relief	3,089.00	10	Pan-Democrats
2014	Environment	Northeast New Territories Landfill Extension	7,318.00	56	Pan-Democrats
2014	Environment	Southeast New Territories Landfill Extension	1,993.00	56	Pan-Democrats
2014	Environment	West New Territories Landfill Extension	37.00	56	Pan-Democrats
2014	Transportation	Heung Yuan Wai Boundary Control Point	8,720.00	45	Pan-Democrats
2014	Housing Development	Sunny Bay Reclamation Site Formation and Engineering	101.00	45	Pan-Democrats
2014	Economic Development	Infrastructure Works at Kwu Tung North and Fan Ling North	341.00	101	Pan-Democrats
2014	Economic Development	Artificial Island in Central Waters	227.00	243	Pan-Democrats
2014	Waste Management	Organic Waste Treatment Facilities, Phase 1	1,533.00	91	Pan-Democrats
2014	Waste Management	Development of integrated Waste Management Facilities, Phase 1	19,204.00	56	Pan-Democrats

Year	Areas	Case Title	Budget filibustered (million HKD)	Delay Days	Proposing Parties
2015	Transportation	HKZM Bridge	5,461.00	242	Pan-Democrats
2016	Housing Development	Tai Po Infrastructure Development	1,147.00	94	Pan-Democrats; Pan-Establishment
2016	Economic Development	Wang Chau Development Project	1.22	34	Pan-Democrats

Notes: Filibuster cases are defined as the use of irregular or obstructive tactics by a member of a legislative assembly to prevent the adoption of a measure that is generally favored or to force a decision against the will of the majority. The use of the filibuster to delay debate or block legislation has a long history. The term filibuster, from a Dutch word meaning “pirate,” became popular in the United States during the 1850s, when it was applied to efforts to hold the Senate floor in order to prevent action on a bill. For more information, refer to:

<https://www.senate.gov/reference/Index/Filibuster.htm>.

Sources: <http://www.legco.gov.hk/index.html>.

Table 3: Democratization and the Change of Budget Patterns

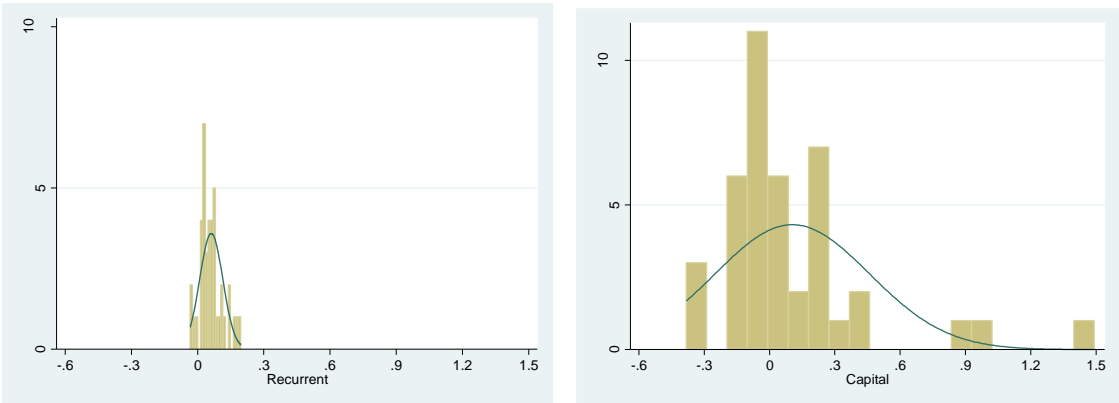
Expenditures	Before 1997 (1976–1996)		After 1997 (1997–2016)	
	K	L-K	K	L-K
Total	6.61**	0.38	4.70*	0.31
Recurrent	2.46	0.11	2.83	0.23
Capital	4.76*	0.28	10.25**	0.40

Note: K=kurtosis, L-K=L-kurtosis.

*, **: the values of Kurtosis are statistically significantly different from those of normal distributions at the level of 5%, and 1% significance, respectively.

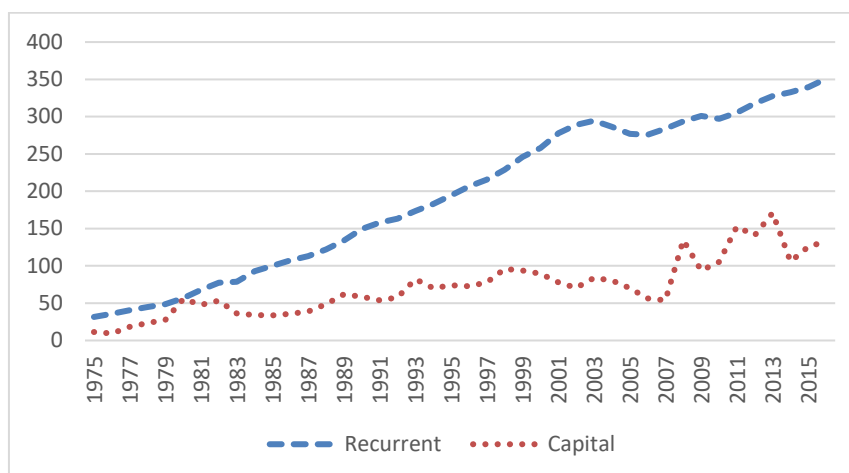
Sources: *Hong Kong Annual Yearbook*, 1976–2016.

Figure 1: Annual growth comparison: Recurrent vs. capital spending



Notes: For recurrent annual growth rates: N=41, K=3.25, L-K=0.19; for capital annual growth rate: N=41, K=8.10, L-K=0.31.
Sources: *Hong Kong Annual Yearbook*, various years (1976–2016).

Figure 2: Recurrent and capital spending, 1975–2016 (billion)



Notes: All data are actual spending figures (except figures for 2016, which are revised estimates) and are adjusted by CPI.

Sources: *Hong Kong Annual Yearbook*, various years.