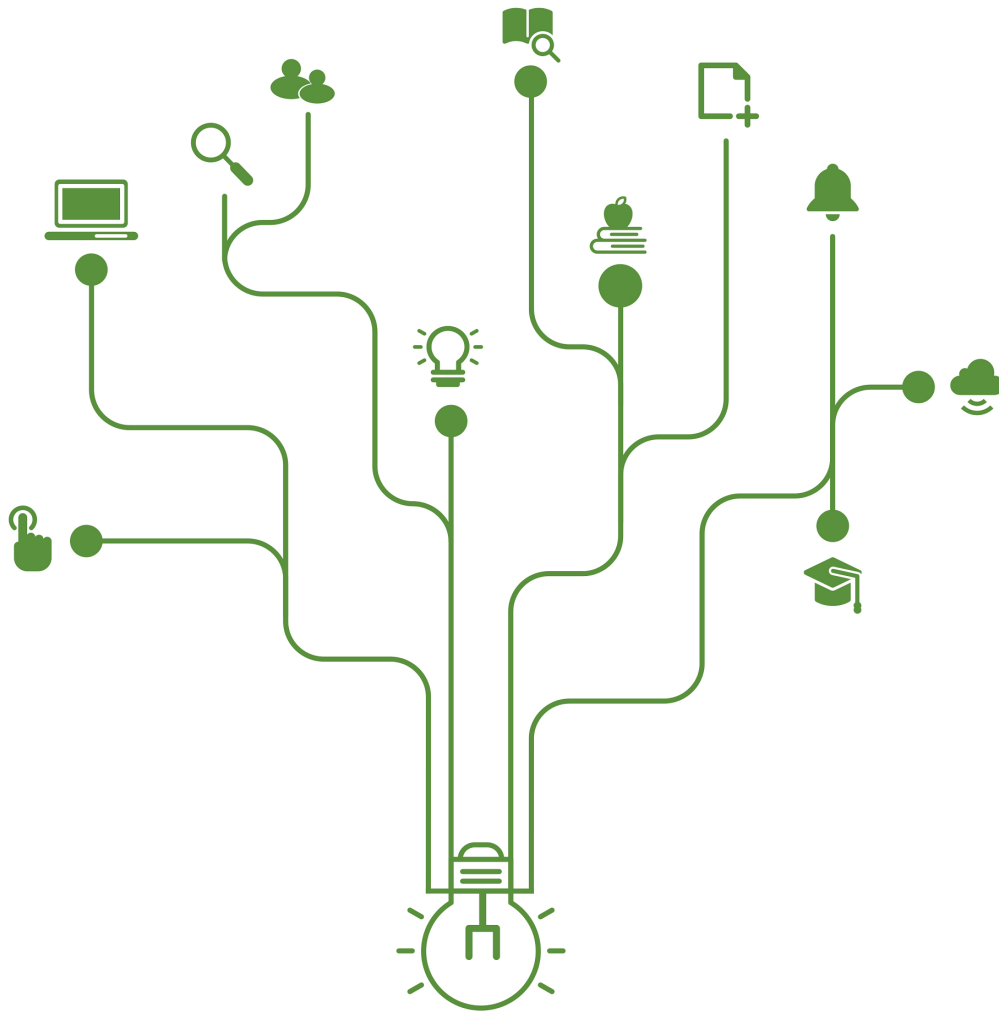


Budgetary Punctuations: A Fiscal Management Perspective

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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 that those procedures have 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 which lead to friction in greater detail” (Baumgartner et al, 2009). This research examines how budgetary output patterns are influenced by fiscal strategic choices made by governments. We find significant deviations of budgetary output patterns in capital projects, restricted funds, and entitlement spending, thus signifying the influence of fiscal management practices on resource allocation decisions. Furthermore, we empirically associate spending punctuation patterns with the growing democratic institutional development in Hong Kong. By examining legislative filibuster cases related to capital projects, we found evidence associating democratization with greater institutional frictions and consequently with larger budgetary output punctuations.

Keywords

budgetary punctuation, fiscal management, fiscal capacity building

Introduction

The research on punctuated equilibrium theory (PET) has established that policy changes are more pronounced in the budgetary output phase, as the result of frictions created by competing institutional forces (Baumgartner et al, 2009; Lam and Chan, 2015), compared with the political input and policy processes, in which rival interests exhibit fewer frictions and a lower stakeholder engagement. Although the empirical evidence and theory behind this observation seem strongly in support of a greater punctuation pattern, including evidence from a study of multiple nations (Baumgartner et al, 2009), the issue lacks a detailed description of how this could happen.

It has been established that human cognitive capacities and institutional arrangements, more saliently demonstrated in Western-style democracies, are expected to create policy-making barriers or checks and balances among individuals and groups, through various communication systems and institutional structures, thereby leading to “organizational frictions” at the policy-making 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 should answer the question of how the bureaucratic processes lead to institutional frictions that cause variations in budgetary output. This research addresses that question.

The fiscal policy in Hong Kong 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 popular in modern economies (Tang, 1997). Meanwhile, its evolution from an administrative regime under British colonial rule to a semi-democratic region with democratic institutions being formulated to represent diverse societal interests provides a natural and social experiment that allows us to observe how institutional forces are formed to create frictions that influence budgetary outputs (Fong, 2017; Wong, 2017).

The existing literature makes broad-brush political reference to bureaucratic forces and procedures, with little effort to distinguish 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 should benefit from a better understanding of how fiscal practices—such as approval, monitoring, and assessment of public funds—are implemented to influence budgetary outputs. As Baumgartner et al (2017: 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 follow that suggestion in designing this research to explore the following question: How does fiscal management affect budgetary outputs? We present several hypotheses concerning that effect, and we provide some beginning evidence about those hypotheses. However, our goal is not to provide definite proof of the hypotheses, but instead to stimulate further ideas on how fiscal processes may work, within the political structure, to influence budgetary output patterns and policy agenda setting. Following the guidance of Jones and Baumgartner (2012), we seek to add value to a theoretical framework by stimulating new ideas or research rather than by proving whether it is right or wrong.

Fiscal Management and Budgetary Outputs

The studies to date on budgetary punctuations in the PET context are fruitful. In addition to the evidence that government spending in various countries is in line with the PET propositions, instead of incrementalism (John and Margetts, 2003; Princen, 2013; Benson and Russel, 2015; Fowler et al, 2017; Boushey, 2012; Cairney, 2013), there have been assertions and evidence that punctuations are caused by political and institutional factors such as political ideology, gubernatorial power, institutional performance, and democratization (Breunig, 2006; Breunig and Koski, 2009; Rey et al, 2015; Chan and Zhao, 2016; Baumgartner et al, 2017; Flink, 2017).

Despite these developments in studying punctuation patterns, research is lacking on how the patterns happen--that is, on specific mechanisms that lead to punctuations--as was stated earlier in 2009 by Baumgartner et al. and was reinforced more recently by Hegelich et al (2015). More specifically in terms of this research, although PET relies heavily on budgetary data, there is yet empirical research that links punctuated equilibrium (PE) to the general theories and practices in fiscal management. To a large extent, the PET literature, with its recent examinations of the institutional contributing factors applied in Western democracies, mirrors political behaviors at the policy formulation stage, whereas fiscal implementation issues that could also lead to variations in budgetary outputs are largely left unexamined.

Financial management stands at the heart of resource management in all governments and broadly influences the capacity of governments to provide services, manage transparently, and ensure stability (Andrews, 2010). Fiscal issues can contribute to

budgetary outputs through fiscal policy making (e.g., choices of spending priorities) and/or fiscal policy implementation capacity (e.g., capital project financing). Policy choices are made with consideration of the fiscal constraints placed on governments. There are two broadly defined and interrelated aims of financial management in the public sector—fiscal accountability and fiscal capacity building for service. The public sector serves a broad range of stakeholders, in the form of taxpayers and service recipients, who have vital interests in the fiscal conditions of governments. Meanwhile, needs for fiscal accountability often translate into (or reflect) calls for strengthening or adjusting fiscal capacity to provide better services.

According to the literature on capacity building (Wang and Berman, 2001; Wang et al, 2012), policies are made with reciprocal consideration of fiscal capacity and implementation strategies, and in so doing they reflect the use of various fiscal management instruments in fiscal condition monitoring and assessment. In this literature, a capacity gap is identified between the expected outcome of a proposed policy and the institutional capacity for its success in implementation, and that gap forms the fundamental need for implementation capacity building. For an institution to survive in competing for resources for its policy success, it develops policy implementation strategies that are manifested in using various fiscal instruments. In that sense, capital budgeting, earmarking, and the use of funds in resource management all reflect such efforts in building fiscal capacity.

In what ways does fiscal capacity building influence PE? Politics is critical in both policy making and implementation capacity building. However, unlike the institutional contextual approach that explains bureaucratic preferences in response to political designs and their dynamics of institutions, the capacity-building approach emphasizes the resources needed for policy implementation as being the key for policy success, arguing that policy outcome is determined by the effective use of financial resources, in conjunction with technical expertise in applying the resources and with project execution capacity (Whitford, 2007). This approach includes addressing financial management concerns that require specific and highly skillful technical maneuvers in financing that could lead to various budgetary outputs.

Fiscal management strategies are broadly defined in this research as being institutional choices of mobilizing financial resources intended to achieve long-term institutional goals. Various strategies can be developed to serve fiscal goals in accountability and capacity building, and to facilitate efficient financial operations. All fiscal strategic choices made, as well as fiscal instruments used, should affect budgetary outputs (John and Margetts, 2003).

This research addresses major fiscal strategies 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. Such strategies include capital financing, use of restricted funds, and entitlement financing.

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

Capital budgeting is defined differently in different fiscal settings. Nevertheless, a commonly accepted notion, probably arising as the result of practical concerns in challenging the practices of financing and management, 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 the relatively minor costs of planning travels. There are several key features of capital budgeting practices that could significantly alter the behaviors of a government and therefore affect budgetary outputs, as demonstrated in PE.

Capital projects, because of their impactful consequences and sometimes symbolic meaning, often attract the attention of stakeholders and therefore become the center of political debates that could lead to compromise but might also cause stalemate and gridlock in policy making. Budgetary strategies, played out by legislators and bureaucrats, can result in significant scale-down or boosting 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 has to 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. As the difference between capital and operating (recurrent) spending is specified by Mortensen (2005), in this research we hypothesize that

- *H1: Budgetary spending punctuates differently in capital funds than it does in operating (recurrent) funds.*

Funding restrictions are placed by governments to protect fiscal resources in case of fiscal emergencies, limited funding sources, and fiscal mandates. Restrictions are realized through earmarking and entitlement financing—restricted funds that are increasingly popular

(Wang, 2014). Restrictions placed on funding suggest that the spending patterns for restricted funds differ from those for unrestricted funds.

This study looks into two specific funding restrictions. First, restrictions can be placed to regulate the spending purpose of a fund by identifying a specific funding designation. For example, a fund can be established for hurricane relief efforts only. By restricting the funding purpose, the fund protects the resources that should be allocated to this specific designation. Although such limits could lead to more disciplined spending behaviors, restrictions themselves could also mean that the funding follows its own paths set aside by the restriction and evades certain rules governing general or governmental spending. For example, businesslike activities (water and wastewater treatment, for example) could be funded and accounted for in an enterprise fund, in the US state or local governments, that is governed by accounting/reporting rules different 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, often associated with the intent to break even, may lead to riskier investment spending behaviors. In this study, we hypothesize that

- *H2: Budgetary spending punctuates differently in restricted funds than it does in nonrestricted funds.*

The second spending restriction concerns financial efforts to regulate funding through funding schemes mandated by laws or regulations. In those circumstances, restrictions are not placed on fund purposes, but rather on rulings that regulate spending behaviors. One example of such restrictions is the entitlement spending in the US federal government, which is approximately two-thirds of the total federal spending (National Priorities Project, 2015). While discretionary spending indicates a certain degree of spending freedom in budgetary maneuvering, and that freedom could cause greater over-year fluctuations, mandatory spending fluctuates less because of restrictions that dictate compliance with the spending laws. Thus, mandatory spending may see changes in spending directions due to changes in the laws (True, 2000). Although different terms were used in the literature, studies have found that non-allocational/discretionary spending is subject to more debate and higher punctuations than allocational categories are (Breunig and Koski, 2012). With these factors, we further hypothesize that budgetary outputs are associated with fiscal management in the following fashion.

- *H3: Budgetary spending punctuates differently in entitlement spending than it does in discretionary spending.*

Hong Kong Fiscal Practices

The Hong Kong government implements modern fiscal practices under a fiscal tradition that is prudent in spending philosophy and reactive in responding to socioeconomic circumstances (Tang, 1997; Cheung, 2009). As does any modern government, the Hong Kong government executes all of the fiscal management strategies mentioned above, and establishes a process to assess new capital projects. The process, known as a 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 those 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 Financial 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, instead of borrowing, to finance its capital projects through the existing funds (normally known as the general revenues). That financing method is possible because the government maintains a significant level of reserves and a fund balance, reflecting a fiscal-prudence principle that is a tradition inherent from the colonial time (Hong Kong Government, 2016). Clearly, the availability of a large fiscal cushion makes financing of large capital projects possible without resorting to the controversial and tedious process of borrowing, as is seen in many other governments. PAYGO financing and abundant fiscal reserves make it possible to finance large, expensive capital projects with fewer direct up-front costs. Consequently, PAYGO could make it more likely for a government to spend on capital projects than it would with the borrowing approach, which surely incurs long-term financial liabilities.

In addition to the PAYGO approach and the presence of 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 by financial transactions, is used to finance the Public Works Projects and the acquisition of land. 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. The share of these funds relative to the total governmental expenditure was approximately 25 percent, on average, from 1986 to 2014, thereby reflecting the significant role of restricted funds in fiscal

management in Hong Kong.¹⁾ In addition to the fiscal-prudence approach and to the large budgetary surpluses, fiscal policies and practices in Hong Kong are also influenced by the democratization process, which has seen a legislature more willing to exert influence over policies and spending priorities in response to the needs of political constituencies (Ma 2016; Fong, 2014; Scott, 2010).

Data and Methods

The budgetary outputs measured in this study follow the tradition in the PET literature, in which the patterns of budget punctuations are the frequencies 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 the normal probability distribution of spending changes. Researchers studying PET use kurtosis values of annual expenditure growth rates to create a measure of budget punctuations (Breunig, 2006; Breunig and Koski, 2009; John and Margetts, 2003; True, 2000). Kurtosis measures the shape of the peakedness of the probability distribution. A higher kurtosis value indicates more large-scale budget changes and reflects a probability distribution with more larger and smaller changes and fewer medium-sized changes than are seen in a normal probability distribution (i.e., tall peak, lean shoulders, and fat tails). In this research, a more robust and reliable form of kurtosis, L-kurtosis, was used as well (Breunig and Jones, 2012; Chan and Zhao, 2016; Fagan et al, 2017). Moreover, because kurtosis measures the shape of the 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 because of their availability in the fiscal management measures needed for this research. 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). Expenditure data employed in this research, 1976 to 2016, were mainly compiled from four sources: Hong Kong Annual Yearbook, Hong Kong Estimates, Hong Kong Annual Digest Statistics, and the website of the Treasury. Actual spending data are extracted from these sources. From the fiscal management perspective, actual spending data are always a better

These figures are derived from Hong Kong Estimated, various years. All nominal figures are adjusted by the Consumer Price Index (CPI). See Table 1 for more information.

measure of spending patterns than budgetary data, because expenditures reflect fiscal conditions and activities more accurately (Wang, 2014).

The analysis employed a quantitative method and supported the findings with a qualitative case study of budgetary filibustering, thereby forming a mixed method such as that recommended by Gerring (2007). Unlike most PET studies that use quantitative methods to detect punctuation patterns, the mixed method also examines how punctuations happen and thus is a more in-depth research exploration that 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 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, with the intent to explain how new capital projects are debated and legislated and thus to reveal what leads to the punctuation patterns for capital projects being significantly different from those of total budgetary outputs.

Findings

Budgetary Outputs

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
<i>1. Capital Spending vs. Recurrent Spending</i> ¹						
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
<i>2. General Accounts Spending (Nonrestricted) vs. Fund Accounts Spending (Restricted)</i> 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

Spending	Annual Growth Rate (Mean)	Annual Growth Rate (Standard Deviation)	Annual Growth Rate (Minimum)	Annual Growth Rate (Maximum)	Kurtosis	L-Kurtosis
3. Discretionary Spending vs. Entitlement Spending ³						
Discretionary—Housing (1976-2013)	0.14	0.60	-0.52	3.04	16.59***	0.50
Discretionary—Education (1976-2013)	0.06	0.09	-0.23	0.35	6.47***	0.34
Discretionary—Health (1976-2013)	0.08	0.09	-0.19	0.27	4.39*	0.20
Discretionary – Security (1982-2013)	0.03	0.07	-0.08	0.22	4.33*	0.19
Entitlement – Social Welfare (1976-2013)	0.09	0.08	-0.03	0.28	2.44	0.06

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

The results in Table 1 show that spending, as measured by kurtosis and L-kurtosis values, fluctuates much more 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 the normal distribution, while that for the recurrent account (3.25) does not. The punctuation of total expenditures (capital plus recurrent), which has a very high L-kurtosis value (0.31) as well, may reflect the pattern in capital spending. That suggests the need to explore spending punctuations beyond the total expenditures, to gain an in-depth understanding of budgetary punctuations.

The value of L-kurtosis for restricted-fund accounts (L-K=0.31) is significantly greater than that of the nonrestricted general account (L-K=0.21), providing evidence that special-purpose funds, existing outside of the normal budgetary appropriation process and monitoring practice, are subject to greater changes. Similarly, discretionary spending appears to punctuate more than entitlement spending does. The Hong Kong budgetary system does not directly provide information for entitlement and discretionary spending categories. Nevertheless, the system produces information on spending by programs and spending functions, and that information shows that the programs in the Social Welfare Department follow certain spending formulas. These programs, including the Comprehensive Social Security Assistance (CSSA) Scheme, the Social Security Allowance (SSA) Scheme, the Old

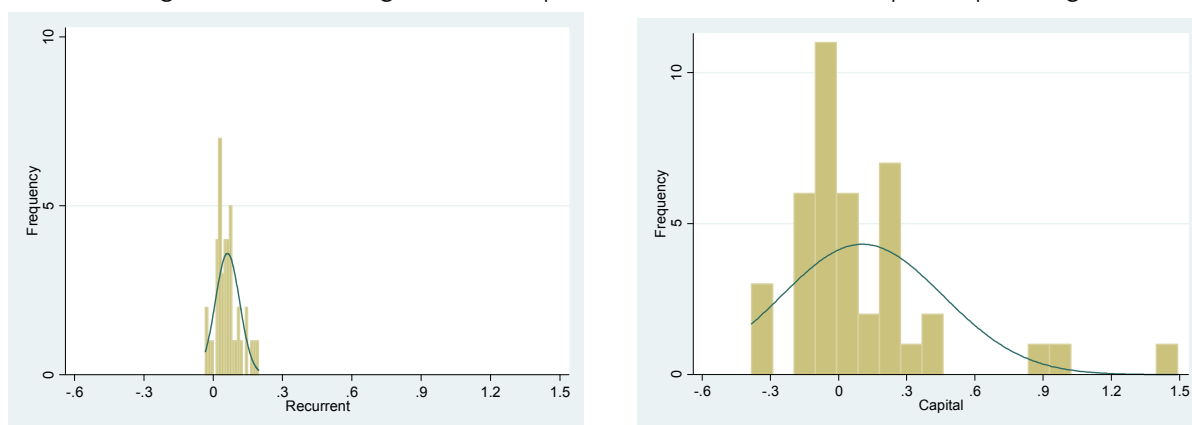
Age Living Allowance (OALA), are classified as “Social Security” and account for approximately 70 percent of social welfare spending (e.g., 52,109 of 72,151 million or 72.2% in 2017-18 budget year (Social Welfare Department, 2017).

These findings provide supporting evidence for the hypotheses of this research, which postulate that budgetary outputs punctuate differently in capital project accounts than they do in recurrent spending, differently in restricted funds than in general funds, and differently in discretionary spending than in entitlement spending. The following section attempts to present a rationale for why those differences occur, by examining the case of capital spending.

Why the variations? The case of capital spending

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

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



Sources: Hong Kong Annual Yearbook, various years (1976-2016).

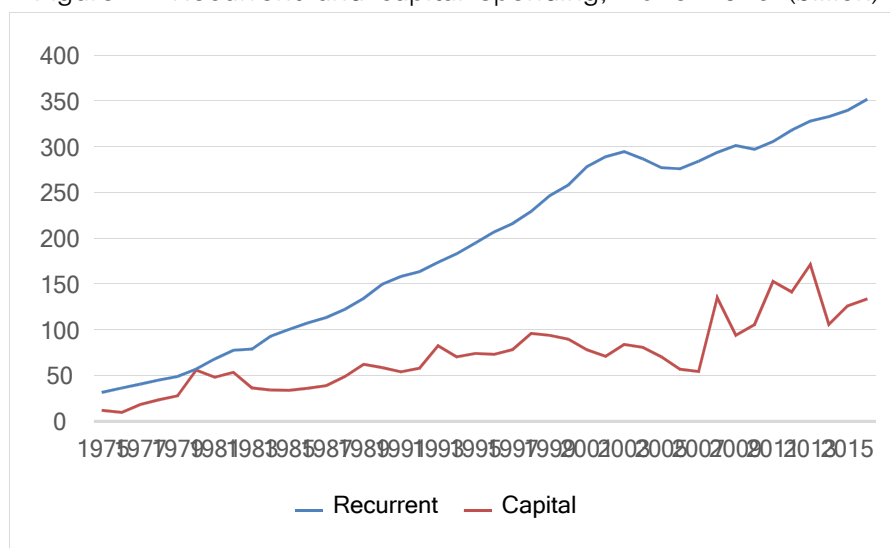
Notes: For recurrent annual growth rates: $N=41$, $K=3.25$, $L-K=0.19$; for capital annual growth rate: $N=41$, $K=8.10$, $L-K=0.31$.

Why does capital spending punctuate differently from recurrent spending? The observation that new capital spending becomes significantly more punctuated suggests that different policy strategies may be employed in the legislative process. Hong Kong has been

experiencing a gradual democratization since the 1980s, from a tightly controlled administrative state under British colonial rule, to a quasi-democratic region with a fully elected legislature and blooming civic institutions and engagement, although such development has been slow (Lam et al, 2007; Ma, 2007). The community’s increasingly differing views on policy directions and service priorities, in general, are often reflected in the legislative budgetary proceedings, with the so-called pro-establishment legislators supporting a further economic consolidation with mainland China and the opposing pan-democratic faction advocating a populist agenda that focuses on social services (Scott, 2010: 160). Most of the primary examples that demonstrate this political chasm can be seen in budgetary debates on large, expensive, far-reaching capital projects that symbolize political positions much more saliently than recurring operating spending does.

As is shown in Figure 2, recurrent spending grew smoothly and gradually most of the time, with a slight reduction during 2003 and 2007, whereas capital expenditures have fluctuated more, in comparison, particularly after 2007.

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.

The Basic Law, the Hong Kong 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 a process separate from the one 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 the capital projects that have been filibustered in the history of the Hong Kong Legislative Council. Of 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. Fiscal Year 2014 saw nine cases, the largest number ever. Of the 18 cases we studied, 16 (89 percent) were orchestrated by the pan-democrats, the opposition party in the Legislative Council. The budgets being filibustered totaled HK \$119.1 billion (US \$15.2 billion). More than half of the projects (10 of the 18 projects, or 56 percent) concerned infrastructure development, which supports the long-standing allegation that pan-democratic legislators, believed to be rooted in populism, would prefer to vote against infrastructure projects and would instead favor social welfare projects (Scott, 2010: 160). On average, the projects were delayed for 196 days.

Filibustering can cause greater spending fluctuations and punctuations. Delays in capital spending during one year can only add pressure to spend more in subsequent years, with the result of increasing project costs and combining 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 spending in the future years, as the need for capital spending compounds. Longtime, chronic delays in capital spending, which have been seen increasingly since 2007, build pressure for a sudden spending increase in subsequent years, thus causing greater spending punctuations. That effect was reflected in fiscal year 2014, when the amount of the budget being filibustered totaled 39 percent of the total capital budget that year. As is shown in Figure 2, a large reduction in capital spending between 2013 and 2014 served very well as a prelude to a sharp increase in 2015 and 2016 (the latest data available), again indicating that filibustering contributes to spending punctuations.

Table 2: Cases of Budgetary Filibustering in Hong Kong History

Year	Areas	Case Title	Budget filibustered (million in HKD)	Delay Days	Proposing Parties
2009	Transportation	Shenzhen- HK Rail Way	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	101.00	45	Pan-Democrats
2014	Economic Development	Site Formation and Engineering 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
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 generally favored or to force a decision against the will of the majority. Using 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>.

Hong Kong has experienced a gradual democratization process since the 1980s. Following the handover in 1997, the territory has seen an increasing legislative engagement, and it has also adopted administrative changes that exposed bureaucratic processes to political conflicts and public scrutiny (Lam and Chan, 2015). With a more independent Legislative Council and the development of political parties, the budgetary process has evolved from a mere bureaucratic game to a situation of dynamic politics within the legislative arena (Fong, 2015; Cheung, 2009: 11). Thus, the budgetary process is characterized by various political actors competing for financial resources (Fong, 2014: 144). Table 3 compares spending punctuations before and after the handover. Confirming the results from Lam and Chan (2015), spending in the post-handover period has

punctuated less, but only at the total spending level (0.38 vs. 0.31 for L-K). At the capital-spending level, the result is the opposite, and the suggestion 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 information flows for service demands more efficiently, for less drastic policy changes and smoother budgetary punctuations (Baumgartner and Jones, 2015; Chan and Zhao, 2016; Lam and Chan, 2014), it may also create gridlock, especially in large capital projects, and that may lead to more fluctuations in capital spending. This finding calls for a more nuanced analysis of the relationship between democracy and budgetary outputs.

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

Sources: Hong Kong Annual Yearbook, 1976-2016.

Note: ***: 1%, **: 5%. K=kurtosis, L-K=L-kurtosis.

Discussion

First, the development of fiscal capacity, which is ingrained in policy-making and implementation processes, inevitably influences the patterns of budgetary outputs over time. Continual and sequential policy stages in policy cycles are interrelated, in that the debate and formulation of a policy is inevitably constrained by the institutional capacity for implementation, and, in this case, by fiscal capacity. As measured by budgetary outputs, greater policy changes are observed in funding new capital projects, restricted-fund projects, and discretionary projects, compared with the funding of recurrent spending projects, unrestricted-fund projects, and entitlement projects, respectively. This observation adds to the PET literature by providing a fiscal management perspective that calls attention to the fiscally strategic choices involved in policy-making and implementation. The fiscal crises in the US during 2007-2009, and those in Europe during 2014-2016, illustrate the important role of the fiscal capacity of a government, as demonstrated by a prolonged period of status quo in fiscal practice, which ultimately was followed by drastic cutbacks, either in the form of a breakdown or decline in services, as in the US, or of debt crisis, as in

Europe.

Second, attention should be focused to examine the role of capital spending in budgetary output patterns. Capital spending can fluctuate significantly more than recurrent spending and total spending do. Capital spending, with its substantial impact and sometimes pivotal symbolism, is an arena for policy battles that can lead to significant policy changes. Capital projects need to go through a careful planning and assessment phase that requires bureaucratic justification of the demand, the need, the fiscal feasibility, and the impact. Legislators may choose to engage in the planning process, as is shown here in the filibuster case. In the tax-averse era of today, difficulty in financing has led many governments to resort to debt in order to finance capital projects, and that choice increases the complexity of financing and creates financial burdens for future generations. Over-borrowing also challenges a government's capacity to maintain its financial solvency. On the other hand, if a government chooses to finance projects from current funds, as the Hong Kong government has done, it may have to face the consequences of unequal sharing of the tax burden, an unsustainable trend of tax rate changes, and, as evidenced by this research, greater spending punctuations.

Third, budgetary output patterns are also partly the outcome of restricted funding practices in which funds are increasingly placed in a restricted way in public budgeting systems, in order to protect funding sources, grow fiscal capacity for specific service areas, and regulate resource use. There are two types of restrictions in fund accounting. Funds could be developed to handle so-called businesslike activities that could require an outcome of fiscal breakeven. The special nature of these activities suggests that they are more susceptible to market forces and business cycles. 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 of quasi-government funds are made with an investment board that is normally not subject to governmental regulations. As the proportion of restricted funding reaches 25 to 30 percent of total government spending in Hong Kong, and 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 much different from that in governmental fund or general fund activities.

Other restrictions in funding include 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 governmental activities, and those rules may lead to policy changes and budgetary outcomes that are different from governmental activities.

Finally, budgetary output patterns should also be examined in connection with the decline in the share of discretionary spending in budgets. Discretionary spending, in theory, is the result of fiscal policy choices, not the outcome of the fiscal capacity-building process. Nevertheless, discretionary services allow a government greater flexibility in setting spending priorities and levels. With an increasingly aging population in many advanced economies (HK included) and a greater 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, and 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.

Conclusion

Fiscal management in the public sector serves to improve fiscal capacity and accountability. This research accentuates the role of fiscal management practices in PET. 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 the role of a fiscal theory in PET, and 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 for fiscal accountability strategies that interest the political stakeholders in the capital budgeting process, the restricted-funding practices, and discretionary funding.

New capital spending projects clearly have become more of a focal point in legislative debates, and such debates may lead to gridlock, delays, stalemates, or uncertainties in funding. Those results in turn may increase spending fluctuations, and consequently, may affect when and how additional and new services are provided. A more difficult capital budgeting process, combined with a much smoother 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 to reach a compromise position that protects the existing political and fiscal interests, while it sets a tougher standard for

new capital projects, which are sometimes used for grandstanding or symbolic political gain. The research calls for mindfulness in understanding the variations in the different types of spending, and more importantly, it calls for increased attention to be paid to the new large capital projects that often dictate the legislative agendas.

A clear limitation of this study is the lack of comprehensive coverage of certain other potential fiscal management strategies that could also significantly influence budgetary output punctuation patterns. 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 US. Nevertheless, our research identifies a very important factor in explaining variations of budgetary outputs and the complexity in understanding policy changes.

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