



Shifting Priorities: Participatory Budgeting in New York City is Associated with Increased Investments in Schools, Street and Traffic Improvements, and Public Housing

Carolin Hagelskamp , Rebecca Silliman , Erin B. Godfrey & David Schleifer

To cite this article: Carolin Hagelskamp , Rebecca Silliman , Erin B. Godfrey & David Schleifer (2020): Shifting Priorities: Participatory Budgeting in New York City is Associated with Increased Investments in Schools, Street and Traffic Improvements, and Public Housing , New Political Science, DOI: [10.1080/07393148.2020.1773689](https://doi.org/10.1080/07393148.2020.1773689)

To link to this article: <https://doi.org/10.1080/07393148.2020.1773689>



Published online: 16 Jul 2020.



Submit your article to this journal [↗](#)



Article views: 58



View related articles [↗](#)



View Crossmark data [↗](#)

ARTICLE



Shifting Priorities: Participatory Budgeting in New York City is Associated with Increased Investments in Schools, Street and Traffic Improvements, and Public Housing

Carolyn Hagelskamp^a, Rebecca Silliman^b, Erin B. Godfrey^c, and David Schleifer^b



^aBerlin School of Economics and Law, Berlin, Germany; ^bPublic Agenda, New York City, NY, USA; ^cApplied Psychology, New York University, New York City, NY, USA

ABSTRACT

In participatory budgeting (PB), residents instead of public officials decide how public money is spent. PB may reveal that residents prioritize different investments than public officials, which could lead to more socially just spending. However, little research has examined whether and how PB shifts spending priorities. This study leverages publicly available records on New York City council districts' capital project allocations over ten years (2009 through 2018), comparing spending within and across PB and non-PB districts. Multi-level regression models show that, on average, when council districts adopted PB, greater proportions of their discretionary capital budgets were allocated to schools, streets and traffic improvements, and public housing. PB was associated with decreases in spending on parks and recreation projects and housing preservation and development projects. The article shows that priorities shift when residents are directly involved in budgeting. Implications for equity and community well-being, and directions for future research are discussed.

Introduction

In participatory budgeting (PB), residents, rather than public officials, decide how public money is spent. Since 1989, when the first PB process began in Brazil, this form of direct participatory democracy has grown around the world.¹ While it takes many forms, in all PB processes, ordinary residents are directly involved in identifying and voting on budgeting priorities. Such increased public control should theoretically result in measurable shifts in spending priorities. In particular, PB should prioritize different policy areas and projects compared to conventional budgeting. This is because PB allows

CONTACT Carolyn Hagelskamp  carolin.hagelskamp@hwr-berlin.de  Department of Public Administration, Berlin School of Economics and Law, Alt Friedrichsfelde 60, 10315 Berlin, Germany.

¹Gianpaolo Baiocchi and Ernesto Ganuza, "Participatory Budgeting as If Emancipation Mattered," *Politics & Society* 42:1 (2014), pp. 29–50; Brian Wampler, Stephanie McNulty, and Michael Touchton, "Participatory Budgeting: Spreading Across the Globe" (Miami University, Boise State University, Franklin & Marshall College, 2018), available online at: <https://www.transparency-initiative.org/uncategorized/2626/participatory-budgeting-spreading-across-globe-2/>; Nelson Dias (ed.), *Hope for Democracy – 25 Years of Participatory Budgeting Worldwide* (São Brás de Aportel, PT: In Loco Association, 2014) available online at: <https://estudogeral.sib.uc.pt/bitstream/10316/42325/1/Paying%20attention%20to%20the%20participants%20perceptions%20in%20order%20to%20trigger%20a%20virtuous%20circle.pdf>.

budgeting decisions to be aligned with residents' knowledge of local conditions and preferences for public investments, to which public officials may not have access or be less committed when budgeting decisions are theirs alone.²

Shifts in spending priorities associated with PB should impact the distribution of public goods and community well-being. Greater reliance on local knowledge should mean resources are allocated more *effectively* toward public goods and services that residents deem important for their well-being. Public funds should also be distributed more *efficiently* because PB makes budgeting more transparent and holds officials more accountable, thus expediting the impact of public investments on community well-being.³ Finally, PB processes that successfully elevate the needs of disadvantaged communities should result in more *equitable* public investments, helping to fulfill social justice and equity goals in areas such as education, health, employment and safety.⁴

To date, however, there is little quantitative research on whether and how PB has shifted public spending priorities, or made public investments more equitable or socially just.⁵ Exceptions are studies concerning Brazil, where the adoption of PB has been associated with increased spending on basic health services and sanitation, which in turn has been linked to decreased infant mortality.⁶ These analyses constitute essential tests of the promise that PB can shift budget allocations and lead to more socially just outcomes. However, they are not easily generalizable across different implementations of PB or to other political and economic contexts, such as wealthier and generally more stable democracies in the Global North.⁷

In the United States (US), where the first PB process began only in 2009, research has focused largely on questions concerning implementation quality and resident participation.⁸ One study has, however, examined geographic shifts in budget allocations associated with PB in New York City (NYC) council districts. After implementing PB over several years, districts started allocating larger proportions of their discretionary capital funds to lower (yet not the lowest) income neighborhoods than comparable non-PB

²Brian Wampler, "A Guide to Participatory Budgeting," in *Participatory Budgeting* (ed.), Anwar Shah, Public Sector Governance and Accountability Series (Washington, DC: World Bank Publications, 2007), pp. 21–54.

³Sónia Gonçalves, "The Effects of Participatory Budgeting on Municipal Expenditures and Infant Mortality in Brazil," *World Development* 53 (2014), pp. 94–110.

⁴Archon Fung, "Putting the Public Back into Governance: The Challenges of Citizen Participation and Its Future," *Public Administration Review* 75:4 (2015), pp. 513–22; Baiocchi and Ganuza, "Participatory Budgeting as if Emancipation Mattered". Brian Wampler, "Participatory Budgeting: Core Principles and Key Impacts," 8: 2 (2012).

⁵Mhairi Campbell et al., "The Impact of Participatory Budgeting on Health and Well being: A Scoping Review of Evaluations," *BMC Public Health* 18: (2018), pp. 1–11.

⁶Wampler, McNulty, and Touchton, "Participatory Budgeting: Spreading Across the Globe"; Gonçalves, "The Effects of Participatory Budgeting on Municipal Expenditures and Infant Mortality in Brazil"; Michael Touchton and Brian Wampler, "Improving Social Well-Being Through New Democratic Institutions," *Comparative Political Studies* 47:10 (2014), pp. 1442–69.

⁷Matt Leighninger and Chloe Rinehart, *Brazil Has Reduced Inequality Incrementally – Can We Do the Same? Gauging the Potential of Participatory Budgeting in the United States and Canada* (New York, NY: Public Agenda, 2016), available online at: https://www.publicagenda.org/wp-content/uploads/2019/09/BrazilHasReducedInequalityIncrementally_PublicAgenda_2016.pdf.

⁸Carolin Hagelskamp et al., *Public Spending, by the People. Participatory Budgeting in the United States and Canada in 2014–15* (New York, NY: Public Agenda, 2016), available online at: https://www.publicagenda.org/wp-content/uploads/2019/11/PublicSpendingByThePeople_PublicAgenda_2016.pdf; Carolin Hagelskamp et al., *A Process of Growth. The Expansion of Participatory Budgeting in the United States and Canada in 2015–16* (New York, NY: Public Agenda, 2016), available online at: https://www.publicagenda.org/wp-content/uploads/2019/09/AProcessofGrowth_PublicAgenda_2016.pdf; Alexa Kasdan and Erin Markman, "Participatory Budgeting and Community-Based Research: Principles, Practices, and Implications for Impact Validity," *New Political Science* 39:1 (2017), pp. 143–55; Celina Su, "Beyond Inclusion: Critical Race Theory and Participatory Budgeting," *New Political Science* 39:1 (2017), pp. 126–42.

districts.⁹ These geographically-focused findings contribute to our still limited understanding of how PB affects budgeting and equity in the US. However, they do not tell us which policy areas or types of projects benefit or lose out. As the Brazilian studies show, understanding whether and how PB shifts public investments across policy areas is essential to developing hypotheses regarding specific community well-being outcomes that might emerge through PB.

This article is the first to estimate treatment effects of PB adoption on budgeting priorities in the US, looking at proportional investments across diverse policy areas. We focus on PB in council members' discretionary capital funds in NYC council districts. NYC is particularly suitable for analyzing PB's treatment effects because it has a considerable number of council districts (N = 51), thirty-one of which adopted PB at some point in the six years following the first instantiation of PB in NYC in fiscal year 2013. This allows for comparisons across PB and non-PB districts and within PB-districts over time, holding constant a common political and city context and set of rules for PB implementation. This study leverages publicly available records on capital project allocations over ten years (fiscal 2009 through 2018), including six years during which increasing numbers of NYC's council districts adopted PB.

Results of multi-level regression models show that, on average, when council members adopted PB, significantly greater proportions of discretionary budgets were allocated to schools, public housing, and streets and traffic improvements. PB was also associated with significant decreases in spending on parks and recreation (although parks and recreation still received the second largest proportion of PB funds) and housing preservation and development. The paper thus provides evidence that priorities shift when residents play a more direct role in budgeting decisions. These findings contribute to debates on whether PB prioritizes investments that are otherwise undervalued by government officials. Moreover, the findings draw attention to policy areas that benefit from PB and can thus inform future research on specific indicators of community well-being that PB might affect long-term. Finally, the article contributes to debates on equity and justice in PB by discussing how and when observed shifts in spending priorities *may or may not* contribute to more equitable spending, and by outlining respective directions for future research.

The Participatory Budgeting Process

PB has attracted substantial scholarly attention because it transfers some budgetary decision-making power from public officials to ordinary residents, "[allowing] new actors into previously closed decision-making spaces."¹⁰ While its design and implementation vary substantially across countries and municipalities, PB typically follows several key phases.¹¹ First, during idea collection, residents learn about the process and generate budgeting priorities and project ideas. This phase often includes public meetings where

⁹Iuliia Shybalkina and Robert Bifulco, "Does Participatory Budgeting Change the Share of Public Funding to Low Income Neighborhoods?" *Public Budgeting & Finance* 69:1 (2019), pp. 45–66.

¹⁰Wampler, "Participatory Budgeting: Core Principles and Key Impacts", p. 9.

¹¹*Participatory Budgeting Project*, "How Does PB Work?" available online at: <https://www.participatorybudgeting.org/what-is-pb/>, accessed february 28, 2019; Anwar Shah (ed.), *Participatory Budgeting*, Public Sector Governance and Accountability Series (Washington, DC: World Bank Publications, 2007), available online at: <https://openknowledge.worldbank.org/bitstream/handle/10986/6640/39498.pdf?sequence=1&isAllowed=y>.

residents deliberate over community needs. Second, in the project development/budget delegate phase, resident volunteers develop project ideas and budgeting priorities, often collaboratively with government representatives, into project proposals. Third, in the voting phase, a public vote decides budget priorities. Residents may vote on proportional allocations to policy areas or on concrete projects that emerged in the project development phase. Finally, in the implementation phase, government implements priorities and projects that won the popular vote. In addition, steering committees comprised of diverse civic and public actors may, at the outset, set rules about the process and oversee its implementation. PB is typically cyclical: budgets are decided annually with each new PB cycle evolving from to the last.

Theoretical Arguments

There is little research on whether and how PB affects budgeting outcomes. Does increased public control mean funds get allocated differently than in conventional budgeting? Figure 1 illustrates the theoretical arguments underlying PB's influence on budgeting allocations and, in turn, community well-being. Scholars generally agree that PB highlights residents' knowledge of local conditions and preferences for investments in the decision-making process.¹² In PB, more and possibly new information enters the decision-making space. This information should impact budgeting allocations a) directly through the public vote, b) by increasing elected officials' knowledge of and commitment to local needs, and c) by legitimizing elected officials to pursue budgeting decisions in line with residents' preferences.¹³ Finally, investments in public goods and services should lead to improvements to the quality of life of residents who benefit from these goods and services, such as better health through more investments in social determinants of health or improved educational outcomes through more investment in schools.¹⁴

Figure 1 also illustrates that much of PB's potential to change budgeting allocations depends on a) whose knowledge and preferences get elevated and b) elected officials' commitment to the PB process. Scholars have argued that PB's potential to produce more *equitable* resource distributions and well-being outcomes is contingent on being implemented with an explicit social justice agenda, on the amount of money at stake, and on the engagement of politically marginalized communities.¹⁵ When this is not the case, PB risks leaving already disenfranchised residents further behind and disappointed, thus exacerbating inequalities.¹⁶

¹²Fung, "Putting the Public Back into Governance: The Challenges of Citizen Participation and Its Future"; Yves Cabannes, "The Impact of Participatory Budgeting on Basic Services: Municipal Practices and Evidence from the Field," *Environment and Urbanization* 27:1 (2015), pp. 257–84.

¹³Gonçalves, "The Effects of Participatory Budgeting on Municipal Expenditures and Infant Mortality in Brazil."

¹⁴Carolin Hagelskamp et al., "Participatory Budgeting: Could It Diminish Health Disparities in the United States?" *Journal of Urban Health* 95:5 (2018), pp. 766–71.

¹⁵Fung, "Putting the Public Back into Governance: The Challenges of Citizen Participation and Its Future"; Madeleine Pape and Josh Lerner, "Budgeting for Equity: How Can Participatory Budgeting Advance Equity in the United States?" *Journal of Public Deliberation* 12:2 (2016); Baiocchi and Ganuza, "Participatory Budgeting as if Emancipation Mattered."

¹⁶Josh Lerner and Donata Secondo, "By the People, for the People: Participatory Budgeting from the Bottom up in North America," *Journal of Public Deliberation* 8:2 (2012); Jean-Philippe Platteau and Anita Abraham, "Participatory Development in the Presence of Endogenous Community Imperfections," *Journal of Development Studies* 39:2 (2002), pp. 104–36; Su, "Beyond Inclusion: Critical Race Theory and Participatory Budgeting."

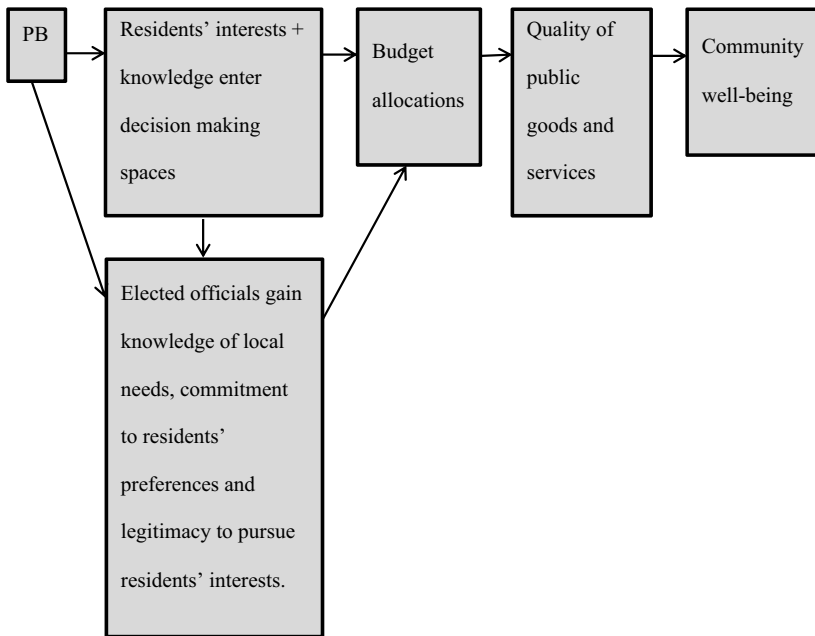


Figure 1. Participatory budgeting's impacts on well-being through budget allocations.

Social justice goals were prominent in the original conception and implementation of PB in Brazil. However, scholars worry that its empowerment principles have been shed in its spread and that in many places – including, by some accounts, NYC – PB has become mainly a tool to legitimize the status quo.¹⁷ Given these tensions it is important to research how residents and communities are affected when municipalities adopt PB. There are several ways in which PB may advance social justice – such as by strengthening participants' civic skills and knowledge, building trust in government, strengthening civic sector alliances, or shifting budgeting allocations toward residents' priorities. The current paper focuses on potential shifts in budgeting allocations as one important yet understudied outcome of PB, and it considers the extent to which these shifts may or may not foster social justice.

Empirical Evidence

The literature on PB's impacts on budgeting allocations is thin.¹⁸ PB funds in the Global South have predominantly been invested in basic services such as roads, sewage, water supply, and

¹⁷Baiocchi and Ganuza, "Participatory Budgeting as if Emancipation Mattered"; Anwar Shah, "Overview," in *Participatory Budgeting, Public Sector Governance and Accountability Series* (Washington DC: World Bank Publications, 2007), available online at: <https://openknowledge.worldbank.org/bitstream/handle/10986/6640/39498.pdf?sequence=1&isAllowed=y>. Ghazala Mansuri and Vijayendra Rao, *Localizing Development: Does Participation Work?* (Washington, DC: World Bank, 2013), available online at: <https://openknowledge.worldbank.org/handle/10986/11859>; Celina Su, "Managed Participation: City Agencies and Micropolitics in Participatory Budgeting," *Nonprofit and Voluntary Sector Quarterly* 47:4 (2018), pp. 765-965.

¹⁸Campbell et al., "The Impact of Participatory Budgeting on Health and Wellbeing: A Scoping Review of Evaluations"; Wampler, McNulty, and Touchton, "Participatory Budgeting: Spreading Across the Globe"; Rebecca Rumbul et al., "Participatory Budgeting: A Meta-Level Review" *mySociety Research* (2018), available online at: <https://research.mysociety.org/publications/participatory-budgeting>; Kasdan and Markman, "Participatory Budgeting and Community-Based Research: Principles, Practices, and Implications for Impact Validity."

street lighting.¹⁹ In the US and Canada, PB funds have predominantly benefitted schools and parks and recreation.²⁰ But few studies have estimated how much such investments differ from conventional budgeting. The most substantial analyses so far concern PB in Peru, Indonesia, and Brazil and show mixed results. In Peru, PB has not had measurable effects on basic water provision, which is one of the most needed public services.²¹ Analyses from Indonesia concluded that PB favored budget allocations to higher income neighborhoods, which was attributed to low participation among low-income residents.²² Analyses from Brazil, however, have linked PB to significant public service improvements and community well-being.²³ Scholars of political science utilized public records to estimate treatment effects of PB across all Brazilian municipalities. From 1990 to 2004, PB in Brazil was associated with greater spending on health services and basic sanitation, which was linked to community well-being in the form of reduced infant mortality.²⁴ Brazilian PB was also associated with an average reduction in allocations to “housing and urbanism,” without apparent deficits in socioeconomic outcomes (for example, household infrastructure and income). Importantly, greater spending on health services and basic sanitation reflected popular preferences expressed in participatory forums early in the PB process.

The experiences of Peru, Indonesia, and Brazil, however, cannot easily be generalized to wealthier and more stable democracies, including the US, where access to basic public services is typically more secure and societies have a longer history of public participation. Moreover, these studies’ divergent findings highlight that PB’s potential impacts need to be considered within the context of its implementation. Brazilian PB was implemented with a strong social justice orientation, to which scholars have attributed its successes in improving community well-being.²⁵ For example, PB in Brazil was designed so that poorer neighborhoods received comparatively more funds and were not competing with richer neighborhoods over the same money. No such mechanism has so far been incorporated into US PB.

In the US, two studies so far have examined shifts in spending patterns associated with PB. Both examined *geographic correlates* of budgeting decisions, yet with different results. On the one hand, Shybalkina and Bifulco analyzed spending of discretionary capital funds within and across all NYC council districts over the first four years of PB. Over time, districts that had adopted PB started allocating larger proportions of discretionary capital funds to lower (yet not the lowest) income neighborhoods, compared to districts that did not use PB.²⁶ On the

¹⁹Cabannes, “The Impact of Participatory Budgeting on Basic Services: Municipal Practices and Evidence from the Field.”

²⁰Hagelskamp et al., “Public Spending, by the People. Participatory Budgeting in the United States and Canada in 2014–15”; Hagelskamp et al., “A Process of Growth. The Expansion of Participatory Budgeting in the United States and Canada in 2015–16.”

²¹Miguel Jaramillo and Lorena Alcázar, *Does Participatory Budgeting have an Effect on the Quality of Public Services? The Case of Peru’s Water and Sanitation Sector* (Washington, DC: IDB Working Paper Series No. IDB-WP-386, 2013), available online at: <https://www.econstor.eu/bitstream/10419/88958/1/IDB-WP-386.pdf>.

²²Tara Grillos, “Participatory Budgeting and the Poor: Tracing Bias in a Multi-Staged Process in Solo, Indonesia,” *World Development* 96 (2017), pp. 343–58.

²³Gonçalves, “The Effects of Participatory Budgeting on Municipal Expenditures and Infant Mortality in Brazil”; Touchton and Wampler, “Improving Social Well-Being through New Democratic Institutions”; Carew Boulding and Brian Wampler, “Voice, Votes, and Resources: Evaluating the Effect of Participatory Democracy on Well-Being,” *World Development* 38:1 (2010), pp. 125–35.

²⁴Gonçalves, “The Effects of Participatory Budgeting on Municipal Expenditures and Infant Mortality in Brazil”; Touchton and Wampler, “Improving Social Well-Being through New Democratic Institutions.”

²⁵Brian Wampler, “Participation, Representation, and Social Justice: Using Participatory Governance to Transform Representative Democracy,” *Polity* 44:4 (2012), pp. 666–82; Baiocchi and Ganuza, “Participatory Budgeting as if Emancipation Mattered.”

²⁶Shybalkina and Bifulco, “Does Participatory Budgeting Change the Share of Public Funding to Low Income Neighborhoods?”

other hand, a case study of Chicago's 49th Ward suggests that, at least in the first three years after adopting PB, higher income neighborhoods might have benefitted disproportionately from PB. In those years, the ward – compared to other Chicago wards – spent more of its discretionary capital funds on parks and recreation and environmental beautification (for example, murals), and these projects tended to be located in higher income neighborhoods. At the same time, the ward spent overall less on street repairs and safety compared to other wards – projects, which tended to occur in lower income neighborhoods. These patterns have been attributed to the disproportionate participation of socio-economically advantaged residents in the early years of the ward's PB process²⁷

Defining the beneficiaries of a capital project by the project's geographic location is in many respects valid and meaningful but has several shortcomings: a project's actual beneficiaries may not live nearby (as when schools draw students from outside the neighborhood), the project may benefit many more residents than those living nearby (such as beaches or parks), and some projects are either not stationary or are purposefully geographically diffuse (such as a library van or planting new trees across a district). Moreover, geographic correlates do not tell us which types of projects benefit or lose out in PB. Such knowledge is important, however, to understanding how residents' priorities may diverge from those of government officials, and to hypothesizing which community well-being indicators might be affected by PB long-term. For example, knowing that PB is associated with increased funding for schools should steer future investigations to education outcomes such as attendance, motivation or test scores as potential indicators for PB impacts.

Our study therefore examines longitudinal shifts in spending priorities *across policy areas* (such as education, parks and recreation, public housing, public libraries, and the like) associated with the adoption of PB in NYC council districts. Doing so advances the literature on whether and how greater public participation in budgeting decisions changes investments; informs further research on PB's impacts on community-wellbeing; and expands the empirical basis for critical considerations of PB's equity and social justice implications.

PB in New York City

Civic organizations in NYC began to advocate for PB shortly after the inaugural US PB processes in the 49th ward in Chicago. In 2011, four of the city's fifty-one council members started PB in New York City (PBNYC), each allocating one million dollars of their roughly five million dollar discretionary capital funds to PB. Discretionary capital funds are annual funds that each council member receives to invest in their districts. Council districts serve roughly around 150,000 residents each. Discretionary capital fund projects, whether budgeted through PB or through traditional means, are limited to projects that have an expected lifespan of at least five years – such as repairs and upgrades to public spaces, buildings and institutions – and that cost at least \$35,000 (United States Dollars)²⁸

Since 2011, increasing numbers of NYC council members adopted PB (see Table 1). In the 2016–17 PBNYC cycle (concerning the 2018 budget), 30 of 51 council members (59%)

²⁷LaShonda M. Stewart et al., "Participatory Budgeting in the United States: A Preliminary Analysis of Chicago's 49th Ward Experiment," *New Political Science* 36:2 (2014); Lerner and Secondo, "By the People, for the People: Participatory Budgeting from the Bottom Up in North America."

²⁸New York City Independent Budget Office, "Understanding New York City's Budget: A Guide to the Capital Budget," (NYC Independent Budget Office (n.D), available online at: <http://www.nyc.gov/html/records/pdf/govpub/633ibocbg.pdf>).

Table 1. Adoption of participatory budgeting in NYC council districts between fiscal years 2013 and 2018.

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Total # of PB cycles
Total	4	8	10	24	28	30	

District:

1							0
2							0
3							3
4							0
5							4
6							3
7							3
8							6
9							0
10							3
11							3
12							0
13							0
14							0
15							3
16							1
17							1
18							0
19							4
20							0
21							3
22							3
23							5
24							0
25							0
26							3
27							3
28							0
29							3
30							2
31							4
32							5
33							5
34							3
35							2
36							2

(Continued)

Table 1. (Continued).

37							0
38							4
39							6
40							2
41							0
42							0
43							0
44							5
45							6
46							0
47							3
48							0
49							1
50							0
51							0

FY = fiscal year; a shaded box means that year's budget was partially allocated through PB

allocated a total of 37 million dollars of their discretionary capital funds to PB, or at least one million dollars per council member. During the first six years of PB in NYC, only one council member who began PB discontinued it. PBNYC has thus had the chance to evolve and become increasingly embedded in local government. The city has increasingly invested in central resources and staff to support districts in their implementation of PB. Moreover, research has shown that PBNYC has engaged a large cross-section of the public, including youth as young as fourteen (in some districts as young as twelve), immigrants and residents who are not already part of a community group or organization.²⁹ Council members have indicated that their constituents have come to expect PB.³⁰

NYC's Office of Management and Budget (OMB) categorizes all capital projects (PB or otherwise) by policy area corresponding to the city agency responsible for overseeing the project's implementation. Table 2 shows the distribution of funds allocated by council members through their discretionary capital budgets in each policy area for fiscal year 2011, the first budget allocated by council members elected in 2009, many of whom later adopted PB. More than half of funds were allocated to *education* (37%), which are investments in schools, and *parks and recreation* (29%), including all public green spaces, public squares and waterfront spaces. In fact, each year between fiscal years 2009 and 2018, *education* and *parks and recreation* together have received consistently more than fifty percent of all discretionary capital funds. Examples of projects that get funded

²⁹Alexa Kasdan and Erin Markman, *A People's Budget: Cycle 4: Key Findings* (New York, NY: Urban Justice Center Community Development Project, 2015), available online at: https://cdp.urbanjustice.org/sites/default/files/CDP.WEB.doc_Report_PBNYC_cycle4findings_20151021.pdf.

³⁰Carolyn Hagelskamp et al., *Why Let the People Decide? Elected Officials on Participatory Budgeting*. (New York, NY: Public Agenda, 2016), available online at: https://www.publicagenda.org/wp-content/uploads/2019/09/WhyLetThePeopleDecide_PublicAgenda_2016.pdf.

Table 2. Distribution of total funds across budget codes in FY 2011 and FY 2018.

Budget Code/City Agency	% of total allocated (2011)	\$ amount allocated (2011) Total: \$ 229,034,000	% of total allocated (2018)	\$ amount allocated (2018) Total: \$ 255,044,000
Education	36.77	84,205,000	46.44	118,452,000
Parks and Recreation	28.69	65,713,000	17.99	45,891,000
Libraries-all ^a	6.89	15,785,000	7.03	17,942,000
Housing Authority	6.04	13,844,000	5.12	13,057,000
Housing Preservation and Development	5.56	12,743,000	4.39	11,205,000
Health and Mental Hygiene	3.43	7,850,000	4.00	10,202,000
Highways and Traffic ^b	2.78	6,365,000	2.69	6,862,000
Higher Education	2.53	5,805,000	2.21	5,639,000
Public Buildings	1.91	4,376,000	2.21	5,637,000
Cultural Institutions	1.35	3,095,000	1.98	5,048,000
Health and Hospitals Corporation	1.03	2,367,000	1.66	4,236,000
Economic Development	0.99	2,275,000	1.54	3,916,000
Police	0.71	1,625,000	0.89	2,271,000
Sewers	0.44	1,000,000	0.80	2,031,000
Human Resources	0.26	600,000	0.50	1,280,000
Aging	0.24	561,000	0.31	792,000
Sanitation	0.14	325,000	0.11	285,000
Homeless Services	0.11	250,000	0.07	189,000
Fire Department	0.11	250,000	0.04	109,000

^aThis category combines separate budget codes for the public library systems across the five boroughs of New York City.

^bThis category combines the budget codes "highways" and "traffic."

through these budgets include technology updates for school; repairs to recreation areas, gymnasiums, performance spaces, or bathrooms; green roofs on school buildings; repairs to playground equipment, fountains, fences, and benches in parks; and new trees or green spaces.

Table 2 also shows additional policy areas that typically receive sizable proportions of district-level discretionary capital investments, notably *public libraries*, *housing authority* (public housing), *housing preservation and development*, *health and mental hygiene*, *higher education*, *highways*, and *traffic* (these latter two are combined in this analysis). The current study uses these OMB categorizations as indicators of budgeting priorities and investigates associations between PB and the proportion of funds allocated across diverse policy areas. While OMB categorizations do not capture the heterogeneity of projects within policy areas, these categorizations represent meaningful distinctions in investment priorities and possible beneficiaries. Because the city applies these categories quite consistently over time, future researchers can compare their analyses to the patterns we have identified. See Table 3 for examples of capital projects funded under selected policy areas.

Research Objectives and Questions

We hypothesize that discretionary capital budgets partially allocated through a PB process will show *different* spending priorities – in terms of allocation of funds across policy areas – than non-PB budgets. This is because previous research found that PB NYC succeeded in engaging a broad cross-section of NYC residents and because elected

Table 3. List of budget codes included in the analysis with explanatory descriptors and example projects.

Budget codes	Descriptions, examples
Education	Improvements to public K-12 schools and organizations that serve schools. Examples: technology upgrades, library and playground upgrades, air conditioners, water filter systems.
Housing Authority	Improvements to low- and moderate-income public housing managed by the NYC Housing Authority. Examples: exterior lighting, recreation facilities, safety cameras, renovation of community centers.
Highways and Traffic	This category combines the budget codes “highways” and “traffic.” Includes improvements to highways, streets, sidewalks, bridges, pedestrian safety, traffic reduction. Examples: bus countdown clocks, street lighting, resurfacing roadways, bike paths.
Parks and Recreation	Improvements to parks, public squares, waterfronts, playgrounds, memorials. Examples: dog parks, exercise equipment, wheelchair accessibility, water fountains, fences, trees.
Police	Improvements to police department property and new equipment for the police department. Examples: license plate reader cameras, emergency call boxes, security cameras.
Libraries	Upgrades to public libraries. Examples: renovating public meeting rooms, bathroom and elevator upgrades, furniture, air conditioners.
Housing Preservation and Development	Projects to maintain and preserve existing affordable housing, and to develop new affordable housing. Examples: elevator repairs, air conditioning, upgrades to plumbing and electrical systems.

officials have generally shown commitment to PB. Under these conditions, PB should highlight and fund projects that officials may be unaware of or deprioritize.

Changes in funding by policy areas in districts that adopt PB, however, do not yet tell us whether PB leads to more *equitable* budgeting or more socially just outcomes. There is no direct link between specific policy areas and socially just spending. For examples, whether more funding for education is spent equitably depends on whether lower-income schools’ benefit, ideally without taking money from other projects in those communities (such as investments in parks in low-income communities). Equity analyses must therefore examine which specific projects get funded within policy areas, who benefits from those projects and who loses out, and whether these projects address public needs.

An *empirical* investigation of equity in budget allocations is beyond the scope of this paper. Moreover, it is too early to empirically examine impacts on community well-being in NYC given that less than ten percent of PBNYC projects have been completely implemented as of 2018.³¹ However, identifying shifts in spending by policy area associated with PB establishes whether PB as a process can change spending priorities and is therefore a crucial step toward investigating whether those shifts are in turn associated with equity and social justice. In the discussion section, the article considers how observed shifts in spending across specific policy areas may or may not contribute to more equitable spending in the context of PBNYC and how future research can investigate these possibilities.

In sum, this article leverages financial data from NYC council districts between 2009 and 2018 to examine the extent to which PB is associated with changes in public budget allocations across key policy areas. It seeks to answer the following questions:

³¹Participatory Budgeting Project, “MyPB,” Online Resource, available online at: <https://mypb.community/project>, accessed April 23, 2019.

- (1) Have NYC council districts, after their adoption of PB, seen increases or decreases in proportional discretionary capital spending across key policy areas?
- (2) How do spending patterns in PB districts compare to those in districts that have not adopted PB?

Methods

Data Sources

The 2009 through 2018 NYC capital budgets were retrieved from the NYC Office of Management and Budget (OMB). OMB provides the following information for each project: budget code, which indicates the city agency that oversees the implementation of the project (for example, *parks and recreation, libraries, housing authority*); project title; money allocated; and the sponsoring council member.

The initial list included 12,315 individual capital projects over ten years funded through council members' discretionary capital budgets. It excluded capital projects funded through the citywide budget, borough presidents, borough delegates, and caucuses. In further data cleaning, and based on recommendations from the Independent Budget Office of the City of New York, we eliminated 1,791 projects, including a) double-entries that occur when projects are listed as merely pledged in one year and funded in the next, b) projects labeled "Technical Adjustment"; which are corrections of past year projects and not part of the funding for the year listed, and c) projects that were cosponsored by the citywide capital budget, the speaker's capital budget or a caucus' capital budget. The latter are typically entirely funded through these other budgets with little to no money included through an individual council members' discretionary budget. The remaining 10,524 projects included 148 non-PB projects that were cosponsored by multiple council members without indication of the dollar amount contributed by each cosponsor. We split those projects among sponsoring districts and divided the funding equally. Finally, we excluded an extreme outlier, a \$12.5 million contribution to the building of the High Line Park in fiscal year 2009. The final database consisted of 10,728 projects funded through council members' discretionary capital funds between fiscal years 2009 and 2018. Over these ten years, about \$2.5 billion capital funds were allocated to projects (or part-projects) ranging from \$5,000 to \$5.3 million (averaging about \$240,000).

A comprehensive list of all projects funded through PB in NYC is available on the NYC OpenData website. We could match 95 percent of these with projects on the city capital budget. Of the remaining five percent, some projects were funded through discretionary *program* (not capital) funds that some council members started to include in the PB process in recent years. For other projects, NYC OpenData information simply did not match data in the City's capital budget data.

The project-level dataset was aggregated within budget codes, fiscal year and district to create a dataset that indicated the dollar amount allocated to each budget code for each year within each district. From there we calculated – per year and district – the proportions of the total budget allocated to each budget code. Importantly, by aggregating project allocations within budget codes without differentiating PB-funded projects from projects that council members allocated on their own discretion, we are assuming that PB has systemic effects on any budget that includes a PB component. Like other PB

scholars, we assume that when parts of a budget are determined through PB, this process can also affect the remaining budget. Research suggests that elected officials take interest in the PB ballot generally to better understand residents' demands. They may use the remaining budget to fund ballot items that did not get enough votes to win PB funds. Elected officials may also use the remaining budget to counteract funding shifts from the PB budget.³² Once PB has affected a part of the budget in a given year, it is no longer separable from decisions concerning the rest of the budget.

In addition to variables included in the publicly available data sources (*district, sponsor, dollar amount allocated, PB or non-PB project, fiscal year, and budget code*), we added the following district-level variables to the dataset: whether a district had ever adopted PB or not (*PB district vs. non-PB district*), whether a district had adopted PB in a given year (*PB budget vs. non-PB budget*), whether the district had a leadership change after the 2013 election, and two descriptors of the district population: percent of population at or below the federal poverty line (five year estimate from 2009–2013 collected from the American Community Survey, compiled for NYC council districts by the Institute for Children, Poverty and Homelessness)³³ and percentage voter turnout at the 2013 city council elections.³⁴

Analysis

We estimated average treatment effects of PB across a total of seven budget codes. Those include all codes that in the year prior to the first adoption of PB (2011) received at least five percent of the total dollar amount allocated through council members' discretionary capital budgets (see Table 2).³⁵ We further added the category *highway and traffic* (a combination of budget codes "highways" and "traffic") and *police*, because these budget codes received substantial proportions of PB funds specifically, 9.5 percent and 4.4 percent, respectively (see Table 4). Table 3 provides descriptions and project examples of the seven budget codes analyzed in this paper.

We employed multi-level regression modeling to estimate the effects of PB adoption on proportional budget allocations of each of the seven budget codes, running separate models for each budget code.³⁶ For these analyses, we included eight years of data on discretionary budgets allocations in all fifty-one NYC council districts (fiscal years 2011 through 2018). This means we analyzed a total of 408 discretionary budgets nested in fifty-one council districts. The multi-level regression models split the total variance in the outcome (that is proportional allocation of funds to a given policy area) into level-one (within district) and level-two (between district) components. It accounts for the non-

³²Hagelskamp et al., "Why Let the People Decide? Elected Officials on Participatory Budgeting."

³³Institute for Children, Poverty and Homelessness, "On the Map: The Dynamics of Family Poverty in New York City", *ICPH* (2016), available online at: https://www.icphusa.org/wp-content/uploads/2016/09/ICPH_4_1_Web.compressed.pdf.

³⁴New York City Board of Elections, "General Election Results, (November 5, 2013)," available online at: <https://www.vote.nyc.ny.us/html/results/2013.shtml>, accessed May 7, 2019; New York City Board of Elections, "City Council Enrollment Totals, *New York State*, (2013)," available online at: https://www.vote.nyc.ny.us/downloads/pdf/documents/boe/EnrollmentTotals/2013/CityCouncilEnrollmentTotals_4_1_13.pdf, accessed May 7, 2019.

³⁵We also looked at the distribution of funds across budget codes for 2010 and found no difference between these two pre-PB years in the list of budget codes that received at least 5 percent of the total discretionary capital budget.

³⁶Judith D. Singer and John B. Willett, *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence* (Oxford, UK: Oxford University Press, 2003).

Table 4. Distribution of all funds allocated directly through PB over six year, across budget codes.

Budget code/City agency	% of total allocated (across six years, 636 projects)	Dollar amount allocated (across six years) Total = \$133,909,000
Education	49.57	66,381,000
Parks and Recreation	17.99	24,102,000
Highways-Traffic ^a	9.46	12,672,000
Housing Authority	8.53	11,425,000
Libraries ^b	6.73	9,011,000
Police	4.38	5,867,000
Aging	1.48	1,985,000
Cultural Institutions	0.51	678,000
Public Buildings	0.49	651,000
Health and Mental Hygiene	0.22	300,000
Sanitation	0.20	270,000
Economic Development	0.17	221,000
Higher Education	0.11	150,000
Health and Hospitals Corporation	0.08	105,000
Transit Authority	0.07	91,000

^aThis category combines the budget codes “highways” and “traffic”.

^bThis category combines separate budget codes for the public library systems across the five boroughs of New York City.

independence of observations (budgets concerning the same district) and calculates more precise estimates than ordinary regression models would.

The inclusion of budgeting information across eight fiscal years allows us to compare a substantial number of budgets overall, including budgets from the two years prior to the first adoption of PB. The data thus exploits the full sample variation in the decision to adopt PB and the timing of the decisions. We can compare budgets between PB and non-PB districts but also compare PB budgets to non-PB budgets within districts, including for districts that adopted PB early on. We refrained from adding another two years of budgeting information (fiscal years 2009 and 2010) as outcomes to the model, in order to reduce “noise” stemming from leadership changes. The 2009 city council elections led to leadership changes vis-a-vis the 2011 budget. Had we included information from 2009 and 2010, we would have also included another round of leadership change to the model overall. Instead we utilized data from 2009 and 2010 as control variables to adjust for unknown district-specific or leader-specific effect on each district’s spending allocations in these early years.

Level 1 of the model describes the budget level, including the dummy variable *PB-budget* as the main predictor of interest. *PB-budget* indicates whether any specific budget included a PB component or not. Level 1 control variables included the size of that budget that year (total dollar amount allocated) and a fixed effect for time. The latter accounts for possible time-varying factors or time-trends that describe average variations in proportional budget allocations across all districts associated with a specific fiscal year.

Level 2 in the model describes the district level. It models between-district variations in policy allocations as a function of whether or not a district ever adopted PB and controlling for between-district variation in poverty, voter turnout, leadership change in 2015 and average proportional budget allocations to a given policy area in fiscal years 2009 and 2010.

Critical for our research questions is the coefficient for the variable *PB budget*. Controlling for between-district effects of PB (the estimated mean difference in proportional allocations to a specific budget code between all PB and all non-PB districts), the

coefficient for *PB budget* can be interpreted as the estimated mean shift in proportional allocations to a specific budget code that PB-adopting districts saw between their PB and their non-PB budgets. The coefficient for *PB budget* thus tells us by how many percentage points allocations to a specific budget code increased or decreased on average in districts when their budgeting processes included PB, controlling for time-varying effects and the differences in the overall size of the budgets.

The equations of this model are:

$$Y_{ij} = \pi_{0i} + \pi_{1i}PBbudget_{ij} + \pi_{2,3i}X_{ij} + \varepsilon_{ij}$$

$$\pi_{0i} = \gamma_{00} + \gamma_{01}PBdistrict_i + \gamma_{02,3,4,5}V_i + \zeta_{oi}$$

Combined:

$$Y_{ij} = \gamma_{00} + \gamma_{10}PBbudget_{ij} + \gamma_{2,30}X_{ij} + \gamma_{01}PBdistrict_i + \gamma_{02,3,4,5}V_i + (\varepsilon_{ij} + \zeta_{oi})$$

For a model estimating effects on the proportion of education funding (for example), Y_{ij} is the proportion of education funding in budget i within district j . γ_{00} is the district-level average proportion of education funding, γ_{10} is the effect of PB between budgets (the average difference in the proportion of education funding between PB and non-PB budgets) while γ_{01} is the effect of PB between districts (the average difference in the proportion of education funding between PB and non-PB districts). X_{ij} is a vector of the two budget-level (or time-varying) control variables described above, with γ_{20} and γ_{30} representing their estimated effects. V_i is a vector of the four district-level control variables described above, with γ_{02} through γ_{05} representing their estimated effects. The model estimates a random effect around the intercept (between district variance) and an individual-level error term (residual variance).

Results

Demographics and Pre-PB Spending

First, we examined possible baseline differences between PB and non-PB districts on key demographic and political variables, and in proportional spending within the seven budget codes of interest prior to 2013 (NYC's first PB year), see [Table 5](#). Overall, PB and non-PB districts showed few differences in demographics and political variables (for example, poverty rate, number of residents, discretionary budget size), with the exception that PB districts were twice as likely as non-PB districts to have had a leadership change after the 2009 election, and about 1.5 times as likely as non-PB districts to have had a leadership change after the 2013 elections.

Comparing districts' proportional budget allocations, PB and non-PB districts showed a number of notable baseline differences. In fiscal years 2009 through 2012, districts that would go on to adopt PB allocated on average less of their budgets to education projects (4.41 percentage points) and less to projects benefitting public housing (2.81 percentage points) compared to non-PB districts. In contrast, districts that would go on to adopt PB allocated a larger average share of their budgets to parks and recreation (5.51 percentage points) and libraries (2.73 percentage points) compared to non-PB districts. These differences did not reach statistical significance due to large variances within PB and non-PB

Table 5. Comparing PB and non-PB districts on key characteristics prior to the first adoption of PB.

	All Districts (N = 51)	PB-Districts ^a (n = 31)	non-PB Districts (n = 20)	Mean dif- ference	Standard Error
	Mean (SD)	Mean	Mean		
Total budget allocations (US \$) (<i>average FY 2009 through 2012</i>)	5,075,112 (239,8634)	5,120,161	5,005,286	114,875	694,734
Budget allocations – % of total budget (average FY 2009 through FY 2012)					
Education	35.14 (12.87)	33.41	37.82	–4.41	3.93
Parks and Recreation	27.80 (13.65)	29.96	24.44	5.52	3.88
Libraries	7.63 (7.93)	8.70	5.97	2.73	2.26
Housing Preservation and Development	6.34 (8.79)	6.64	5.87	0.77	2.54
Housing Authority	5.50 (6.54)	4.39	7.20	–2.81	1.85
Highways and Traffic	1.53 (2.54)	1.54	1.52	0.02	0.74
Police	0.35 (1.18)	0.43	0.25	0.18	0.34
<i>Demographic and other control variables</i>					
Poverty Threshold 2013–14 ^b (%)	20.37 (9.27)	20.80	19.71	1.09	2.68
Voter turnout, 2013 city council elections (%)	23.96 (4.17)	24.27	23.49	0.79	1.20
Leadership change around FY 2011 (%)	33.33	41.94	20.00	22.00	n.a.
Leadership change around FY 2015 (%)	47.06	54.84	35.00	20.00	n.a.
Total number of residents	160,296 (9,006)	159,210	161,980	2,770	2,579
Size in square miles ^c	8.17 (8.26)	7.11	9.80	2.69	2.66

^aDistricts that completed at least one PB cycle.

^bU.S. Census Bureau Poverty Thresholds, 2013–14, ACS 5-year Estimate (compiled for NYC council districts by Institute for Children, Poverty and Homelessness, 2016).

^cNew Yorkers for Parks, City Council District Profiles.

districts. Nevertheless, they are important for interpreting analyses regarding the association between the adoption of PB and shifts in spending allocations in later years. Our multi-level models controlled for between district differences in spending prior to 2013.

Shifts in Spending Priorities over Time across All Districts

Next, we compared budget allocations in the 2011 total discretionary budget (combining all fifty-one council districts) to those of the 2018 total discretionary budget to get an initial understanding of shifts and stability in spending allocations in the years during which PB became an increasingly prominent aspect of district level budgeting (see Table 2). In both years, the budget codes *education* and *parks and recreation* absorbed about two thirds of the budgets. Yet the share allocated to education increased by about ten percentage points between 2011 and 2018, while the share allocated to parks and recreation decreased by about that amount. In both years, most of the remaining one third of the budget was allocated across *housing authority* (6 and 7 percent), *housing preservation and development* (6 and 4 percent), and the combined codes *highways and traffic* (3 and 3 percent). These overall shifts in spending priorities are consistent with shifts in spending priorities we observe within districts as they adopted PB (see next section).

Shifts in Spending Priorities Associated with the Adoption of PB

Comparisons of PB and non-PB budgets within and across districts showed significant shifts in the allocation of discretionary funding associated with the adoption of PB. Table 6

Table 6. The effects of participatory budgeting on the allocations of discretionary capital funds in key budget areas (NYC council districts; FY 2011 through 2018).

	Education	Parks and Recreation	Highways and Traffic	Housing Authority	Public Libraries	Police	Housing Preservation and Development
Fixed effects							
Level-1 (within district)							
PB-budget ^a	6.07 [2.81]*	-6.63 [3.02]*	2.14 [0.97]*	4.87 [1.68]**	0.21 [1.44]	0.52 [0.53]	-3.97 [1.25]*
Year effect	YES	YES	YES	YES	YES	YES	YES
Total funding allocated	YES	YES	YES	YES	YES	YES	YES
Level-2 (between districts)							
PB-district ^b	-7.76 [4.10]+	8.07 [3.57]*	0.49 [0.84]	-3.91 [1.90]*	1.67 [1.62]	0.06 [0.48]	2.81 [1.47]+
Control variables ^c	YES	YES	YES	YES	YES	YES	YES
Random effects (Variance Component)							
Intercept (between districts)	137.68 [36.15]	85.01 [26.31]**	1.60 [1.28]	22.49 [7.34]**	12.63 [4.63]	0.77 [0.44]+	13.90 [4.39]**
Residual	258.38 [19.63]	307.65 [23.36]***	34.07 [2.58]***	95.16 [7.22]***	71.11 [5.40]	10.00 [0.76]	52.79 [4.01]***
Fit indices							
BIC (final model)	3454.87	3504.37	2600.47	3038.01	2916.17	2125.02	2811.16
BIC (model testing PB effects only)	3530.33	3566.84	2641.24	3099.71	2952.42	2164.13	2867.32
Observations							
Number of budgets (level 1)	408	408	408	408	408	408	408
Number of districts (level 2)	51	51	51	51	51	51	51

Note: Standard error in brackets; The dependent variable measures the proportion in any given budget that was allocated to the respective budget code.

^aThis effect represents the estimated average change in budget allocations to a given budget code experienced by districts with the adoption of PB.

^bThis effect represents the estimated average difference in budget allocation to a given budget between non-PB districts and PB-districts across FY 2011 through 2018.

^cBetween-district control variables include: percent of households living at or under the poverty threshold, voter turnout in the 2013 city council elections, prior proportion of funding allocated to the respective budget code (average of FY 2009 and FY 2010), leadership change for FY 2015 (plus or minus 1 year).

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

summarizes the findings from the multi-level models. The most left-hand column indicates rows for level 1 and level 2 predictors (control variables are summarized for brevity), within- and between-district PB effect, random effects and model fit indices. The columns represent the seven budget codes of interest. The cells show unstandardized coefficients and standard errors.

As districts adopted PB they started allocating larger proportions of discretionary capital funds to projects benefitting schools (*education*), namely 6.07 percentage points more on average compared to *their* non-PB budgets. For an annual discretionary capital budget of five million dollars per district, this means that in years when the budgeting process included PB, districts allocated on average about \$300,000 more to education projects than they did in years when their budgeting process did not include PB.

Similarly, with the adoption of PB, districts started allocating larger proportions of their funding to projects benefitting public housing (*housing authority*), namely 4.87 percentage points or about \$250,000 more annually. The adoption of PB is further associated with increased allocations for street and traffic improvements (*highways* and *traffic*), namely 2.14 percentage points or just over \$100,00 more a year. These shifts came at the expense of parks and recreation projects, which lost on average 6.63 percentage points (just over \$350,000) annually, and projects benefitting housing preservation and development, which lost on average 3.97 percentage points (about \$200,000) annually. We found no statistically significant associations between the adoption of PB and allocations to the budget codes *libraries* or *police*. All these effects control for possible year effects, for example citywide trends associated with specific spending preferences from one year to the next (independent of PB). They also account for the total size of a budget allocated by a district in any given year.

The results just described concern shifts that happened *within* districts after their adoption of PB. Prior to the first adoption of PB in NYC, however, future PB and non-PB districts already differed in their proportional spending on a number of budget codes of interest (See: Demographics and PB spending). How then do PB and non-PB districts' allocations compare after the adoption of PB? Our analyses show that increased allocations in *education* brought PB districts' average spending on school projects up to a level comparable with that in non-PB districts (see [Figure 2](#)). Increased allocations to *housing authority* brought PB districts' average spending on public housing projects up to a level comparable with that in non-PB districts (see [Figure 3](#)). Increased allocations to *highways and traffic* meant PB districts' average spending toward this budget priority exceeded that in non-PB districts (see [Figures 4](#)). The reduction in proportional spending in *parks and recreation* meant the average PB budget allocated about the same proportion to *parks and recreation* as the average non-PB budget in non-PB districts (see [Figure 5](#)). The average PB budget also allocated about the same to projects benefitting *housing preservation and development* than the average budget in non-PB districts, but significantly less than the average non-PB budget in PB districts (see [Figure 6](#)).³⁷

³⁷Figures 2 through 6 summarize results for a total of 160 non-PB budgets in non-PB districts, 144 non-PB budgets in PB-districts and 104 PB-budgets in PB-districts. Some discrepancies between the regression coefficients in Table 6 (estimated fixed effects) and respected differences in percentage points in Figures 2 through 6 are due to a restricted range in the outcome variable.

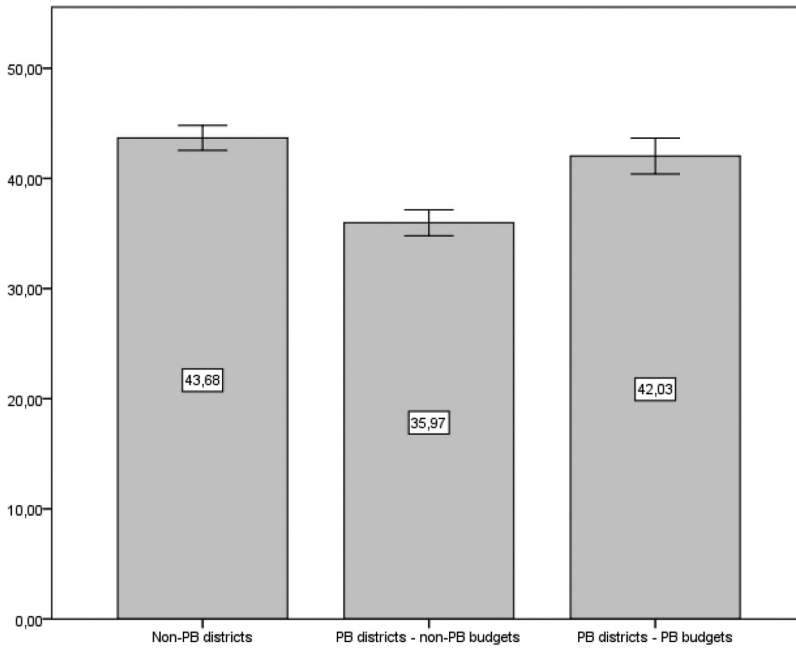


Figure 2. Percent of discretionary capital budgets allocated to budget code *education* (mean fixed predicted values and 95% confidence intervals): non-PB districts, PB districts' non-PB budgets, PB districts' PB budgets (2011 through 2018).

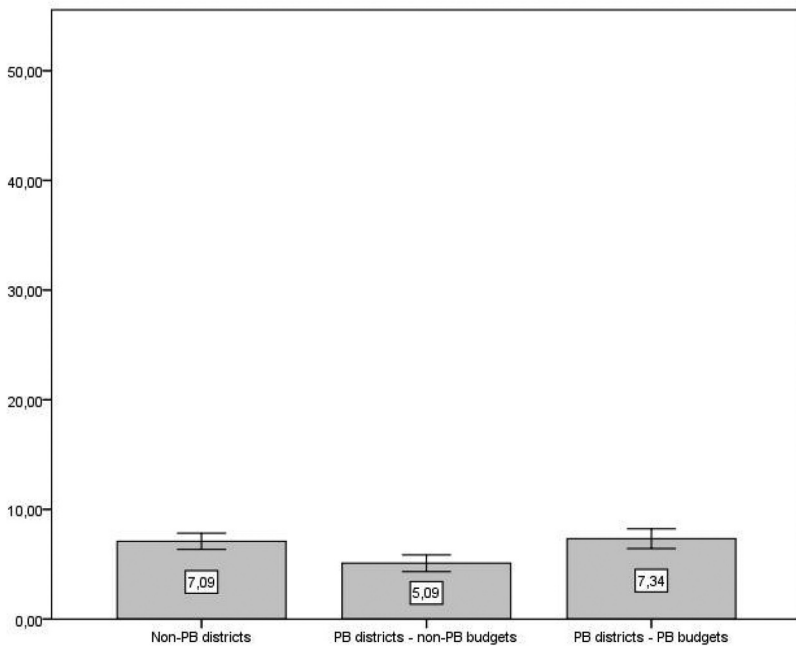


Figure 3. Percent of discretionary capital budgets allocated to budget code *housing authority* (mean fixed predicted values and 95% confidence intervals): non-PB districts, PB districts' non-PB budgets, PB districts' PB budgets (2011 through 2018).

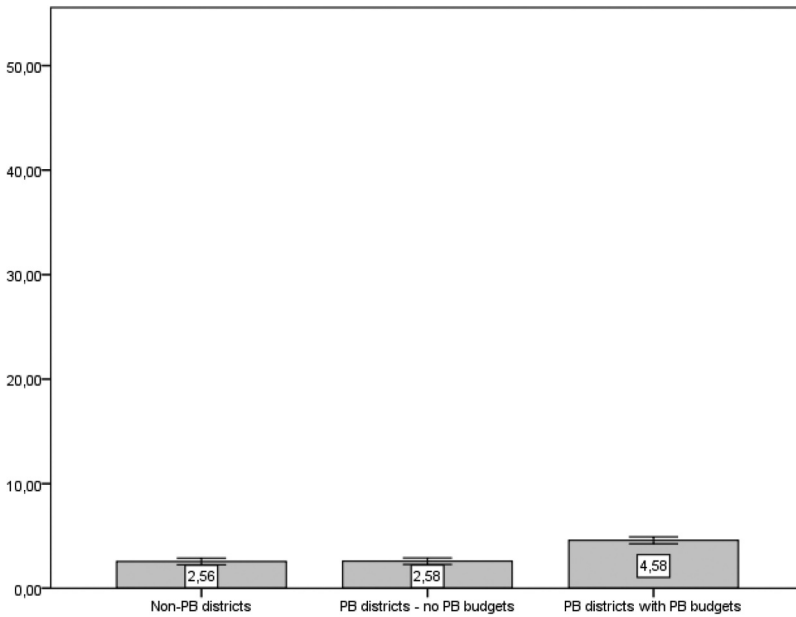


Figure 4. Percent of discretionary capital budgets allocated to budget code *highways and traffic* (mean fixed predicted values and 95% confidence intervals): non-PB districts, PB districts' non-PB budgets, PB districts' PB budgets (2011 through 2018).

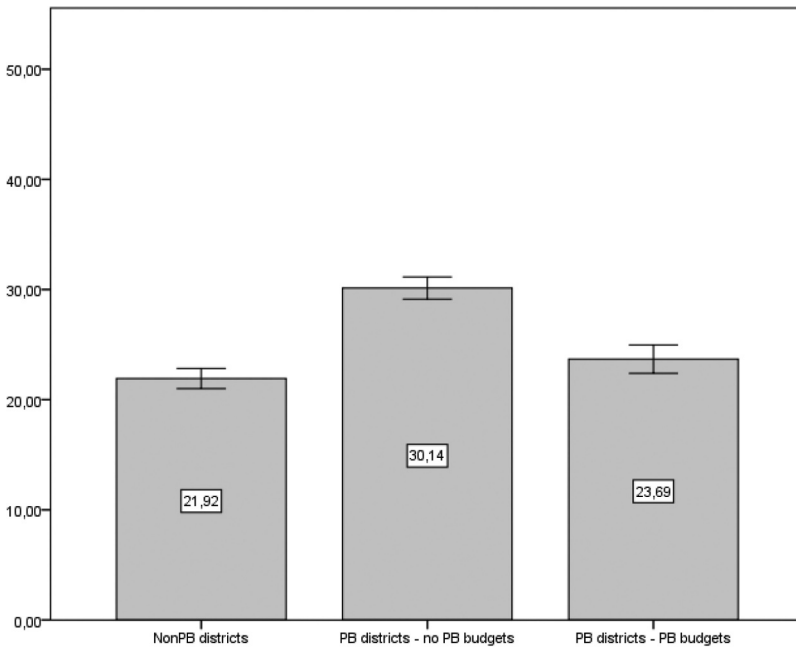


Figure 5. Percent of discretionary capital budgets allocated to budget code *parks and recreation* (mean fixed predicted values and 95% confidence intervals): non-PB districts, PB districts' non-PB budgets, PB districts' PB budgets (2011 through 2018).

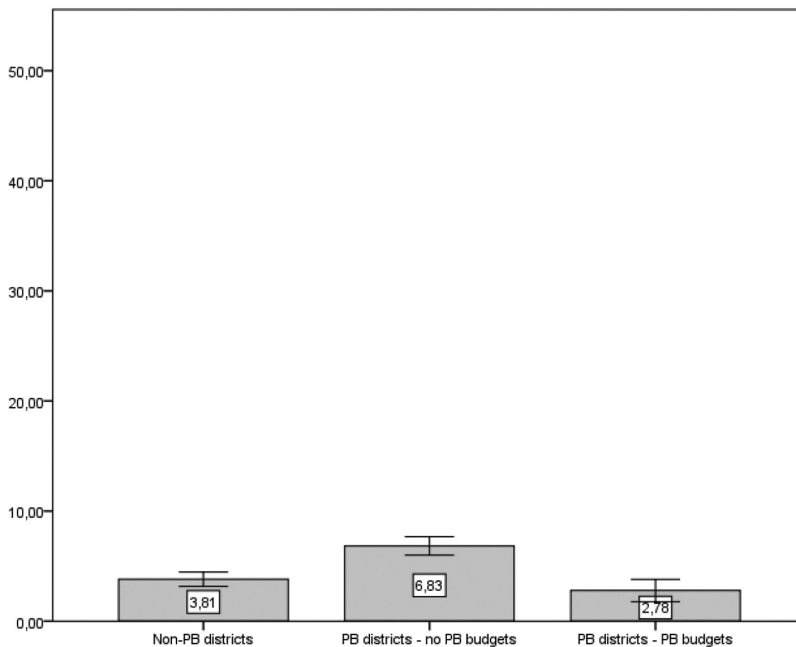


Figure 6. Percent of discretionary capital budgets allocated to budget code *housing preservation and development* (mean fixed predicted values and 95% confidence intervals): non-PB districts, PB districts' non-PB budgets, PB districts' PB budgets (2011 through 2018).

Discussion

This paper shows that when residents play a direct role in decisions over how discretionary capital funds are allocated, spending priorities can shift. In NYC, districts' capital investments to schools, public housing and streets and traffic increased when they adopted PB. At the same time, capital investments in parks and recreation and housing preservation and development projects decreased in these districts. Moreover, after adopting the process, PB districts spent on average the same proportion of their budgets on *education, housing authority, and parks and recreation* as non-PB districts, meaning the adoption of PB was associated with a leveling of previous spending differences in these areas between PB and non-PB districts. In contrast, after adopting the process, PB districts spent on average more on *highways and traffic* compared to non-PB districts, and they spent on average the same as non-PB districts on *housing preservation and development*, but less compared to their own non-PB budgets. These findings support the hypothesis that when a broad cross-section of the public participate in budgeting decisions, and officials are committed to the PB process, priorities emerge that differ from the traditional budgeting process.

Research into PB's impact on spending priorities, however, should not stop here. This study is just one, yet critical, step toward understanding how PB, through shifts in how public money gets spent, may or may not affect more equitable spending and community well-being in the Global North, where robust quantitative analyses have been lacking. Our findings can inform these debates and follow-up research into whether and how PB not only shifts budgeting priorities but also makes them more equitable and socially just.

PBNYC's Potential to Affect More Equitable Spending

PB scholars largely agree that PB's potential to affect meaningful changes in budgeting priorities, and especially changes that contribute to more equitable public spending, depends on social justice criteria being built into the process from the start.³⁸ Explicit social justice goals and implementation criteria can facilitate meaningful participation from traditionally marginalized communities in all stages of the process. They can help raise all residents' awareness of a community's greatest needs. They can help hold officials accountable to residents' preferences and the process overall. And they can push government to adapt to priorities and ideas that emerge through PB.³⁹

There are a number of reasons to expect that the observed shifts in budgeting priorities could mean a more equitable distribution of public goods and eventually more equitable outcomes. *First*, PBNYC was conceived with social justice goals that imagined PB would affect more equitable spending. The citywide PB rule book states PBNYC should "[e]xpand civic engagement, [...] especially [to] young people, people of color, immigrants, low-income people, the formerly incarcerated, and other marginalized groups" and "generate spending decisions that are fairer and reflect the entire community's needs."⁴⁰ It also states that participating council members must allocate at least one million dollars of discretionary capital funds to PB to demonstrate commitment and ensure meaningfully large projects.

Second, PBNYC reflects a commitment by the elected officials who adopt PB to engaging traditionally marginalized communities and encouraging residents to think broadly about community needs. Community-based organizations have been involved in implementing PBNYC from the start, including facilitating outreach to traditionally marginalized groups.⁴¹ PB meetings often provide transportation, food, or childcare.⁴² Special-issue assemblies focus on the needs of underrepresented groups (for example immigrants, LGBTQ people, seniors). Budget delegates are trained to research community needs and consider project ideas from an equity perspective.⁴³ Youth as young as age fourteen (in some districts younger) can participate in all stages of the PB process. And residents vote for up to five projects on ballots that typically include eight to fifteen options, meaning they can vote for projects meeting their own interest and those they deem important for others in the community.

³⁸Pape and Lerner, "Budgeting for Equity: How Can Participatory Budgeting Advance Equity in the United States?"; Baiocchi and Ganuza, "Participatory Budgeting as if Emancipation Mattered."

³⁹Su, "Managed Participation: City Agencies and Micropolitics in Participatory Budgeting"; Wampler, "Participation, Representation, and Social Justice: Using Participatory Governance to Transform Representative Democracy"; Kasdan and Markman, "Participatory Budgeting and Community-Based Research: Principles, Practices, and Implications for Impact Validity."

⁴⁰See for example, City-wide Steering Committee (ed.), *Participatory Budgeting in New York City: 2013–2014 Rule Book*, *New York City Council*, (2013), p. 4, available online at: <https://www.participatorybudgeting.org/wp-content/uploads/2012/07/PBNYC-2013-2014-Rulebook-easy-print-version.pdf>, accessed January 20, 2020.

⁴¹Kasdan and Markman, "Participatory Budgeting and Community-Based Research: Principles, Practices, and Implications for Impact Validity."

⁴²Especially during the idea collection phase of PB, when residents are asked to attend community meetings to learn about PB and discuss community priorities and project ideas, district-level PB organizers have tried to facilitate participation from diverse residents by providing subway tickets, food, childcare services and translation services at these meetings. The city-wide rule book encourages organizers to facilitate access to meetings in these ways. City-level PB staff support these efforts.

⁴³PBNYC Steering Committee, "Participatory Budgeting, Rule Book, 2017," *New York City Council*, available online at: https://www.participatorybudgeting.org/wp-content/uploads/2016/10/PBNYC2016_2017-Rulebook_PBP.pdf.

Third, research suggests PBNYC has succeeded in engaging traditionally marginalized communities. For example, in the 2014–2015 PB cycle, 57% of voter survey respondents identified as persons of color; 51% were not part of a community group or organization; 44% reported household incomes below the NYC median; and 23% reported that they could not vote in regular elections due to age or citizenship.⁴⁴ The engagement of community organizations also suggests that traditionally marginalized communities are engaged not only at the vote but also during project ideation and development. Moreover, anecdotal evidence indicates that PBNYC has mobilized disenfranchised communities, and that affluent residents and elected officials advocate for investments in areas of greatest economic needs.⁴⁵

Fourth, public officials have generally been invested in the continuity and transparency of the PB process. Many who have been implementing PB in recent years ran on a promise to implement PB in the 2013 NYC council elections. The city has allocated resources to support implementing and monitoring the process in each district. Citywide and district-level officials have invested in tools that allow residents to follow the status of each capital project online and to find information on all project proposals that made it onto a PB ballot. While council members are differently vocal about their commitment to PB and vary in their personal assessment of its success,⁴⁶ only one NYC council member discontinued its use in the first six years. Some even extended PB to their discretionary program funds, which can be used to fund personnel and events.

However, several features of the design of the PBNYC may also limit its potential to affect equitable and socially just spending. One critique is that PB is largely restricted to discretionary capital funds, which can only be used for projects with an expected lifespan of at least five years. For example, capital funds can fund new computers or furniture for a library but cannot fund staff to serve library patrons or programs to improve literacy. One might argue that this restriction ensures PBNYC-funded projects have a reasonable lifetime and thus a chance to affect communities over the long term. However, this restriction also limits residents to proposing PB projects that may not address the full range of their needs for programming and services. The relatively small size of the PB budget – one million dollars in most instances – limits the size of projects, hence discouraging residents from developing larger, complex projects that may address community needs from various angles. Based on research with PB participants from low-income communities, Su concludes that the process cannot adequately highlight residents' greatest concerns because it forces residents to focus their project ideas on needs that are addressable with small-scale capital improvements or to think only about capital improvement solutions to a given concern.⁴⁷

Another point of critique has been the role of NYC government agencies in PBNYC and their approach to working with budget delegates. Su argues that NYC government agencies have more often followed a model of “managed participation” rather than the more empowering “collaborative coproduction” in their interactions with budget delegates. She argues that residents' ideas are constrained to fit existing rules and logics,

⁴⁴Kasdan and Markman, “A People’s Budget: Cycle 4: Key Findings.”

⁴⁵Soni Sangha, “Putting in Their 2 Cents,” *New York Times*, (March 30, 2012), available online at: <https://www.nytimes.com/2012/04/01/nyregion/for-some-new-yorkers-a-grand-experiment-in-participatory-budgeting.html>; Soni Sangha, “The Voters Speak: Yes to Bathrooms,” *New York Times* (April 6, 2012), available online at: <https://www.nytimes.com/2012/04/08/nyregion/voters-speak-in-budget-experiment-saying-yes-to-bathrooms.html>.

⁴⁶Hagelskamp et al., “Why Let the People Decide? Elected Officials on Participatory Budgeting.”

⁴⁷Su, “Beyond Inclusion: Critical Race Theory and Participatory Budgeting.”

thereby limiting the potential for residents to propose truly innovative investments.⁴⁸ Su describes how city agency representatives are often more motivated to rule out residents' project ideas (and in some cases offering their own prepared lists of alternative projects) rather than to work with delegates on finding ways to realize residents' ideas and priorities.

In sum, existing research suggests that PB-associated shifts in budgeting priorities, as observed in this article, may reflect popular ideas and preferences, especially from disenfranchised communities. At the same time, these shifts may be smaller and less meaningful than what they could have been if residents had larger budgets and were not constrained to capital spending. Next we will discuss how future research can build on the findings of this paper, to investigate empirically whether and how PBNYC has affected more equitable public spending.

Linking Shifts in Spending Priorities to Equitable Spending

First, we found that PB is associated with an increase in funding to projects benefitting public housing residents. On the one hand, this finding in itself could be viewed as indication that PB affects more equitable spending. Public housing residents are among the lowest income New Yorkers. Greater investments in security, playgrounds, greenspaces and equipment within housing developments mean greater investments in the well-being of socio-economically and politically disadvantaged communities. Moreover, as PB increases funding for public housing improvements, it may also succeed in drawing greater political attention to existing problems and increase residents' activism beyond the PB process.

However, Su argues that capital investments do not necessarily address low-income residents' greater concerns about poverty and safety in the neighborhood.⁴⁹ She further argues that projects such as installing security cameras in public housing (which have been funded by PBNYC) also imply increasing police surveillance in poor communities and hence counteract PB's social justice agenda. Residents may have more creative and potentially more impactful ideas for how to address safety concerns (for example training programs for unemployed youth), but are restricted to capital investments. Future research should further examine public housing residents' experiences with PB and the specific projects build with PB funds.

Second, we found that PB is associated with more funding for schools. Such investments should lead to more equitable distributions when traditionally marginalized communities are directly involved in all phases of PB and advocate for funding to low-income schools. Additionally, PB might reveal to council members that residents across the socioeconomic spectrum care about school improvements more than any other policy area. Voters might vote for projects that benefit schools in their vicinity *and* for school improvements in high-need neighborhoods. Such a PB process might further legitimize a council member's decision to allocate more of their remaining funds to schools in general or to the specific benefit of disadvantaged schools that did not win PB funds. Future research should examine how PB-induced prioritization of education translates

⁴⁸Su, "Managed Participation: City Agencies and Micropolitics in Participatory Budgeting."

⁴⁹Su, "Beyond Inclusion: Critical Race Theory and Participatory Budgeting."

into specific spending patterns and projects, and what the implications are for more disadvantaged vs. advantaged community members and their well-being.

Third, whether increased funds to street and traffic improvements represent more equitable spending again depends on who is most likely to benefit from these projects. Research that asks whether PB is associated with improvements in the lowest income neighborhoods or census blocks operationalizes beneficiaries as the people who live closest to the location where the project gets implemented. But this operationalization does not differentiate between projects at locations that are visited by people from around the district or entire city (for example streets and sidewalks at municipal buildings, hospitals, schools, waterfronts and major parks) and improvement to streets that are largely used by local residents. Future research needs to look carefully at how to define beneficiaries of streets and traffic improvements. It is also important to distinguish basic repairs and safety improvements from beautifications and consider their differential impacts on well-being.⁵⁰

Fourth, our research raises the question of who exactly has been affected by the reductions in funds to parks and recreation and to housing preservation and development. Do individual neighborhoods within a larger district experience a trade-off in which money that might have been invested in their local park or affordable housing development instead went to a nearby school? Or do higher income neighborhoods lose funding for their parks because the money was allocated to a project in a high-poverty school within a low-income neighborhood? Previous research supports the latter scenario, linking the adoption of PB with proportional shifts in funding from higher- to lower-income neighborhoods, yet not to the lowest income neighborhoods.⁵¹ Future research could combine geographic operationalization of beneficiaries with a focus on policy areas to examine whether shifts within and across specific policy areas correlate with a geographically more equitable distribution of funds.

Finally, even policy areas that have not seen significant shifts in funding as districts adopted PB may be affected by PB. Funding for *public libraries* or the *police*, for example, may have been affected by PB through a change in the *types* of funded projects and their respective beneficiaries. More public participation in budgeting may perhaps lead to more publicly visible projects and investments that residents view as more directly relevant for them, such as technology and furniture for libraries or street security equipment for the police. Future research should investigate whether PB is associated with qualitative shifts in the types of projects that are funded. In addition to defining the most likely beneficiaries of individual projects, research could also evaluate project originality, creativity and potential to impact well-being.

In sum, this study makes an important contribution to our understanding of PB's possible impacts on budgeting in the US. Building on the approach scholars have used to study PB in Brazil, this study of PB in New York City showed that in the politically and economically very different US context, PB can also be associated with shifts in budgeting priorities across policy areas. As PB is still a relatively new process in New York City, limited to small funds and with few projects implemented so far, we might be a long way from

⁵⁰Stewart et al., "Participatory Budgeting in the United States: A Preliminary Analysis of Chicago's 49th Ward Experiment."

⁵¹Shybalkina and Bifulco, "Does Participatory Budgeting Change the Share of Public Funding to Low Income Neighborhoods?"

detecting well-being impacts. Yet, this study provides crucial information for future investigations of linkages between PB investments, community improvements and residents' well-being by identifying the policy areas toward which and away from which PB shifts spending. With the presence and recognition of PB growing in NYC and elsewhere around the world, scholars should continue to examine whether and how PB affects spending patterns relative to conventional budgeting.

Disclosure Statement

No potential conflict of interest is reported by the authors.

Funding

This work was supported by the Democracy Fund [R20170501948].

Notes on contributors

Carolyn Hagelskamp is professor for social sciences and social science research methods at the Berlin School of Economics and Law and a senior fellow at Public Agenda. She earned her Ph.D. at New York University in community psychology. Her research concerns among others the implementation, expansion and impacts of participatory budgeting in the US. and Canada.

Rebecca Silliman is a Senior Research Associate at Public Agenda. She earned her master's degree from Teachers College, Columbia University in developmental psychology. In addition to her work on participatory budgeting, her research experience includes program evaluation and public opinion research on K-12 education.

Erin B. Godfrey is an associate professor in the Applied Psychology department at NYU's Steinhardt School of Culture, Education and Human Development. Her research explores how individuals perceive and justify social and economic systems and hierarchies, the psychological consequences of these inequalities, and ways to counteract the adverse effects of them. She also uses these perspectives to understand and improve upon contexts for the delivery of social services.

David Schleifer is Vice President and Director of Research at Public Agenda. He earned his Ph.D. from New York University in sociology. In addition to his research on participatory budgeting and other forms of civic engagement, he leads public opinion research projects in health care and education.

ORCID

Carolyn Hagelskamp  <http://orcid.org/0000-0002-2640-7015>