

‘TaxTrack’: Introducing a Democratic Innovation for Taxation

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Abstract: *In this article we introduce an input-oriented democratic innovation – that we term ‘TaxTrack’ – which offers individual taxpayers the means to engage with their political economies in three ways. After joining the TaxTrack program, an individual can: (1) see and understand how much, and what types, of taxes they have contributed, (2) see and understand how their tax contributions are, or have been, used, and (3) control what their tax contributions can, or cannot, be spent on. We explain this democratic innovation in two ways. The first is through evocation to prefigure what the innovation could look like in future practise which raises the prospects for both good and problematic outcomes. The second is through formal theory to produce a detailed model of the innovation to assist theory building. We conclude by discussing three interactive outcomes of ‘TaxTrack’ through the democratic innovations literature to establish the beginnings of a theory for the model. This theory tells us that ‘TaxTrack’ can return benefits to its users and the democratic regimes in which they are located but it may also place restrictions on output-oriented innovations like Participatory Budgeting.*

INTRODUCTION: BORN IN ‘THE GREAT DISCONNECT’

Central to discussions on democracies in crises¹⁰ – otherwise termed the ‘democratic malaise’¹¹ discourse – is the claim that elected governments, public servants, and public things¹² (e.g. institutions, infrastructure, common goods, services) – hereafter public affairs – are falling out of the frame of concern¹³ for individuals and groups in their day-to-day affairs. The explanations for why this trend of apathy or aversion toward mainstream democratic

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¹⁰ The crises literature is too vast to cover in references, so we offer here instead a selection of notable and well-cited readings: Takis Fotopoulos, *Towards an Inclusive Democracy: The Crisis of the Growth Economy and the Need for a New Liberatory Project*. Bloomsbury Publishing, 1997; Wolfgang Merkel, ‘Is there a crisis of democracy?’ *Democratic Theory*, 1(2), 2014 pp. 11-25; Selen Ercan and Jean-Paul Gagnon, ‘The Crisis of Democracy: Which Crisis? Which Democracy?’ *Democratic Theory*, 1(2), 2014, pp. 1-10; John Dryzek et al ‘The Crisis of Democracy and the Science of Deliberation’. *Science*, 363 (6432), 2019. pp. 1144-1146; Nadia Urbinati, ‘Reflections on the Meaning of the Crisis of Democracy’. *Democratic Theory*, 3(1), 2016, pp. 6-31; Peter Dahlgren, ‘Media, Knowledge, and Trust: The Deepening Epistemic Crisis of Democracy’. *Javnost – The Public*, 25 (1-2), 2018, pp. 20-27.

¹¹ See e.g. Luigi Di Gregorio, *Demopathy and the Democratic Malaise*. Cheltenham: Edward Elgar, 2021

¹² Bonnie Honig, *Public Things: Democracy in Disrepair*. New York: Fordham University Press, 2017.

¹³ Rod Dacombe and Phil Parvin, ‘Participatory Democracy in an Age of Inequality’. *Representation*, 57(2), 2021, pp. 145-157.

governance and the management of every-day public goods that people depend on are many.¹⁴ We do, however, judge that one of the most salient explanations for this complex and often pernicious dynamic is the now well-documented¹⁵ disconnect between institutions of governance and the citizens, residents, and visitors – hereafter people – that fund them through their taxes.

There is growing interdisciplinary research that demonstrates how institutions of governance – parliaments and associated policy networks, for instance – that are meant to serve people are simultaneously one of the main causes for people’s growing disinterest in public affairs¹⁶ and lack of trust in government. As Bertson observes, ‘political distrust is intertwined with the failure of representation’ as failures of transparency and accountability amongst representatives (as a supposed ‘political class’) are frequently assumed to be endemic to their relevant institutions.¹⁷ The existential risk for democratic regimes – such as those of the Australasian region¹⁸ – who continue to suffer from this ‘disconnect’ should not be underestimated. Indeed, this disconnect has been attributable to the reason why certain demographics – young adults in particular – are demonstrating tolerance for, even open acceptance of, non- or less-democratic regime types.¹⁹ As Curry and Romano²⁰ intimate, for a democracy to be sustained by its people, they must hold the ‘perception that the system works’ for their benefit. We further add the importance of inclusive social capital connections and the ability for individuals – regardless of class, race, ability, and gender – to participate in institutions and processes of formal-technocratic governance. Perhaps the central component to meeting such requirements is that people can see, for themselves, that they are able to access reliable information²¹ to make informed decisions that impact their lives – which increasingly means seeing that information for themselves without mediation or redaction by state authorities.²²

¹⁴ See, for example, Steve Davis, Larry Elin, and Grant Reeher (eds), *Click on Democracy: The Internet’s Power to Change Political Apathy into Civic Action*. London: Routledge, 2002; Viktor Dahl et al ‘Apathy or Alienation? Political Passivity Among Youths Across Eight European Union Countries’. *European Journal of Development Psychology*, 15(3), 2017, pp. 284-301.

¹⁵ See, for example, Susan Haarman, ‘Public Work for Public Problems’. *Philosophical Studies in Education*, 51, 2020, pp. 117-128; Carolyn M. Hendriks, Selen A. Ercan, and John Boswell, *Mending Democracy: Democratic Repair in Disconnected Times*. Oxford: Oxford University Press, 2020.

¹⁶ Chase Foster and Jeffrey Frieden, ‘Crisis of trust: Socio-economic determinants of Europeans’ confidence in government.’ *European Union Politics*, 18(4), 2017, 511-535; Eric Uslaner, ‘Trust, Democracy and Governance: Can Government Policies Influence Generalized Trust?’, pp.171-190 in M Hooghe, D. Stolle, (eds) *Generating Social Capital*. New York: Palgrave Macmillan, New York, 2003.

¹⁷ Eri Bertson, ‘Political Distrust and its Discontents: Exploring the Meaning, Expression and Significance of Political Distrust.’ *Societies*, 9(4), 2019, pp.1-18, p.1.

¹⁸ Mark Chou, Jean-Paul Gagnon, Catherine Hartung and Lesley J. Pruitt, *Young People, Citizenship and Political Participation*. London: Rowman & Littlefield, 2017, chapters 2 and 3 in particular.

¹⁹ Keith Heggart, *Activist Citizenship Education: A Framework for Creating Justice Citizens*. Cham: Springer, 2021, pp. 37-52 in particular; Peter Walker, ‘UK Poised to Embrace Authoritarianism, Warns Hansard Society’. *The Guardian*, 8 April 2019. Accessed at: <<https://www.theguardian.com/politics/2019/apr/08/uk-more-willing-embrace-authoritarianism-warn-hansard-audit-political-engagement>>.

²⁰ Todd A. Curry and Michael K. Romano, ‘Ideological Congruity on State Supreme Courts’. *Justice System Journal*, 39(2), 2018, pp. 139-154, p. 140.

²¹ Agustin Goenaga. ‘Who Cares About the Public Sphere?’ *European Journal of Political Research*, 61(1), 2021, pp. 230-254.

²² Eline Severs and Alexander Mattelaer. ‘A Crisis of Democratic Legitimacy? It’s About Legitimation, stupid!’ *European Policy Brief*, 2014. Accessed at: <<https://aei.pitt.edu/63549/1/EPB21-def.pdf>>.

The literature is also clear that there are dividends to be paid to elected representatives who try to re-connect people with the parliaments and other public institutions that serve them²³ through ‘democratic innovations’.²⁴ These include deliberative,²⁵ direct,²⁶ O2O (online-to-offline),²⁷ or agonistic²⁸ approaches, among others,²⁹ for people to collaborate with the institutions that govern them or otherwise serve them. Outside of politics, economics is portrayed as a technocratic space where ‘ordinary’ citizens cannot effectively participate due to insufficient knowledge and training. This, if anything, renders the economy a risky policy field to experiment with vis-à-vis sortition or governance of the economy by randomly chosen people. Citing Wolfgang Merkel,³⁰ George Vasilev and Jean-Paul Gagnon aver that there is an ‘exclusivity from democracy that economies in representative democracies have been enjoying since the 1970s’.³¹ Considering this, the dynamic of the ‘disconnect’ is arguably more pernicious in the policy field of economics.³² A number of these reconnective arrangements, therefore, take public finance, taxes, budgets, and spending as their primary concern.³³ The technique known as Participatory Budgeting (PB) is arguably the standout example from among them. PB, or *Orçamento Participativo* in Portuguese, is a direct-democracy technique established by the Brazilian Workers’ Party³⁴ in the 1980s and first institutionalized by Porto

²³ However, it is also important to point out that representatives do not always see citizen-institution connections as their responsibility. Discussing the case of the UK, Norton observes that traditionally ‘MPs were keen to promote themselves [but] devoted little time to the collective activity of promoting the institution of which they were a member. They were prepared to use it for their own purposes, but that did not necessarily enhance public awareness of, and support for, the institution of Parliament’. Philip Norton, ‘Parliament and Citizens in the United Kingdom.’ In Cristina Leston-Bandeira (eds), *Parliaments and Citizens*, New York: Routledge, 2013, pp.139-154, p.147.

²⁴ Kenneth Newton, ‘Curing the Democratic Malaise with Democratic Innovations.’ in Kenneth Newton and Brigitte Geissel (eds) *Evaluating Democratic Innovations: Curing the Democratic Malaise?* London: Routledge, 2012, pp. 3-20.

²⁵ Jonathan William Kuyper, ‘The Instrumental Value of Deliberative Democracy – or, Do we have good reasons to be deliberative democrats?’ *Journal of Deliberative Democracy*, 14(1), 2018, pp. 1-35.

²⁶ Menno D. T. de Jong, Sharon Neulen, and Sikke R. Jansma, ‘Citizens’ Intentions to Participate in Governmental Co-Creation Initiatives: Comparing Three Co-Creative Configurations’. *Government Information Quarterly*, 36(3), 2019, pp. 490-500.

²⁷ Jingrui Ju, Luling Liu, Yugiang Feng, ‘Design of an O2O Citizen Participation Ecosystem for Sustainable Governance’. *Information Systems Frontiers*, 21, 2019, pp. 605-620.

²⁸ Mark Wenman, *Agonistic Democracy: Constituent Power in the Era of Globalization*. Cambridge: Cambridge University Press, 2013.

²⁹ Sortition mechanisms, legislative theatre, electoral reform toward mathematically ‘fairer’ models like Mixed Member Proportional Representation, and radical practises of representation (e.g. ‘flatpack democracy’) are a few examples. For an example of how sortition can be used to meet ‘financial sustainability challenges’ at the local government level, see Joseph Drew, ‘Sort[ition]ing Out Local Government Financial Sustainability’. *Public Administration Quarterly*, 44(2), 2020, pp. 262-287.

³⁰ Wolfgang Merkel and Jean-Paul Gagnon, ‘Democracies and Their Crises Reconsidered’. *Democratic Theory*, 3(1), 2016, pp. 91-109.

³¹ Jean-Paul Gagnon and George Vasilev ‘Opportunity in the Crisis of Democracy’. *Democratic Theory*, 3(1), 2016, pp. 1-5.

³² As Dean, Asenbaum and Gagnon (2019, p. viii) state: ‘the economy and the workplace should receive much more attention from democratic theorists than it currently does’. Rikki Dean, Hans Asenbaum, and Jean-Paul Gagnon, ‘What Is Democratic Theory?’ *Democratic Theory*, 6(2), 2019, pp. v-xx. Similarly, Carole Pateman, in an interview with Graham Smith, rhetorically asks: ‘What’s politics about these days, largely? It’s about the economy’ (p. 113). Her encouragement for democratic theorists is for them to focus more on ‘social and economic structures’. See Carole Pateman and Graham Smith, ‘Reflecting on Fifty Years of Democratic Theory’. *Democratic Theory*, 6(2), 2019, pp.111-120.

³³ For example, social capital investment has been shown to create new opportunities for participation in economic life but is heavily dependent on local political, economic, and social contexts which determine delivery, outcome, and effectiveness.

³⁴ Adalmir Marquetti, Carlos E. Schonewald da Silva, and Al Campbell, ‘Participatory Economic Democracy in Action: Participatory Budgeting in Porto Alegre, 1989-2004’. *Review of Radical Political Economics*, 44(1), 2012, pp. 62-81.

Allegre's mayor Olívio Dutra in 1989 at the city level.³⁵ The idea of PB is to enable citizen participation in budgeting processes. It is *output* oriented. The rationale behind PB is that citizens have the right to determine how public moneys will be spent and, when they participate with state-sponsored budgeting officers in this, they also learn about the mechanics, procedures, and nature of the governance structures that rule them.³⁶ The expressions of sovereignty and civic learning from participants in PB, some researchers claim, can lead to strengthening democratic attitudes among participants.³⁷ Similar claims have been made about deliberative citizens juries convened to discuss matters of public finance.³⁸

Yet, despite the increasing popularity and uptake of PB and similar democratic innovations,³⁹ concern remains about the impact, efficacy, and sustainability of these events and processes.⁴⁰ There is further need for innovations in the provision of democratic innovations that are concerned with public finance. Thinkers like Dongwon Lee and Sujin Min⁴¹ or Sun-Moon Jung⁴² are, for example, investing their resources into improving existing arrangements, such as PB, to address these shortcomings. However, despite such efforts, these projects are not focusing on the *input* and individualised prospects of democratically engaging with taxes. The discussion to date has been budget or *output* oriented and is, therefore, concerned with collective prospects. We argue that this is a gap in both our theoretical and applied frameworks that concern people's democratic participation in public finance or state economics more broadly. We further suspect that democratising taxation, at the *input* stage, can productively, even provocatively, interact with the *output* stage – thereby having the potential to address the aforementioned criticisms, malaise, and gaps in PB and other democratic innovations.

We have reason to believe that when people participate in a formal model known as 'TaxTrack' – which enables an individual user to see what types of taxes they have contributed, the amount in total, where their dollars are being held or have been transferred to and to what function, and on what their dollars have been allocated and spent – they will be more inclined to participate in, for example, PB processes and engage with their

³⁵ Andreas Novy and Bernhard Leubolt, 'Participatory Budgeting in Porto Alegre: Social Innovation and the Dialectical Relationship of State and Civil Society'. *Urban Studies*, 42(11), 2005, pp. 2023-2036 at p. 2027.

³⁶ Sebastian H. Schneider and Stefan Busse, 'Participatory Budgeting in Germany – A Review of Empirical Findings'. *International Journal of Public Administration*, 42(3), 2018, pp. 259-273.

³⁷ Françoise Montambeault, 'Learning to be 'Better Democrats'? The Role of Informal Practices in Brazilian Participatory Budgeting Experiences'. In Maxwell A. Cameron, Eric Hershberg, and Kenneth E. Sharpe (eds) *New Institutions for Participatory Democracy in Latin America*. London: Palgrave MacMillan, 2012, pp. 99-122.

³⁸ Sara A. Mehlretter Drury, Stephen Elstub, Oliver Escobar and Jennifer Roberts, 'Deliberative Quality and Expertise: Uses of Evidence in Citizens' Juries on Wind Farms'. *Journal of Public Deliberation*, 7(2), 2021, pp. 31-44. See, also, the Participedia cases on the 'Penrith Community Panel in New South Wales, Australia'. (Accessed at: <<https://participedia.net/case/4408>>), the 'Yarra Valley Water Citizens' Jury' (Accessed at: <<https://participedia.net/case/5870>>), and the state of Victoria's 'Transport Network Pricing Community Panel' (Accessed at: <<https://participedia.net/case/5934>>).

³⁹ For 28 cases that link participation to economic advancement, see Participedia's collection on that theme here: Accessed at: <<https://participedia.net/collection/6774?page=1>>.

⁴⁰ See Schneider & Busse, *Participatory Budgeting in Germany*. For empirical data from Germany. See also, Leonardo Avritzer, *The Two Faces of Institutional Innovation: Promises and Limits of Democratic Participation in Latin America*. Edward Elgar Publishing, 2017.

⁴¹ Dongwon Lee and Sujin Min, 'Participatory Budgeting and the Pattern of Local Government Spending: Evidence from South Korea'. *European Journal of Political Economy*, 2022, Article #102235.

⁴² Sun-Moon Jung, 'Participatory Budgeting and Government Efficiency: Evidence from Municipal Governments in South Korea'. *International Review of Administrative Sciences*, 2021 Accessed at: <<https://doi.org/10.1177%2F0020852321991208>>.

governments when it comes time to decide how a budget will be spent.⁴³ This is because prior research has shown that if people participate in a successful (here meaning politically impactful with obvious legislative or regulatory outcomes) democratic innovation they are more likely to do so again, and with increased political efficacy.⁴⁴ Further, we also argue that people will likely demonstrate more engagement in public affairs, and that they will likely demonstrate stronger democratic attitudes, if they are awarded the capacity to determine what their tax contributions can, or cannot, be spent on and to see that these controls have thereafter been adhered to by those authorized to spend them. This verification function can be provided to people by giving them access to the paid invoices in which all, or some portion of, their tax contributions have been used.⁴⁵

These controls on individual tax contributions have the capacity to shape budget outcomes. Mapping tax contributions would further underline the values of co-creation and co-participation with those paying the taxes and for whom these tax contributions are intended to benefit. However, this limits the scope that governments and their partners in, for example, PB processes must spend at their discretion as they may face surpluses predetermined by TaxTrack users in certain areas like education, environmentalism and healthcare and shortfalls in typically less popular – but arguably necessary – areas such as defence, policing and politician salaries. There may, therefore, be a negative interaction between TaxTrack at the *input* stage and PB at the *output* stage – hence the provocation – which warrants further research.

Our aim in this article is, however, to introduce the TaxTrack model. To do this, we begin with an evocative explanation of the TaxTrack model from future user-perspectives and then from future analyst perspectives.⁴⁶ An artist-activist technique of running future situations to establish present-day concepts is the method followed in that section.⁴⁷ Importantly, budget allocations of public taxes also reveal what types of present-futures participants and governments are actively trying to create.⁴⁸ We then transfer the evocative expression of the model into formal logic. As Robinaugh et al explain, ‘we must equip researchers [we would add parliamentarians, too] with tools that allow them to better generate, evaluate, and

⁴³ The difference between the two models is that in TaxTrack an individual can determine, privately, how their tax contributions should or can be spent. In Participatory Budgeting, the same individual can participate with others in making determinations about the total budget, or a portion of that budget. TaxTrack is oriented to the individual who can engage with the model privately and make determinations about their tax contributions or the input of one person’s tax moneys. Participatory Budgeting is oriented to the collective who can publicly engage with budgets or the output of many people’s tax contributions.

⁴⁴ Ross Ferguson, ‘Convergent Evolution: The Development of Online Engagement in Westminster and Whitehall Through the Use of Online Forums’. *Parliamentary Affairs*, 61(1), 2008, pp. 216-255, at p. 221. Michael A. Neblo, Kevin M. Esterling, and David M. J. Lazer, *Politics with the People: Building a Directly Representative Democracy*. Cambridge: Cambridge University Press, 2018.

⁴⁵ Verification of adherence is fundamental to accountability and the success of such a program. For example, in the US and Canada, there have been tensions when PB outcomes go against government interests and then lead to declining levels of participation (re: policing budgets). For more on the interplay between PB and power, see Gianpaolo Baiocchi and Ernesto Ganuza, ‘Participatory Budgeting as If Emancipation Mattered’. *Politics & Society*, 42(1), 2014, pp. 29-50.

⁴⁶ The first-person, or actor’s role, is adopted for the user-perspectives and the third-person, or observer’s role, for the analyst perspectives to offer a more diverse evocation of the TaxTrack model.

⁴⁷ Taeyoon Choi, Aaron Labbe, Annie Segarra, Elizabeth Sweeney, and Syrus Marcus Ware, ‘Disability and Deaf Futures’. *Studies in Social Justice*, 15(2), 2021 pp. 334-343.

⁴⁸ Through democratizing economic planning participants have direct say in what kind of economic future they want.

develop their theories'.⁴⁹ It is only when we render our theories into the confines of formal expression that we lay bare their nature, fix their essential properties, and are then able to exercise our 'fine callipers'⁵⁰ upon them. To assist in achieving Robinaugh et al's desired function of formalized theory, and to stimulate discussion, the model is given in two forms: (1) a simplified model and (2) a pluralized model. We conclude by discussing the simplified model in relation to the democratic innovations literature to establish the beginnings of a democratic innovations-informed theory for TaxTrack. We do this to demonstrate that there are numerous potential normative and instrumental benefits, or 'goods',⁵¹ that may come to individuals using the TaxTrack model – chief of which is engagement with public affairs – which warrants further research and feasibility studies by governments, scholars and practitioners, alike or together.⁵²

'TAXTRACK' IN EVOCATION

The artist-activist method, which Syrus Marcus Ware co-develops over several creative works and speeches,⁵³ invites the user to offer emotive and relational 'portraits' of a concept in action – usually in one or more future times and usually from more than one perspective. This technique has the potential to consider the perspectives of disempowered or otherwise marginalized users by adopting an intersectional approach.⁵⁴ Ware has demonstrated his method through theatre, documentary, film, drawn or painted portraits, and collective imagination facilitated through text (written, spoken). We follow his method by using textual accounts of TaxTrack in use in the future and from two different perspectives for a total of four short scenarios. This, as Ware makes clear, enables us as writers and you as readers to 'shed light on theoretical problems' and to 'present activist struggle' in 'these times'. The four scenarios are given as: (1) The Future User, reality 1, (2) The Future User, reality 2, (3) The Future Analyst, reality 1, and (4) The Future Analyst, reality 2.

Portrait (1) The Future User, reality 1.

Consider yourself in the future. It is that day of the week for your customary outing and you travel to your preferred shop to tend to your satisfactions. At the teller, you present your goods and, when it is time to pay for them, you are prompted by a now familiar message:

⁴⁹ Donald J. Robinaugh, Jonas M. B. Haslbeck, Oisín Ryan, Eiko I. Fried, and Lourens J. Waldrop, 'Invisible Hands and Fine Callipers: A Call to Use Formal Theory as a Toolkit for Theory Construction'. *Perspectives on Psychological Science*, 16(4), 2021, pp. 725-743, at p. 725.

⁵⁰ Ibid.

⁵¹ Busk wisely advises researchers not to over-estimate such 'goods' as these outcomes should be brokered by the demos. Otherwise, 'In the end, advocating for [any type of democracy or democratic innovation] is nothing more than advocating for a certain form of politics, with or without the *demos*' (p. 694). See Larry Alan Busk, 'Schmitt's Democratic Dialectic: On the Limits of Democracy as a Value'. *Philosophy and Social Criticism*, 47(6), 2021, pp. 681-701.

⁵² Normatively, the emphasis in this article is on researching together. Asenbaum, for example, demonstrates that 'democratizing' research by working together can lead to empowering participants and the research project alike. See Hans Asenbaum, 'Doing Democratic Theory Democratically'. *International Journal of Qualitative Methods*, 21, 2022, pp. 1-12.

⁵³ See, e.g. Syrus Marcus Ware, 'Irresistible Revolution: Black, Trans, and Disabled World-Making Through Activist Portraiture'. *PhD Dissertation*, 2021. Accessed at: <<https://yorkspace.library.yorku.ca/xmlui/handle/10315/39041>>; Ware, 'The Black Radical: Fungibility, Activism, and Portraiture in These Times'. In Eliza Steinbock, Bram Ieven, Marijke de Valck (eds) *Art and Activism in the Age of Systemic Crisis: Aesthetic Resilience*. New York: Routledge, 2020, pp. 158-168.

⁵⁴ Marta Wojciechowska, 'Toward Intersectional Democratic Innovations'. *Political Studies*, 67(4), 2019, pp. 895-911.

>> please provide your TaxTrack number prior to payment<<

You quickly enter your number by tapping your government issued TaxTrack card, you pay and carry on with your day. In the background, through digital channels embodied and connected by the usual boxes, wires, and satellite dishes, each of your tax dollars are 'laced'⁵⁵ with your number and then sent to their respective locations pursuant to context: municipal, state, territory, province, region and federal/national treasuries.

Fast forward in this cassette of time to when you are paying your taxes to your state government. These are annual property taxes. For example, in the State of Victoria, Australia, if your property was worth \$950,000 you would pay \$975 plus 0.5% of your property's worth over \$600,000. In this example, your property tax contribution for this year is \$18,475.⁵⁶ Again, you are invited to enter your TaxTrack number when submitting that payment. Fast forward again and again to when you are paying capital gains tax, income tax, various excise taxes (e.g. for motor fuel, tobacco), foreign income tax, 'stamp' duties, import taxes, and so forth. On each of these occasions you have entered your TaxTrack number and on each of these occasions your tax dollars were 'laced' with it.

Still later in time, you find yourself having a spare moment in your doctor's waiting room, so you open your mobile device, select the TaxTrack application, work through your identification security screening, and then begin to explore the information provided to you by the app. Since registering with TaxTrack you have contributed over one hundred thousand dollars in taxes to the federal/national treasury and sub-national treasuries like those of your state/territory/province and municipality. The app tells you that the national/federal government has used your money to service the country's debt, to fund a ministerial inquisition into environmental degradation in one of your country's World Heritage Sites, to increase policing budgets, and that several thousand dollars were spent on ammunition for your country's armed forces. The municipality used your money to support a public fund that is being grown to generate sustainable funding through monthly interest returns for the homeless people in your town, and then to pay for the repair of a road, and lastly to pay for the salary of the town's mayor.

You select further information by clicking on an invoice for the road repair, noting your surprise of the high cost of this work. At this juncture, you furrow your brow and wonder why your money was used to buy ammunition but also given to support the local mayor's salary – whose name you only just found out whilst perusing through the app. You then open the 'spending controls' tab in the app and stipulate that your tax contributions are *not* to be spent on ammunition nor for the salary of the mayor (as you don't understand what it is they exactly do – perhaps you will change this setting later when you know more). You also select that 25% of all your state/territory/provincial tax contributions *can only* be spent on healthcare, as wait times and prescriptions prices are on the increase. At the same time, you stipulate that only 5% of your tax contributions can be spent on policing, as you are wary about unfolding militarization of, and discrimination in, that particular public service.

⁵⁵ The logic of 'lacing' is similar to the 'encryption' method used by End-to-End Auditable Voting Systems which is designed to allow an individual to anonymously track and verify if their ballot has been counted correctly. For more on the end-to-end method, see Lowry and Vora, 'Desirable Properties of Voting Systems', End-to-End discussion paper, 2009. Accessed at: <<https://www.nist.gov/publications/desirable-properties-voting-systems>>.

⁵⁶ For the State of Victoria's property tax scheme, see State Revenue Officer of Victoria, 'Land Tax Current Rates', Website. Accessed at: <<https://www.sro.vic.gov.au/land-tax-current-rates>>.

Portrait (2) The Future User, reality 2

TaxTrack has been in use for decades now. The news reports that rates of participation steadily increase and are sustainable year-over-year. Even though you are a modest pensioner, with no schooling beyond year ten, you are a firm believer in education and have stipulated the control in your app that your tax dollars can only be used for educative purposes, irrespective of which level of government your money has gone to. At the municipal level, in your country town, your money will hopefully be used to support the after-school clubs and holiday camps for local kids. At the sub-national level, your money will hopefully be used to lower prices for children at the canteen. And at the federal/national level your money will hopefully end up funding more places so that disadvantaged people can pursue their dreams beyond secondary school, beyond year ten, without having to think about generating income and avoiding crippling debt – concerns that were once yours. In fact, you regularly check the invoices and make virtual appointments to see your treasurers in government or their aides (or representatives in parliament who scrutinize and oversee them), as needed, when spending isn't happening your way. You feel motivated to contact your elected representatives to communicate your concerns over spending.⁵⁷ So much so that public servants, Jess and Philomena, at the sub-national treasury now know you by name and make sure your contributions are, as you say, 'correctly spent'.

Portrait (3) The Future Analyst, reality 1

Reya, a computer scientist, former social worker, and presently serving senior analyst for the intergovernmental TaxTrack programme, is in full concentration over the algorithmic projections for her client's (governments') budgets. She, like dozens of other analysts, provide up-to-date reports on several municipal government budgets and fields questions from the officers of those budgets. There are separate interdisciplinary teams for the sub-national and national/federal government budgets. What Reya sees is a constantly fluctuating projection of available moneys and the permissions or restrictions associated with them in aggregate, as determined by the individual *inputs* constituting them.

This level of individual control over spending started well in its initial premise: citizens, residents, even temporary visitors were engaging with the application. Over time though, as people, especially policy communities, wealthy individuals, large businesses, and business blocs became familiar with the model, governments had to discuss unintended outcomes. For example, despite the larger number of less wealthy people who are individually and sometimes collectively placing controls on their spending, this proved to not be enough to outweigh the special interests of the wealthier minority.

Municipal, sub-national, and national/federal governments are all facing the same issue when it comes time to prepare budgets and spending protocols with their citizen partners in various Participatory Budgeting arrangements. They are forced to spend on certain policy fields to the detriment of others that would benefit the greater number. This is why a national deliberative citizens' assembly, which will deliberate with a parliamentary committee in numerous stages over two years, has been convened: all governments need further guidance from their

⁵⁷ A question to explore in further research is whether TaxTrack can (a) lead to more communication between voters and their elected representatives and, if yes, then (b) does this support the scrutiny function of parliament over government finances? This line of inquiry may promote a more participatory approach to supporting a parliament's oversight in relation to spending by government.

sovereigns (citizens) on how to respond to strategic controls on spending by wealthy minorities. The citizens' assembly on TaxTrack will advise parliament on this topic, feeding into the next round of review for the model.

Portrait (4) The Future Analyst, reality 2

Sarak works with the interdisciplinary team that manages his country's national TaxTrack application. They feel that the model is a responsible bargain between individual users, their elected representatives (i.e. parliamentarians), and groups of citizens who participate with their representatives when it comes time to plan and spend the budget. As TaxTrack gained prominence in their country, Sarak kept a close eye on the news about how the national/federal government perceived its potentials and risks, partly out of curiosity over this novelty but also out of career strategy: they just finished a Master of Political Science, specializing in artificial intelligence, systems of democracy, and public finance.

The values held by the government initiating the first TaxTrack trials at the national level were socially progressive but fiscally conservative. It was, therefore, decided that the TaxTrack model should first be in the service of long-standing national priorities like poverty alleviation, environmental regeneration, and stimulating local business acumen. Therefore, no controls would be placed on the choice that people of lower income have about what their tax dollars can/should or cannot/should not be spent on. For the individuals, which includes corporations, earning over a certain threshold, the government decided that they could only determine a maximum of 50% of their tax dollars. The other 50% would be controlled by the government and its citizen partners in various PB arrangements. This would enable the government and its partners to sustain environmental regeneration and local business development programs without, at least in this scenario, the strategic interference of moneyed interests.

TAXTRACK IN TWO FORMAL MODELS

These four scenarios offer an evocative explanation of the TaxTrack model if it were built into the fabric of society – if it became institutionalised, competently implemented, and common in use. As we hope to have made clear in these 'portraits', TaxTrack is unlikely to be antidotal to long-standing and new policy problems nor to political considerations over stability and responsible governance. It is, we assert, most promising in its capacity to assist in the kaleidoscope of ongoing efforts to re-connect, re-interest, and re-engage people with their public affairs and institutions, in particular with parliaments.

Our model's capacity to do this is entirely due to its *input* orientation. We are primarily concerned with democratizing taxation to the level of the private individual and not the public collective as happens through PB for example. This, in the model, can afford the individual secure access to their government's invoices, spending, and the public/civil service teams or personnel responsible for the spend and the public or private partners who got the work done. This level of detail – which an individual can engage with privately – renders the financial trails in parliaments and government ministries, departments, and offices more transparent to taxpayers, thus supporting democratic accountability. It can, likewise, afford the individual the capacity to establish what they consider an acceptable use of their tax contributions. We will explain the potential benefits that these dynamics can yield for

individuals and their democratic regimes in the next section by relating them to similar dynamics that have already been thoroughly tested in the democratic innovations literature.

Presently, our focus is given to the formal presentation of our model in two registers: (1) the simplified model and (2) the pluralized model. This formalization renders the evocative explanation of TaxTrack into rigid logical parameters which makes theory-building more feasible.

The Simplified Model

The simplified TaxTrack model is rendered into formal terms as follows. A , which represents the individual, contributes B , which represents taxes. This is given as:

$$A \rightarrow B$$

The B that A contributes is recorded by C , which represents the TaxTrack application.

$$A \rightarrow B \rightarrow C$$

C communicates D , which represents financial information, back to A but also to E , which represents the spending authority (e.g. the officers a government appoints for this purpose).

$$A \rightarrow B \rightarrow C \text{ then } C \rightarrow D \rightarrow A \& E$$

E spends B as controlled by A . This is given as:

$$A \rightarrow B \rightarrow C \text{ then } C \rightarrow D \rightarrow A \& E \text{ then } E \rightarrow B(A)$$

F , which represents feedback on A 's controls and interactions with the app and E 's spending and associated records (e.g. invoices, contracts, etc.), informs A and E through C . F can modify A 's behaviour prompting A to place controls on their prospective B . It can equally modify E 's behaviour as, for example, it affords E the capacity to plan responses to A 's controls or to message A to increase their engagement levels. This modified behaviour is represented as $A \rightarrow C(B)$. This is given as:

$$F \rightarrow A \& E \text{ then } A \rightarrow C(B) \text{ and } E \rightarrow A(C)$$

At this point, the circuit closes as A , after placing controls on their B in C , will continue to contribute B which is then recorded by C . Likewise, E is responding to data from A . This is given as:

$$A \rightarrow B \rightarrow C \text{ then } C \rightarrow D \rightarrow A \& E \text{ then } E \rightarrow B(A) \text{ then } F \rightarrow A \& E \\ \text{then } A \rightarrow C(B) \text{ and } E \rightarrow A(C) \text{ then } A \rightarrow B \rightarrow C \text{ etc}$$

We have now established the simplified model. The complete simplified model proceeds in six steps as follows:

(1) A (an individual) contributes B (tax money) which is recorded by C (the TaxTrack application). Then, (2) C (the application) communicates D (financial information) to A (the individual) & E (the spending authority). Then, (3) E (the spending authority) spends B (tax money) which is controlled by A (the individual). Then, (4) F (feedback) informs both A (the individual) and E (the spending authority) through C (the application). Then, (6) A places

controls on their B in C and E communicates back to A through C. Then, (6) A (the individual) contributes B (tax money) which is recorded by C (the application), and a new cycle begins.

The Plural Model

In the plural model, there are infinite A (individuals) whose participation in the application fluctuates from no use to constant use. This is represented as: A^n (infinite individuals) and $A^{0,1}$ (an individual's use of the application, where 0 represents no use and 1 always in use). They are referred to as the 'As'.

The As contribute finite B (tax moneys, e.g. income tax, sales taxes, property tax, etc.,) which fluctuate in amount based on the economic activity of the As from low contributions to high contributions. B therefore becomes B^n to represent the finitude of tax moneys, and, $B^{0,1}$ to represent fluctuating contributions where 0 is low contributions and 1 is high contributions. These are referred to as the 'Bs'. Given that 0 and 1 are not maximalist values, as a person participating in society will invariably contribute taxes to some degree, the parameters for 'low' and 'high' are individual-specific and can be worked out, over time, through an individual's use of the TaxTrack application.

The Bs (finite and fluctuating tax contributions) of the As are recorded by C (the TaxTrack application) which communicates D a finite amount of financial data, from simple mediated information to complex raw information, back to the As and to a finite number of E (spending authorities). D therefore becomes $D^{0,1}$ where 0 refers to simple mediated information and 1 to complex raw information. It is possible here for an A or an E to select either 0 or 1, perhaps even select an artificial intelligence mediated information product in between the two parameters. As with the Bs above, 0 and 1 in relation to D are not maximalist parameters and this information needs to be defined by both TaxTrack users and spending authorities.

Whilst $D^{0,1}$ is communicated to As through C it is also communicated to E , which now refers to a finitude of spending authorities (e.g. local or municipal, state/territory/provincial/regional or sub-national, and federal/national) which is represented as E^n but referred to as 'Es' for simplicity. Given that informational asymmetry is already well-documented in the intergovernmental relations literature, there is scope for $D^{0,1}$ to provide real-time public finance information to all Es simultaneously through their use of C .

The F , or feedback, on the way Es spent the Bs is reported to the As and the Es through $D^{0,1}$ in real time. Different to the simplified model, in the plural model F is merely the function that feeds information presented by $D^{0,1}$. D and F are the same except they perform different functions. $D^{0,1}$ presents financial information through C to As & Es and F feeds that information into D . This is given as $(F)D^{0,1}$.

In the pluralized model, each of the Es has the authority to apply rules to the way As can control their tax contributions and to what extent. This is represented as $As(Es)$. As can work together to formulate political strategies by placing spending controls on the Es . This is represented as $As(Es) \rightarrow C(B)$. $D^{0,1}$ affords both Es and As equal opportunity to engage with budgeting information which may, or may not, constitute risk to state security and lead to improved or worsened intergovernmental relations. The pluralized model is given as follows:

$$As \rightarrow Bs \rightarrow C \text{ then } As(Es) \rightarrow C(B) \rightarrow (F)D^{0,1} \rightarrow As \& Es \text{ then } Es \rightarrow Bs(As) \rightarrow F$$

then $F \rightarrow D^{0,1} \rightarrow C \rightarrow As \& Es$ then $As \rightarrow Bs \rightarrow C$ etc

Discussion

The simplified model portrays a staged and circuitous system that allows individuals the opportunity to understand how many tax dollars they have contributed from the time they registered to use the TaxTrack application. Users can understand where their tax dollars are housed, by whom, and what role they are fulfilling or have fulfilled as per the spending authority's discretion. Some users may be able to control all or some of their tax contributions before they are spent or are assigned to some other financial operation, such as a public savings plan. Others may see that their dollars have already been issued to some purpose and may, therefore, place controls on their future tax contributions. This behaviour is informed by the feedback mechanism.⁵⁸

Opportunities and risks abound in the simplified model. For example, TaxTrack may prove capable of combatting the influence of lobbyists on governments, pork-barrelling by governments, and it could also shed more light on public private partnerships, quasi-governmental contracts, and other network-governance arrangements. It may even lead to an increase in people's discussion over whether governments should be funding more services, which may increase taxes, or less, so that private industry fills the service gaps and for taxes to be lowered (i.e. big state vs. small).

TaxTrack opens consultation. Deliberation can, for example, be concurrently organized to discuss how controls by users should be conducted or to discuss how financial information is presented to both users and spenders in the TaxTrack app. Further, people can opt-into public/participatory budgeting processes within the app and be drawn randomly from there. People may also discover their future tax contributions are earmarked for historically agreed projects and this may cause tension if they are not in favour with the project or the cost of the spend. Unions invested in the project could end up having to convince people to continue funding public servants or to increase their pay and benefits. People, through collective action, may decide to implement social accountability mechanisms to ensure vulnerable or marginalized members of their community receive adequate support. Conversely, a user's controls over their tax contributions may lead to budget shortfalls in key areas for governments which may result in, for instance, their inability to meet international treaty obligations and pensions for the aged (especially in contexts where young people outnumber the older adults). Indeed, demographic selfishness and short-term values exhibited by users through their controls may lead to social dysfunctions or, in a more generous reading, people and governments may anticipate this risk and start conversations on how to avoid, or justify, anticipated dysfunctionalities. These risks, and their mitigation strategies, will need to be carefully investigated in controlled studies.

The pluralized model also portrays a circuitous system but one that is complicated by real time information exchange and that offers more choice and complexity. Participants are many, their levels of engagement with the app fluctuate, their tax contributions are finite but may fluctuate from year to year as individual spending habits are rarely fixed. Tax

⁵⁸ A government using the TaxTrack application may opt to implement 'nudges' to inform a TaxTrack user about the behaviour of their peers using the app. For example, an infographic may state that the average user spends 27% more time examining invoices than they do (therefore hoping for increased engagement with spending records) or that 74% of users are supporting a temporary healthcare tax levy (therefore hoping for increased support of the levy).

contributions in this model go to a finite number of government treasuries with controls that can be stable or with controls that fluctuate as fast as a user can manipulate the app – this may constitute a digital security risk that may require mitigation through an algorithm product. The application can return simple or complex financial information to its users (tax payers) and, also, to government authorities (spenders) which may be fully autonomous and randomly selected individuals running a government-sponsored Participatory Budgeting process or the opposite.

In the plural model, the governing authority may choose to restrict the amount of control users have over their tax dollars or to assign specific permissions to specific income brackets or types of persons (thinking, here, especially of corporations as persons). Users may, in turn, decide to pool their controls in bids to restrict or otherwise outmanoeuvre one or more spending authorities or other user cabals.

The equitability of access to financial information given through the TaxTrack app may raise concerns over state security as foreign agents with nefarious purposes or other people with criminal intent may use this information to gain advantage for their sponsors or to their criminal interests. There is also concern over the abuse of individual tax controls by violent partners or guardians as domestic tyrants may be able to manipulate the choices of their victims. We have further concerns and questions such as over digital exclusion as not everyone has the capacity to access the required technology to use the TaxTrack app, over the age that a user should have to participate (we suggest that a person crosses the boundary the minute they contribute their first tax dollar), and over what TaxTrack data may look like for spending authorities who are typically accustomed to viewing more static or fixed data on their budgets.

If TaxTrack were used, it may spell boon or bane to its users: individuals, governments, institutions of governance such as parliaments, and policy communities alike. And whilst all TaxTrack's prospective claims and questions raised merit testing and exploration in controlled research trials, we will, instead, here draw out interactive situations from TaxTrack that have already been thoroughly researched in the democratic innovations literature to establish the beginnings of a theory for the model. We do this to demonstrate that TaxTrack can offer normative and instrumental benefits to its users – both individuals and the democratic regime(s) that have implemented the model.

CONCLUSION: A DEMOCRATIC INNOVATIONS-INFORMED THEORY

Three interactive situations are drawn out of the TaxTrack model as they relate, thematically, to previously conducted studies in the democratic innovations literature. They are (1) when a person gets information from their TaxTrack app [when $D^{o,i}$ is communicated back to As through C], (2) when a person can interact with the spending information from the app [when As interact with $D^{o,i}$ through C], and (3) when a person can place controls on how their future, or unspent, tax contributions can or cannot be spent by the spending authority [when As determine controls in C]. The first situation is an invocation of transparency in governance. The second situation is an invocation of accountability and anti-corruption in governance. And the third situation is an invocation of sovereign control in governance, or, to put it differently, of direct engagement by citizens.

The democratic innovations literature is replete with evidence of the normative and instrumental benefits or ‘goods’ that come to individuals when they can access information, hold individuals in government or other positions of power to account, and exercise their power in the governance of themselves and of others.⁵⁹ We will work through each interactive situation to demonstrate the likelihood of reproducing these outcomes should TaxTrack be used, be embedded,⁶⁰ in the real world and in contexts where other democratic innovations are already in use. As Frank Hendriks reminds, any ‘theory of democratic innovation’ must be ‘aware of and [be] sensitive to the reality of democratic hybridization’.⁶¹ Of particular interest to us is, therefore, to study how TaxTrack may interact (beneficially or not) with PB and democratic deliberation processes more generally – especially over matters of public finance.

Further, we would like to explore Culawaerts and Reuchamps claim⁶² that a democratic innovation’s disruptive potential to the governing order is *not* related to its perceived legitimacy. We understand legitimacy as something that is built, over time, through a thing’s increased usage and proven capacity.⁶³ Therefore, it may be possible for TaxTrack to make inroads towards participating in, and hopefully sustaining, existing democratic innovation systems.

Interactive Situation 1, Transparency

Archon Fung writes in his portrait of ‘infotopia’⁶⁴ that for people to engage with transparency it needs to satisfy four principles. These are, first, that information ‘should be rich, deep, and readily available’. The second is that the provision of this information should not jeopardize people’s interests (e.g. reveal state secrets, leak private information, etc.). Third is that information ‘should be organized and provided in ways that are accessible’ to users. And the fourth is that it should be possible for users to act based on the information they have been given access to. If these conditions are met in TaxTrack, Fung’s theory suggests that the application can lead to civic learning (as also indicated in *Future User, reality 2*). More specifically, use of the application may lead to individuals obtaining information about their contributions to public affairs, how their contributions are used by the agents that govern them, to what effect, and how individuals can then respond to this information.

⁵⁹ See, Francesco Veri, ‘Mapping Democratic Innovations: A Bottom-Up Empirical Perspective.’ *Representation*, Online First, 2022. Accessed at: <<https://doi.org/10.1080/00344893.2022.2075032>> and Graham Smith, Robert C. Richards Jr., John Gastil, ‘The Potential of Participedia as a Crowdsourcing Tool for Comparative Analysis of Democratic Innovations.’ *Policy and Internet*, 7(2), 2015, pp. 243-262, for discussions about insights from *Participedia*, the largest database documenting democratic innovations from around the world.

⁶⁰ Sonia Bussu, Adrian Bua, Rikki Dean and Graham Smith, ‘Introduction: Embedding Participatory Governance’. *Critical Policy Studies*, 16(2), 2022, pp. 133-145.

⁶¹ Frank Hendriks, ‘Democratic Innovation Beyond Deliberative Reflection: The Plebiscitary Rebound and the Advent of Action-Oriented Democracy’. *Democratization*, 26(3), 2018, pp. 444-464.

⁶² Didier Culawaerts and Min Reuchamps, ‘Generating Democratic Legitimacy through Deliberative Innovations: The Role of Embeddedness and Disruptiveness’. *Representation*, 52(1), 2016, pp. 13-27.

⁶³ This can particularly be seen in the field of environmental sustainability as noted by Inge Stupak, Maha Mansoor, and C. Tattersall Smith, ‘Conceptual Framework for Increasing Legitimacy and Trust of Sustainability Governance.’ *Energy Sustainability, and Society*, 11, 2021, Article #5. Accessed at: <<https://energysustainsoc.biomedcentral.com/articles/10.1186/s13705-021-00280-x>>.

⁶⁴ Archon Fung, ‘Infotopia: Unleashing the Democratic Power of Transparency’. *Politics & Society*, 41(2), 2013, pp. 183-212.

Interactive Situation 2, Accountability and Anti-Corruption

Fung's theory of transparency unlocks the TaxTrack user's capacity to hold agents of the state, and the businesses (public, private or otherwise) that have been commissioned by the state to conduct works on behalf of people to account. In clientelist states with patronage problems, transparency of information can even lead to diminishing patron-client relationships and therefore result in a decrease of the patronage problem.⁶⁵ In TaxTrack, this is especially true of individuals being able to read the invoices that their tax contributions were used to pay in full or in part. An over-reliance on one firm could, for example, raise red flags around competition fairness or the ties a government official might have with that firm.

As Stephen Elstub and Oliver Escobar write, 'we live in a time where the ideal of democracy is widely loved, but its practices are broadly criticised'.⁶⁶ Designing systems in which individuals can participate, can practice civic arts, appears to be a means to alleviate this pernicious dynamic. When it comes to an individual who is reading invoices through TaxTrack they are ensuring that spending decisions are not made privately. From user to invoice, from invoice to its issuer, and from the person who paid that invoice to the issuer, a direct line of accountability can be created by the user themselves, over and over again.⁶⁷ Such 'lines of accountability',⁶⁸ as Graham Smith attests, can combat corruption and lead to people trusting their governments more which may lead to reinforcing a person's commitment to their democratic regime or to other regimes which offer similar democratic services to their people. It may also prove the opposite and lead to declining levels of trust in cases where TaxTrack inputs are noticeably ignored by government.⁶⁹

Interactive Situation 3, Direct Engagement

Albert Dzur⁷⁰ advises his readers not to fall into the trap of the 'insanity problem': which is to try the same thing over, and over, again expecting different results. His interjection is given in the democratic innovations literature to chide static representative governance: more of the same, of keeping people at arms-length from exercising their sovereignty, will not fix democratic malaises. Dzur's chiding, however, falls short of a full criticism which Jäske and Setälä⁷¹ round out by advising that once people *are* directly engaging, when something new *is* being tried, it is imperative to focus on the function that the people are performing and the results of their functions. If we do not focus on function, then this 'something new' may fall into a symbolic role and lead to repetition.

⁶⁵ Julien Talpin, 'When Democratic Innovations Let the People Decide: An Evaluation of Co-Governance Experiments'. In Kenneth Newton and Brigitte Geissel (eds) *Evaluating Democratic Innovations: Curing the Democratic Malaise?* New York: Routledge, 2012, pp. 184-206.

⁶⁶ Stephen Elstub and Oliver Escobar, 'Introduction to the *Handbook of Democratic Innovation and Governance: the field of democratic innovation*'. In Elstub and Escobar (eds), *Handbook of Democratic Innovation and Governance*. Cheltenham: Edward Elgar, 2019, pp. 1-10.

⁶⁷ Graham Smith, *Democratic Innovations: Designing Institutions for Citizen Participation*. Cambridge: Cambridge University Press, 2009.

⁶⁸ Smith, *Democratic Innovations*, p. 64.

⁶⁹ Paolo Spada and Matt Ryan, 'The Failure to Examine Failures in Democratic Innovation'. *PS: Political Science & Politics*, 50(3), 2017, pp. 772-778.

⁷⁰ Albert Dzur, 'Democratic Innovation in Public Administration'. *National Civic Review*, 107(3), 2018, pp. 4-17.

⁷¹ Maija Jäske and Maija Setälä, 'A Functionalist Approach to Democratic Innovations'. *Representation*, 56 (4), 2019, pp. 467-483.

Direct participation *and* effective functions of the people participating need, therefore, to be demonstrated and, frankly, as Pogrebinschi and Ryan⁷² make clear, this can perhaps only be done, or be best done, through ‘output legitimacy’. In other words, the users of TaxTrack, for example, will only gain a sense of participating in something new and impactful if they, themselves, can easily see the result of their engagement. Placing controls on spending (e.g. all treasuries that taxes are contributed to by a person cannot, as per their controls, be spent on anything other than environmental programs) is one means for doing so. The user can even verify that the invoices in which their tax contributions have been used are for environmental programs. If it is spent on something tangible, like tree planting or reflooding a marsh, the user could conceivably gain permission from the relevant authority and visit the places the work is or was conducted to satisfy their instinct for personal, or independent, verification. In this, the user’s function is clear as is their capacity to determine the legitimacy of their output by seeing for themselves.

To end, as Åström, Jonsson and Karlsson demonstrate in their study of the efficacy of democratic innovations to ‘reverse declining trust’ in democratic regimes such as Sweden’s,⁷³ it takes both the competent implementation of a democratic innovation and an individual’s feeling, or sense, that their participation matters or that it really has made a difference.⁷⁴ Both the competent implementation of a hypothetical democratic innovation like TaxTrack and the way an individual feels after participating in it are not given nor guaranteed. Outside of actual testing, through experiments and feasibility trials, and theory building generated by that work, all we can say in this article is that the democratic innovations literature points to likelihoods of normative and instrumental goods for both TaxTrack users and the governments that serve them. We also hypothesize that TaxTrack will likely interact with other democratic innovations like PB – and with other political processes, institutions, and practices across state, civil society and private sectors – in both good and problematic ways. TaxTrack therefore has the potential to help in the effort to reconnect people with their public affairs – parliaments in particular – and to do so in a way that may both sustain, and challenge, existing arrangements in a democratic system that is already using other democratic innovations.

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⁷² Thamy Pogrebinschi and Matt Ryan, ‘Moving Beyond Input Legitimacy: When Do Democratic Innovations Affect Policy Making?’ *European Journal of Political Research*, 57(1), 2017, pp. 135-152.

⁷³ The Åström, Jonsson and Karlsson study is but one from a large literature on the efficacy of democratic innovations for engaging citizens with government of, more generally, ‘deepening democracy’. See e.g. Graham Smith, *Democratic Innovations: Designing Institutions for Citizen Participation*. Cambridge: Cambridge University Press, 2019; Archon Fung and Erik Olin Wright, ‘Deepening Democracy: Innovations in Empowered Participatory Governance’. *Politics & Society*, 29(1), 2001, pp. 5-41.

⁷⁴ Joachim Åström, Magnus E. Jonsson, and Martin Karlsson, ‘Democratic Innovations: Reinforcing or Changing Perceptions of Trust?’ *International Journal of Public Administration*, 40(7), 2016, pp. 575-587.

maintain their connections to country. We commit to the principles of the Land Back movement, of indigenous-led decolonization programs spearheading the world's indigenous renaissance movement, and are in opposition to the continued exploitation of indigenous lands, peoples, cultures, and heritages by the colonist's continued myth of what they term Canada, the United States, Australia, New Zealand, Algeria, Northern Ireland, Spain, etc. The authors would also like to thank Sarah Moulds, her editorial colleagues at the Australasian Parliamentary Review, and the two anonymous reviewers of this article for the time given to improving our work. That said, any errors remain ours and ours alone.