

Will FinTech Cause a Reconsideration of the Administrative and International Law Governing Public Procurement?

Bryane Michael, University of Hong Kong

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Abstract

Regulators should not just leave FinTech rulemaking up to financial regulators. Contracting authorities should not just develop or use their own selected FinTech applications willy-nilly. They should contribute to overall changes in a procurement law - which extend far beyond simple supervisory or regulatory technologies (RegTech/SupTech). Governments should get serious about the Agreement on Government Procurement and similar treaties - by creating a new authority to help develop the law needed to put FinTech-enabled procurement platforms in place. China's own world-leading FinTech and cross-border public procurements do not always contribute to a global level playing field. Any FinTech applications facilitating public procurement should thus encourage compliance with the procurement law legal principles the international community has developed over decades.

JEL Codes: H57, E63, G21

Keywords: public procurement, financial technology, FinTech,

Conflict of interest disclaimer: I have received no extra personal benefits from this research, either pecuniary or otherwise.

Data availability statement: No data to disclose

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Introduction

Financial technologies (FinTech) portend large-scale changes to the way government buy goods and services. These technologies also will likely involve a restructuring of both bidding groups and the groups winning contracts with public entities. These changes stem from public or private distributed ledgers (and their blockchains), smart contracts and cryptographic tokenized assets, liabilities and securitized instruments. Governments (mostly central banks) even buy FinTech research services and public-use distributed ledgers - in the hopes of expanding supply and demand for these new technologies.¹ A large corpus of public procurement principles and practices has arisen around similar events -- such as the wide-spread adoption of e-procurement. Yet, FinTech could alter public sector institutions and international bodies just as much as they alter financial institutions domestically and internationally.

Governments -- and public procurement bodies in particular -- should not leave FinTech regulation to FinTech companies and associated bodies themselves. Instead, public procurement bodies should participate in the broader debate about regulating FinTech applications and services. Such participation should support generally internationally accepted public procurement principles - in regulation and in deed. **Without some reasoned form of legal coordination or control, the existing approach to supporting FinTech would likely lead to a free-for-all -- making public procurements more expensive, less transparent, and more politicized.** In that world, payments do not pass from one supplier to the next smoothly, rights over assets and obligations in supply chains remain uncertain, and risks third party manipulation of FinTech-related information technology across the whole-of-government.

This paper describes the options for regulating FinTech's use in domestic procurement. I show how national procurement agencies can (try to) procure a public procurement FinTech ecosystem through their own regulatory powers or by statute. I also show how a free-for-all procurement regime would result (and has already resulted) in an uncompetitive FinTech environment in certain jurisdictions. I also show why the decentralized approach to regulation based in supervisory technologies or regulatory technologies (SupTech and RegTech respectively) will not solve the many problems arising from laissez-faire regulation. I show how a national approach to regulating FinTech-enabled procurement solves the coordination failures and potentially bad investments of the contracting agent (CA)-centric 'let a thousand flowers bloom' approach.

¹ I can not summarize the state of FinTech's evolution or its adoption by various jurisdictions. Readers completely unfamiliar with procurement finance and the way FinTech might affect it should see Bernardo Nicoletti, *Fintech and Procurement Finance 4.0*, In Bernardo Nicoletti, *Procurement Finance*, Springer, pp 155-248.

The second main section looks at FinTech's promise to revitalize **international** public procurement law. FinTech applications and their supporting law could offer a boost to cross-border procurements conducted under the World Trade Organization's (WTO's) General Procurement Agreement, the UNCITRAL Model Public Procurement Law, the rules used by multilateral development banks and others. Yet, the West needs to proactively put in place a level playing field across borders. With China's growing influence, in FinTech as well as cross-border procurement under its Belt and Road (and other) initiatives, an international free-for-all could appear just as readily as the free-for-all predicted at the national level. Yet, agreements like the General Agreement on the Trade in Services (GATS) -- and especially provisions dealing with freedom to offer financial services across borders -- will likely shape cross-border FinTech in procurement far more than changes to the international procurement regime itself.

The final section concludes by arguing for a coordinated set of national rules governing which FinTech tools contracting agencies (CAs) can or can not use - and how they may or may not use them - seems sensible. The international procurement-related treaties and soft law can also ensure that governments do not harmfully compete with each other. The result of such competition would result in an international free-for-all where FinTech stymies international payments. Given China's lead in FinTech and strong position in international procurement markets, other countries' regulators should think *now* about ways of ensuring that the international FinTech regime does not entrench China's relatively lax and self-serving procurement rules in global procurement law.

I do not wish to bite off more than I can chew. I only look at public procurement -- taking an Panglossian view as if all of FinTech's technical problems will be solved. By adopting an unrealistic view of FinTech's safety, integrity, security, policing and so forth -- I can focus on the legal/organizational issues involved. I avoid mentioning specific companies - as they might change over time. I unabashedly draw the examples which best illustrate my arguments. Such an approach may leave readers wanting to know more about the US or even the international agreements in place -- at a loss. My broad focus will hopefully serve more readers than it harms.

Putting FinTech into Procurement Law: Preventing a Free-For-All

Can Contracting Authorities Let a Thousand FinTech Flowers Bloom?

Why not let individual contracting authorities decide how to incorporate FinTech into their public procurement plans?² The case law (at least in the EU) tends to allow contracting authorities wide discretion -- as long as they define FinTech-related issues clearly in their invitations to tender (or tendering documents). These authorities could stipulate how FinTech-using bidders should arrange financing or payment terms within their consortia or with the contracting authority itself. During the award, contracts could further specify how these FinTech-using contracting parties deal with these financing

² Some authors argue strongly against any kind of central or government-wide policy. See Elvira Uyerra and Kieron Flanagan, Understanding the Innovation Impacts of Public Procurement, *European Planning Studies* 18(1), 2010, available [online](#).

terms. Such contracts could treat all the parties to a contract as a loosely organized entity -- with contractual relations between all parties handled with Fintech-related technologies.³

In theory, FinTech-related technologies allow tenders and awards to be organized as **Decentralized Autonomous Organizations** (DAOs). Such DAOs allow for automation of contractual relations between the wide range of bidding and procuring entities party to a tender.⁴ More importantly, for some kinds of blockchains, parties can vote on particular aspects of bids or contracts, or change them according to fixed rules. Such voting would make these virtual procurement organizations 'dynamically democratic.'⁵ Such DAOs will undoubtedly disrupt information-handling services like those found in public procurement.⁶

In practice, such DAOs have a long way to go before contracting authorities can use them as advertised. DAOs, as represented by *Slock.it* and others, represent poor, incomplete, unenforceable contracts.⁷ The inevitable complexities of modern business make complete DAOs (those without any break-points for pre-programmed human intervention) impossible.⁸ Yet, limited forms may automate and simplify (from the human users' point of view) procurement.

The **public-private partnership** (PPP) looks particularly apt for FinTech.⁹ These long-lived projects involve large numbers of partner organizations, whose information and

³ Some evidence from the electric bus sector would seem to endorse such an approach. See Xiang-yi Li, Sebastian Castellanos and Anne Maassen, Emerging Trends and Innovations for Electric Bus Adoption - A Comparative Case Study of Contracting and Financing of 22 Cities in the Americas, Asia-Pacific, and Europe, *Research in Transportation Economics* 69, 470-481, 2018, available [online](#).

⁴ Such DAOs can emerge and disappear as temporary organizational forms, based on self-executing smart contracts. See Galia Kondova and Renato Barba, Governance of Decentralized Autonomous Organizations, *Journal of Modern Accounting and Auditing* 15(8), pp. 406-411, 2019, available [online](#).

⁵ Hsieh and his co-authors do not use the term explicitly - though the implication from their words is obvious. See Ying-Ying Hsieh, Jean-Philippe Vergne, Philip Anderson, Karim Lakhani and Markus Reitzig, Bitcoin and the Rise of Decentralized Autonomous Organizations, *Journal of Organization Design* 7(14), 2018, available [online](#).

⁶ For a quantitative look, see Soichiro Takagi, Organizational Impact of Blockchain through Decentralized Autonomous Organizations, *International Journal of Economic Policy Studies* 12, 22-41, 2017, available [online](#).

⁷ Minn describes the contractual issues involved with DAOs. Nielsen describes the technological challenges DAOs face, and the way governments help resolve them will determine how important DAOs become to procurement. See Kyung Taek Minn, Towards Enhanced Oversight of "Self-Governing" Decentralized Autonomous Organizations: Case Study of the DAO and Its Shortcomings, *New York University Journal of Intellectual Property and Entertainment Law* 9, 139, 2020, available [online](#). See also Timothy Nielsen, Cryptocurrencies: A Proposal for Legitimizing Decentralized Autonomous Organizations, *Utah Law Review*, 1105, 2019, available [online](#).

⁸ Quinn DuPont, Experiments in Algorithmic Governance: A History and Ethnography of 'The DAO,' A Failed Decentralized Autonomous Organization, In Malcolm Campbell-Verduyn (Ed.), *Bitcoin and Beyond: Cryptocurrencies, Blockchains and Global Governance*, Routledge, 2017.

⁹ Readers unfamiliar with the financing structures around these projects should see Joaquim Miranda and Luc Renneboog, Anatomy of public-private partnerships: their creation, financing and renegotiation, *International Journal of Managing Projects in Business* 9(1), 2016, available [online](#).

payments literally straddle the public-private divide.¹⁰ Governments often take equity stakes in these partnerships (an area ripe for crypto-securitization).¹¹ Such public-private project finance of particular types of public spending -- particularly infrastructure projects -- could result in better project performance.¹² Naturally, not all projects will benefit from PPP structures, or FinTech.¹³ FinTech - in PPPs as in other modes of public procurement -- can easily serve to distract managers and accountants in cases where no case for FinTech financing exists.¹⁴

The lack of a **link to the subject matter** may dissuade some contracting authorities from aggressively developing and using FinTech applications. EU case law -- for example -- allows for public buyers to pursue public policies -- like innovation and thus FinTech - to the extent they have a link to a contract's main purpose.¹⁵ For example, disproportionate requirements forcing bidders to use certain types of renewable energy in the past have run into legal problems on such grounds.¹⁶ Contracting authorities might have a hard time convincing bidders and judicial bodies that FinTech requirements in invitations to tender and contracts represent proportionate, non-discriminatory and transparent policies. Letting government buyers -- even those like state-owned enterprises -- go outside the standard government finance rules to select (or mandate) their own financing terms invites corruption and self-serving.

Many argue that regulatory permissiveness (allowing parties to use FinTech as they see fit) represents the way to develop harder, black letter law on the subject. As thousands of contracting authorities write FinTech-based requirements into their procurement documents, both bidders and courts will have a chance to incorporate best practices into

¹⁰ The next section describes the geopolitical implications of these partnerships. For a description of the way Chinese officials have already started thinking about using them, see Nir Kshetri, *China's Emergence as the Global Fintech Capital and Implications for Southeast Asia*, *Asia Policy* 15(1), 61-81, 2020, available [online](#).

¹¹ The use of crypto-assets in infrastructure or other PPPs remains highly speculative -- even in China (one of the global leaders in FinTech). For a discussion, see Po-shan Yu, Zuo-zhang Chen and Jin Sun, *Innovative Financing: An Empirical Study on Public-Private Partnership Securitisation in China*, *Australian Economic Papers* 57(3), 394-425, 2018, available [online](#).

¹² At least, as of 2014. See Eduardo Engel, Ronald Fisher, and Alexander Galetovic, *Finance and Public-Private Partnerships*, *Stanford Centre for International Development Working Paper No. 496*, 2014, available [online](#).

¹³ Indeed, private finance from any source can sometimes encourage adverse incentives. See Stephen Glaister, *Past Abuses and Future Uses of Private Finance and Public Private Partnerships in Transport*, *Public Money & Management* 19(3), 29-36, 1999, available [online](#).

¹⁴ IFRS Rule 9 in particular on trade finance comes to mind. The marking of expected credit losses could require extensive algorithms and even inaccessible (from the reporting entity's point of view) data. Authors have worried about this since McQuaid and Scherrer (if not before). See Ronald McQuaid and Walter Scherrer, *Changing Reasons for Public-Private Partnerships (PPPs)*, *Public Money & Management* 30(1), 2010, available [online](#).

¹⁵ The link to the subject matter test remains a core part of EU procurement law. The test comes up in the literature most under discussions of green tech procurement. See Marc Martens and Stanislas de Margerie, *The Link to the Subject-Matter of the Contract in Green and Social Procurement*, *European Procurement & Public Private Partnership Law Review* 8(1), 8-18, 2013, available [online](#).

¹⁶ Mariana Mazzucato and Gregor Semieniuk, *Financing Renewable Energy: Who is Financing What and Why It Matters*, *Technological Forecasting and Social Change* 127, 2018, p. 8-22

black letter law.¹⁷ By letting a thousand flowers bloom - figuratively speaking -- procurement law can adapt to the benefits (and costs) that FinTech will impose on procuring bodies.

More likely, unfettered contracting authority discretion to develop and use FinTech apps might lead to an **inefficient free-for-all**. The inconsistent application of rules meant to help certain parties - like SMEs -- may end up serving the political or other interests of contracting authorities.¹⁸ Scholars and government officials have sought (for decades) ways of decreasing harmful competition between contracting authorities through centralized and/or aggregated purchasing.¹⁹ Left to their own devices, contracting authorities might engage in bidding wars and other unsocial behaviour.²⁰ Econometric studies also show that placing restrictions on procuring agents can lead to better coordinated procurement - and thus procurement outcomes.²¹ If contracting authorities' discretion and differences across countries have served them - or their taxpaying beneficiaries -- so well, then why have so many people to change the status quo over the years?²²

From SupTech/RegTech toward a Centralized Procurement Law

Could supervisory technologies (SupTech) and/or regulatory technologies (RegTech) overcome the myriad of dangers that decentralized FinTech-enabled public procurement could cause? In theory, if contracting authorities can develop different FinTech solutions, then they can use the same technologies to regulate and supervise FinTech's use. Namely, blockchains, smart contracts, distributed ledger technology, and tokenization can help regulate and police procurement across the whole of government.²³ Take a road works

¹⁷ For one such proposal, see Charles Mooney, Global Standards for Securities Holding Infrastructures: A Soft Law/ Fintech Model for Reform, *Michigan Journal of International Law* 40, 531, 2019, available [online](#).

¹⁸ See Jian-lin Chen, Challenges in Designing Public Procurement Linkages: A Case Study of SMES Preference in China's Government Procurement, *UCLA Pacific Basin Law Journal* 30, 149, 2013, available [online](#).

¹⁹ See Albert Sanchez Graells and Ignacio Herrera Anchustegui, Impact of Public Procurement Aggregation on Competition. Risks, rationale and Justification for the Rules in Directive 2014/24, *University of Leicester School of Law Research Paper No. 14-35*, 2014, available [online](#).

²⁰ From promoting local communities to outright war over limited products like ventilators or vaccines, procurement officials often find themselves in beggar-thy-neighbour positions. See Sean Markey, Laura Ryser and Greg Halseth, Local Content and Mobile Labour: The Role of Senior Governments in Capturing Benefits for Local Communities, *Journal of Rural and Community Development* 15(4), 2020.

²¹ Erica Bosio, Simeon Djankov, Edward Glaeser and Andrei Shleifer, Public Procurement in Law and Practice, *NBER Working Paper 27188*, 2020, available [online](#).

²² Popescu and her colleagues have looked for 'best practices' in procurement - a common theme in a large literature which seeks to improve the lousy performance of procuring officials. See Ada Popescu, Mihaela Onofrei, and Christopher Kelley, An Overview of European Good Practices in Public Procurement: An Overview of European Good Practices in Public Procurement, *Eastern Journal of European Studies* 7(1), 81-91, 2016, available [online](#).

²³ Such a view has many cheerleaders. See Cheng-Yun Tsang, From Industry Sandbox to Supervisory Control Box: Rethinking the Role of Regulators in the Era of FinTech, *University of Illinois Journal of Law, Technology and Policy* 355, 2019, available [online](#). For a full-steam-ahead view, see also Yesha Yadav and

procurement as an example. The public sector buyer can use FinTech applications related to the financing of materials, distributing payments to contractors, transferring ownership with cryptographic tokens digitally, and provide real-time access to some project information to the public.²⁴

Contracting authorities could adopt SupTech or RegTech apps just as easily as adopting FinTech applications. Over 66% of new RegTech providers target public sector organizations -- suggesting some kind of demand from government bodies.²⁵ If DAOs can create self-contained procurements (with all the rules, including those on supply finance), then they can also contain all the rules (i.e. regulation) necessary for automated supervision.²⁶ Yet, no obvious case suggests that a Ministry of Health (for example) might need different procurement regulations or supervision than a Ministry of Education.²⁷

Even if contracting authorities adopt both FinTech applications and Reg/SupTech applications, they will require some **common services**. If Hong Kong's experience with e-procurement serves as a guide, then any regulatory approach should focus on adequate financial support (for the incorporation of FinTech in procurement in a sensible way), the interoperability of standards with traditional communication systems, and adequate security.²⁸ Top management's understanding and support for such FinTech and RegTech adoption will also prove important (as well understanding the winning bidders' financial and other interests in the contract/award).²⁹ If anything, weaker authorities might likely resist - rather than wholeheartedly embrace - FinTech-centred reform.³⁰

The potential for corruption and self-serving during the FinTech transition makes some **central authority** important. Even regulatory and supervision applications developed

Chris Brummer, Fintech and the Innovation Trilemma, *Georgetown Law Journal* 107(235), 2019, available [online](#).

²⁴ Such an ecosystem-based approach to looking at roads risks encompassing all the logistics tied to those roads. In theory, FinTech-creep could extend as far as regulation allows. See Lenny Koh, Alexandre Dolgui and Joseph Sarkis, Blockchain in Transport and Logistics – Paradigms and Transitions, *International Journal of Production Research* 58(7), 2054-2062, 2020,

²⁵ See Emmanuel Schizas, Grigory McKain, Bryan Zhang, Altantsetseg Ganbold, Pankajesh Kumar, Hatim Hussain, Kieran James Garvey, Eva Huang, Alexander Huang, Shaoxin Wang, and Nikos Yerole, The Global RegTech Industry Benchmark Report, 2019, at p. 33, available [online](#).

²⁶ See Olivier Rikken, Marijn Janssen and Zenlin Kwee, Governance challenges of blockchain and decentralized autonomous organizations, *Information Polity* 24(4), pp. 397-417, 2019, available [online](#).

²⁷ Defence represents an obviously exception. Defence procurement often falls a different law than general public services procurement (such as the EU's Defence Directive). See Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC, available [online](#).

²⁸ Angappa Gunasekaran and Eric Ngai, Adoption of E-Procurement in Hong Kong: An Empirical Research, *International Journal of Production Economics* 113(1), 2008, pp. 159-175, available [online](#).

²⁹ *Id.*, at p. 169.

³⁰ Again, using e-procurement as a guide. See M. Jae Moon, E-procurement Management in State Governments: Diffusion of E-Procurement Practices and its Determinants, *Journal of Public Procurement* 5(1), 2005, available [online](#).

with the best of intentions could lead to poor social or other outcomes.³¹ Many procuring bodies in more corrupt jurisdictions would likely find ways of avoiding certain parts of smart contract applications which supervise their work (or just avoid supervisory tech all together).³² Without relatively honest civil servants and/or bidder businessmen, no amount of FinTech (or FinTech regulation) can help improve procurement's efficiency or value.³³ RegTech applications could ironically shield government entities and bidders from oversight -- giving them the *de facto* power to self regulate using black-box applications that deter outside oversight.³⁴

Could a central authority have the competence to oversee how government bodies use FinTech? Doesn't FinTech regulation fall strictly to financial regulators? Indeed, if past experience serves as a guide - the forced adoption of FinTech rules, as well as any regulatory or supervisory rules overseeing them -- can lower the cost of capital.³⁵ In the EU, cases like *EasyPay and Finance Engineering* show just how seemingly ancillary activities like procurement finance fall under procurement law's remit.³⁶ **Given the wider ranging impacts of FinTech, traditional financial regulators will definitely need to cede some of their competencies to other bodies -- public and private.**³⁷

The need for centralized regulation will depend on each country's legal and business traditions. Some countries - like those with common law traditions - will naturally find contracting, information sharing and even the specification of digital assets easier in a FinTech-enabled procurement regime.³⁸

³¹ As corruption and fraud can arise from seemingly sensible rules. See Jean Shaoul, A Critical Financial Analysis of the Private Finance Initiative: Selecting a Financing Method or Allocating Economic Wealth? *Critical Perspectives on Accounting* 16(4), 441-471, 2005, available [online](#).

³² See Achmad Nurmandi and Sunhyuk Kim, Making E-procurement Work in a Decentralized Procurement System: A Comparison of Three Indonesian Cities, *International Journal of Public Sector Management* 28(3), 2015, available [online](#).

³³ Studies in Sweden, a jurisdiction known for its low levels of corruption, find that dishonest vendors represented a major reason for the derailing of e-procurement. See Siriluck Rotchanakitumnuai, The Governance Evidence of E-Government Procurement, *Transforming Government: People, Process and Policy* 7(3), 2013, available [online](#).

³⁴ While most authors write about these issues in the private sector context, the same issues abound in the case of public procurement. See Nizan Geslevich Packin, Regtech, Compliance and Technology Judgment Rule, *Chicago-Kent Law Review* 93, 193, 2018, available [online](#).

³⁵ Lai and co-authors use the interesting case of the forced adoption of the SEC's digital EDGAR system in mid 1990s. See Sandy Lai, Chen Lin and Xiao-rong Ma, Regtech Adoption and the Cost of Capital, *SSRN Working Paper 3683046*, 2020, available [online](#).

³⁶ For a spirited discussion, see Albert Sanchez-Graells and Ignacio Anchustegui, Revisiting the Concept of Undertaking from a Public Procurement Law Perspective – A Discussion on EasyPay and Finance Engineering, *SSRN Working Paper 2695742*, 2015, available [online](#).

³⁷ Yueh-Ping Yang and Cheng-Yun Tsang, RegTech and the New Era of Financial Regulators: Envisaging More Public-Private-Partnership Models of Financial Regulators, *University of Pennsylvania Journal of Business Law* 21, 354, 2019, available [online](#).

³⁸ For authors like Brownsword, lawyers will play a large role in working out the legality of market practice. Clearly, the call for legal scholarship he makes applies more to a common law tradition than to one less defined by principles. See Roger Brownsword, Regulatory Fitness: Fintech, Funny Money, and Smart Contracts, *European Business Organization Law Review* 20, 5–27, 2019, available [online](#).

Contours of FinTech-Enabled Procurement Law

In theory, procurement law already gives contracting authorities and even procurement bodies the authority to adopt FinTech (and RegTech). Most procurement law at the international, regional, and local level already allows for **e-procurement**.³⁹ Government authorities in the past may have had significant difficulties adopting the regulation and working practices needed for such e-procurement.⁴⁰ The complexities of regulating FinTech look far more daunting than the simple e-procurement tasks put in place in the past. If contracting agencies can require bidders to submit documents electronically only, can they not also *require* bids on blockchains?⁴¹ Can they *require* disclosures on distributed ledgers which may involve proprietary standards or unknown security standards? Can they *require* the adoption of the tokenization which allows titles to assets, consignment chains and other forms of possession and ownership to pass online under cryptographic lock-and-key?⁴²

Legislators might adopt FinTech-friendly provisions in their **national legislation**.⁴³ First, such amendments may consist of a simple yes or no as to whether procuring bodies can use blockchains, distributed ledgers, smart contracts, and/or tokens. The wide-spread use of FinTech in the public sector represents a political decision, which voters should have a right to shape.⁴⁴ Second, some jurisdictions may even include a “right to innovate” principle into their procurement laws.⁴⁵ Such provisions could help contracting agencies

³⁹ Most procurement laws promote e-procurement. See Caroline Nicholas, Policy Choices in the Implementation of Electronic Procurement: The Approach of the UNCITRAL Model Law on Procurement to Electronic Communications, *Public Procurement Conference, Seoul, South Korea*, 2010, available [online](#).

⁴⁰ The EU’s attempt to define a governance regime for e-procurement illustrates some of the problems. See Sangeeta Khorana, Kirsten Ferguson-Boucher and William Kerr, Governance Issues in the EU’s e-Procurement Framework, *Journal of Common Market Studies* 53(2), 292-310, 2015, available [online](#).

⁴¹ Li and co-authors strongly root for such tendering methods, without providing any data on their efficiency or security. See Li Li, Jia-yong Liu, and Peng Jia, SecTEP: Enabling Secure Tender Evaluation with Sealed Prices and Quality Evaluation in Procurement Bidding Systems over Blockchain, *Computers & Security* 103, 2021, available [online](#).

⁴² The early attempts seem plagued with problems. See Yi-feng Tian, Zheng Lu, Peter Adriaens, Edward Minchin, Alastair Caithness and Junghoon Woo, Finance Infrastructure Through Blockchain-Based Tokenization, *Frontiers of Engineering Management* 7, pp. 485–499, 2020, available [online](#).

⁴³ Thanks to the UNCITRAL’s excellent work, most countries now have one or more pieces of legislation defining the rights and obligations of parties in a public procurement. Yet, vestiges remain of old systems where specific sectors (like defence or telecoms) have their own regimes. For example, the Japanese Deming-inspired ‘quality drive’ in the 1980s resulted in the consultation processes that many would consider conducive to corruption. See Shigeki Kusunoki, Japan’s Government Procurement Regimes for Public Works: A Comparative Introduction, *Brooklyn Journal of International Law* 32, 2007, available [online](#).

⁴⁴ The lack of scholarly attention to citizens’ desire to vote for the use of FinTech and other advanced technologies in the public sector remains surprising. The Swiss referendum on money and scant popular press attention to the Biden White House’s likely views on FinTech represent the main writings so far. See Sam Meredith, Switzerland is set to vote on a radical ‘sovereign money’ plan, *CNBC*, 2018, available [online](#). See also Jim Saksa, What Would a Biden White House Mean for Fintech? *Roll Call*, 2020, available [online](#).

⁴⁵ Giving public bodies too much leeway to innovate would violate the principle of rule of law and make award challenges far more likely...and costly. Yet, giving them some extra leeway may uphold the broader

adopt FinTech solutions, without overly worrying about getting in trouble or sued. Third, such laws may force FinTech applications to include “break points.”⁴⁶ Such break points ‘let the law in’ by stopping automated routines and smart contracts at points where humans may try to negotiate or seek remedies and redress for wrongs committed by these applications and their writers/operators. Fourth, provisions for -- or a separate law on - digital platforms would also help secure the type of FinTech ecosystems previously described.⁴⁷

Such law may include more specific provisions related to setting up FinTech-enabled public procurement. First, such legislation may define the rights and limits of “guided sandboxes.”⁴⁸ Such sandboxes represent specific procurements where contracting authorities could use FinTech-related technologies on a limited basis within the confines of a specific tender. Second, these laws may regulate how public entities use their new-found banking powers -- to the extent financial law does not cover these entities.⁴⁹ Third, to the extent centralized bodies do not have the authority to make regulation, legislation can create them and give them powers.

Authorities besides financial regulators should regulate parts of FinTech’s development. Few doubt the role that financial regulators must play -- particularly for FinTech applications used exclusively in the private sector and/or as a substitute for traditional finance.⁵⁰ Few experts have concrete proposals for exactly how such regulation should occur -- or even over what kinds of transactions and networks they would occur over.⁵¹ Even concrete proposals on offer -- like allowing the US Office of the Comptroller of the Currency (OCC) to regulate FinTechs -- remain highly controversial.⁵² Given such an uncertain regulatory environment, governments should open up regulatory competencies to other agencies which FinTech applications affect.

values of the procurement system. See Peteris Zilgalvis, The Need for an Innovation Principle in Regulatory Impact Assessment: The Case of Finance and Innovation in Europe, *Policy and Internet* 6(4), pp. 377-392, 2014, available [online](#). See also Elvira Uyerra and Kieron Flanagan, Understanding the Innovation Impacts of Public Procurement, *European Planning Studies* 18(1), 2010, available [online](#).

⁴⁶ Usha Rodrigues, Law and the Blockchain, *Iowa Law Review* 104, 679, 2019, available [online](#).

⁴⁷ Teresa Ballell, The Legal Autonomy of Electronic Platforms: A Prior Study to Assess the Need of a Law of Platforms in the EU, *Italian Law Journal* 3, 149, 2017, available [online](#).

⁴⁸ Wolf-Georg Ringe and Christopher Ruof, Regulating Fintech in the EU: the Case for a Guided Sandbox, *European Journal of Risk Regulation* 11(3), 2020, available [online](#). See also Chang-Hsien Tsai and Kuan-Jung Peng, The FinTech Revolution and Financial Regulation: The Case of Online Supply-Chain Financing, *Asian Journal of Legal Studies* 4, 109, 2017, available [online](#).

⁴⁹ To the extent FinTech removes intermediaries like banks, government entities themselves could potentially hold digital wallets, seek crowd-sourcing, or cryptographically securitize assets/debts. Most countries’ financial laws treat government entities differently from regular private sector organizations.

⁵⁰ For example, Goldstein *et al.* set up a contest to solicit manuscripts about the subject. See Itay Goldstein, Wei Jiang, G Andrew Karolyi, To FinTech and Beyond, *The Review of Financial Studies* 32(5), 2019: 1647–1661. Available [online](#).

⁵¹ Philip Treleven, Financial Regulation of Fintech, *Journal of Financial Perspectives* 3(3), 2015, available [online](#). See also William Magnuson, Regulating Fintech, *Vanderbilt Law Review* 71, 1167 (2018), available [online](#).

⁵² Elizabeth Upton, Chartering Fintech: The OCC’s Newest Nonbank Proposal, *George Washington Law Review* 86(1392), 2018, available [online](#).

Central procurement bodies, to the extent they make policy or have a voice in the way that procurement finance develops, should have a seat at that regulatory table.

A **central procurement body or ancillary services provider** could draft specific rules for the use of each FinTech technology. For example, outlining the procedures used for communication between government bodies and bidders in a competitive dialogue -- or the extent to which smart contracts may be defined into a negotiated procedure.⁵³ Such a body could even serve to develop the FinTech and/or RegTech applications for use across government.⁵⁴ Yet, any government-encouraged FinTech supporting services for public procurement would likely raise the same concerns as already existing digital marketplaces and solutions.⁵⁵ The central body could even police policy -- such as contracting authorities which try disguising certain types of awards or winners.⁵⁶ Most important, though, such a body could deliberate on when **to not regulate** -- given the Innovation Trilemma.⁵⁷

Such a central body could focus on developing common FinTech and regulatory **standards**. Simple examples -- such as the common procurement vocabulary (CPV) -- show the importance and difficulty of establishing standards. The Pan-European Public Procurement Online project has saved up to \$50 million by encouraging the use of common technical standards inside as well as outside the EU.⁵⁸ The body could ensure standardization across government -- from inter-operable blockchains and smart contracts, to the automatic payment of purchase orders.⁵⁹ Such an entity could also serve as a counterpart in international negotiations over FinTech-related standards in generalized procurement policies world-wide.⁶⁰ Such a body could also oversee the procurement-related aspects of regulation adopting the UNCITRAL-related work on trade finance.⁶¹

⁵³ Because of the simplicity and predictability of some public supply contracts, such regulations could even exist in the form of procure-to-pay code. Such code would govern purchases uniformly across government. See Lorenz Trautmann and Rainer Lasch, Smart Contracts in the Context of Procure-to-Pay, *Smart and Sustainable Supply Chain and Logistics – Trends, Challenges, Methods and Best Practices*, pp 3-23, 2020, available [online](#).

⁵⁴ Many companies offer such services. For one advertisement, posing as academic research, see Simone di Castri, Matt Grasser and Arend Kulenkampff, The RegTech for Regulators Accelerator (R²A) Process: Giving Financial Authorities Superpowers, 2018, *SSRN Working Paper*, available [online](#).

⁵⁵ Government control of an entire sector puts many ill at ease. See Michal Gal and Nicolas Petit, Radical Restorative Remedies for Digital Markets, *Berkeley Technology Law Journal* 37(1), 2021, available [online](#).

⁵⁶ E.g., see Jan Palguta and Filip Pertold, Manipulation of Procurement Contracts: Evidence from the Introduction of Discretionary Thresholds, *American Economic Journal* 9(2), 2017, available [online](#).

⁵⁷ Yesha Yadav, Fintech and International Financial Regulation, *Vanderbilt Law Research Paper No. 20-45*, 2020, available [online](#).

⁵⁸ Original source quotes in US dollars. See Anonymous author, The Future of Public Procurement?, *FinExtra Blog*, 2014, available [online](#).

⁵⁹ While standardization across government would seem to facilitate procurement, the data do not point in that direction. See Andrea Patrucco, Tommaso Agasisti and Andreas Glas, Structuring Public Procurement in Local Governments: The Effect of Centralization, Standardization and Digitalization on Performance, *Public Performance & Management Review* 43(5), 2020, available [online](#).

⁶⁰ Maria Anna Corvaglia, Public Procurement and Private Standards: Ensuring Sustainability Under the WTO Agreement on Government Procurement, *Journal of International Economic Law* 19(3), 607–627, 2016, available [online](#).

⁶¹ The United Nations Committee on International Trade Law in Vienna (UNCITRAL) has pioneered work on four areas of relevance. Unfortunately, Lack of space prevents any discussion of the four model laws.

Some or complete **independence from government** may serve as one way of ensuring that a FinTech-enabled public procurement regulator or think tank would avoid the dangers of giving anti-competitive state aid.⁶² Such a body could consist of a supervisory board consisting of politicians, civil servants, businesspersons, technical experts (in finance and technology) and NGO representatives. The extent of such independence remains an open question -- as even supposedly independent regulators like the US Securities and Exchange Commission -- have a decidedly pro-government, enforcement bent.⁶³

Preventing a Free-For-All in International Procurement Standards

The Promise of FinTech in Revitalizing Government-to-Government Procurement

If FinTech promises to facilitate public procurement domestically, the benefits for cross-border procurement seem even greater. FinTech innovations like public blockchains -- and a way to mine them for data -- could finally shed light on this little understood sector.⁶⁴ Many cite the EU's 2011 figure of about \$1 billion in international procurements covered by the WTO's Agreement on Government Procurement (GPA).⁶⁵ Roughly 33% of international trade involves some kind of bank-intermediated trade finance.⁶⁶ Yet, by some rough-and-ready measures, the costs of arranging such finance (at least in the EU) come to about one-fourth the benefits.⁶⁷ The significant costs of trade finance impede international trade.⁶⁸

These are the UN Convention on Assignment of Receivables in International Trade (2001), the UNCITRAL Legislative Guide on Secured Transactions (2007) and its 2010 Guide on Security Rights in Intellectual Property, its 2013 Guide on the Implementation of a Security Rights Registry, and its ongoing work on a Model Law on Secured Transactions.

⁶² I. Erturk, and J. Zammit-Lucia, Building Digital Finance in Europe: FinTech for Social Value. *Radix Centre for Business, Politics and Society*, 2020, at p. 27, available [online](#).

⁶³ In the financial law literature, the question of regulator independence has made the rounds for decades. Despite many finding significant advantages in such an arrangement, politics and social convention often block such independence. See Lisa Bressman and Robert Thompson, The Future of Agency Independence, *Vanderbilt Law Review* 63, 599, 2010), available [online](#).

⁶⁴ Even in 2021, international bodies like the World Trade Organization (WTO) have little idea about the size of trade finance markets -- even though international organizations helped rescue them in 2007-8 and during the COVID-19 crisis. Authors like Han and colleagues bemoan the lack of digitization in export/import in Korea - a situation which has prevented any solid analysis of the sector. See Marc Auboin, Trade Finance, Gaps and the COVID-19 Pandemic: A Review of Events and Policy Responses to Date, *WTO Staff Working Paper No. ERSD-2021-5*, 2021, available [online](#). See also Ki-Moon Han, Sae Woon Park and Sunhae Lee, Anti-Fraud in International Supply Chain Finance: Focusing on Moneual Case, *Journal of Korea Trade* 24(1), 59-81, 2020, available [online](#).

⁶⁵ See Bernard Hoekman, International Cooperation on Public Procurement Regulation, In *The Internationalization of Government Procurement Regulation*, Aris Georgopoulos, Bernard Hoekman, and Petros Mavroidis (Eds.), Oxford, 2017, at p.573. Anderson *et al.* cite this same statistic. See *infra* note 240.

⁶⁶ Lee and co-authors cite the IMF for this statistic. See IMF, Sustaining the Recovery: World Economic Outlook, IMF Publication, 2009. See also Hau Lee, Christopher Tang, Alex Yang and Yuxuan Zhang, Dynamic Trade Finance in the Presence of Information Frictions and FinTech, *SSRN Working Paper* 363256, 2020, available [online](#).

⁶⁷ Robert Anderson, Philippe Pelletier, Kodjo Osei-Lah and Anna Caroline Muller, Assessing the Value of Future Accessions to the WTO Agreement on Government Procurement (GPA): Some New Data Sources,

FinTech could significantly lower the costs of cross-border trade and government procurement. Most international trade involves sending costly documentary evidence proving that buyers have the money to pay for shipments, and sellers have the goods to ship. Recent estimates find that traders use letters of credit and other documentary collections in roughly 15% of global exports.⁶⁹ The significant effect that export insurance plays in promoting trade clearly shows that traders have problems financing trade and insuring such finance.⁷⁰ FinTech-enabled procurement solutions could easily share blockchain and distributed ledger information to international parties.⁷¹ The tokenization of assets could reduce information and transaction costs.⁷²

New FinTech-related law could also revitalize international efforts to simplify the law covering such trade. Over 80% of responding firms noted constraints on trade finance due to regulations or policies which FinTech could address.⁷³ Many countries -- given their failure to adopt some multilateral treaties that facilitate international trade and procurement -- often offer export credits instead.⁷⁴ These credits serve as the international equivalent of state aid in the EU context - making cross-border procurement less fair and profitable.

Left to their own devices, many countries would rather slow down - rather than speed up -- the adoption of measures in treaties like the Government Procurement Agreement (GPA).⁷⁵ At the very least, technical norms which make financing international procurement easier could encourage the development of more hard law and, thus, more international procurement.⁷⁶ The most optimistic vision of FinTech sees technical

Provisional Estimates, and an Evaluative Framework for Individual WTO Members Considering Access, *WTO Staff Working Paper ERSD-2011-15*, 2011, available [online](#).

⁶⁸ For a quantification, see Marc Auboin, International Regulation and [the] Treatment of Trade Finance: What Are the Issues? *WTO Staff Working Paper, No. ERSD-2010-09*, 2010, available [online](#).

⁶⁹ Friederike Niepmann and Tim Schmidt-Eisenlohr, International Trade, Risk and the Role of Banks, *Journal of International Economics* 107, 111-126, 2017, available [online](#).

⁷⁰ Marc Auboin and Martina Engemann, Testing the Trade Credit and Trade Link: Evidence from Data on Export Credit, *WTO Staff Working Paper ERSD-2012-18*, 2012, available [online](#).

⁷¹ Hsiao-Hui Lee, Alex Yang, and Kijin Kim, The Role of Fintech in Mitigating Information Friction in Supply Chain Finance, *ADB Working Paper No. 599*, 2019, available [online](#).

⁷² *Id.*

⁷³ For example, expensive know-your-customer rules become less important in a trustless environment. See Marc Auboin and Alisa Di Caprio, Why Do Trade Finance Gaps Persist: Does It Matter for Trade and Development? *WTO Staff Working Paper, No. ERSD-2017-01*, 2017, at p.13, available [online](#).

⁷⁴ If authors like Levit bemoaned these credits in 2004, they still represent an important part of the trade landscape in 2021. See Janet Levit, The Dynamics of International Trade Finance Regulation: The Arrangement on Officially Supported Export Credits, *Harvard International Law Journal* 45, 65, 2004, available [online](#).

⁷⁵ Christopher Yukins and Johannes Schnitzer, GPA Accession: Lessons Learned on the Strengths and Weaknesses of the WTO Government Procurement Agreement, *Trade Law and Development* 7, 89, 2015, available [online](#).

⁷⁶ See Ivo Krizic, The International Regulation of Competition Policy and Government Procurement: Exploring the Boundaries of the Trade Regime, *New Political Economy* 26(2), 2021, available [online](#).

standards completely replacing the need for law -- in effect doing for trade finance what technology did for international telephony.⁷⁷

Could FinTech Breath New Life into International Procurement Law?

The **major international agreements** encouraging cross-border public procurement take a mixed view of e-procurement. The GPA encourages e-procurement in principle - but talks mainly about interoperability and data security.⁷⁸ In effect then, the GPA offers far less encouragement of cross-border procurement than the EU Directives. Yet, “the GPA has direct implications for investment policy and for domestic economic reforms, and is an important tool of e-commerce.”⁷⁹ The UNCITRAL Model Law on Public Procurement (the basis for many international organizations’ procurement regulations and for many countries) only mentions that advances in information technology represents a reason for updating the Model Law.⁸⁰ Electronic reverse auctions represent the only other serious mention of information technologies in the Model Law.⁸¹ Nothing in the World Bank’s confusing set of documents comprising its Procurement Framework seems to mention anything about electronic procurement.⁸² Even its high level advice to member countries seems silent on the subject.⁸³ At least the EBRD has sought advice on changing the ways it procures, specifically looking to build FinTech into its broader way of doing business.⁸⁴

No procurement treaty can work without the **liberalization of the financial services** that make such FinTech-enabled public procurement possible. In this sense, progress on the General Agreement on Trade in Services (and especially financial services) must occur with progress on the GPA.⁸⁵ Progress on financial sector liberalization under the

⁷⁷ If a host of laws and standards governed the way telephone operators connected a call across borders in 1960s, voice over IP has made the need for these laws almost irrelevant by 2020. See Chris Brummer, Why Soft Law Dominates International Finance—and not Trade, *Journal of International Economic Law* 13(3), 2010, pp. 623–643, 2010, available [online](#).

⁷⁸ The GPA’s preamble rather generally and ambiguously encourages the use of electronic means. Only one provision deals directly with “electronic means” - requiring interoperability with other “generally available” technology, and IT security. The phrase “electronic or paper media” appears throughout the text, highlighting the framers’ intention to encourage e-procurement. See GPA at preamble point 8, and in particular art. 4.3, p. 5, 2012, available [online](#).

⁷⁹ Robert Anderson and Anna Muller, The Revised WTO Agreement on Government Procurement (GPA)L Key Design Features and Significance for Global Trade and Development, *Georgetown Journal of International Law* 48, 2017, available [online](#).

⁸⁰ UNCITRAL Model Law on Public Procurement, 2014, at preamble point 6, available [online](#).

⁸¹ *Id.* at Chap. VI.

⁸² See World Bank, Procurement Framework and Regulations for Projects After July 1, 2016, available [online](#).

⁸³ The Bank’s Bali FinTech Declaration makes sweeping statements about how the Bank will ‘deliver’ the FinTech revolution to members. The lack of practical guidance documents related to procurement specifically makes such a delivery dubious. See World Bank, The Bali Fintech Agenda, *World Bank Report Number 130563*, available [online](#). See also World Bank, Project Procurement Strategy for Development: Long Form Detailed Guidance, 2016, available [online](#).

⁸⁴ See EBRD, Research study of Fintech solutions in selected EBRD COOs. 2017, available [online](#).

⁸⁵ Anderson *et al.* see the two agreements -- and the two topics of finance and public procurement -- as inexorably linked. See Robert Anderson, Claudia Locatelli, Anna Caroline Muller, and Philippe Pelletier, The Relationship Between Services Trade and Government Procurement Commitments: Insights from

Agreement (or GATS) and other agreements like Trade in Services Agreements and other regional agreements has proceeded falteringly.⁸⁶ The use of prudential carve-outs and plain-old footdragging has continued to the point where any serious liberalization of cross-border FinTech services only looks likely to occur either in preferential trade areas or bilaterally.⁸⁷ If countries lived up to their GPA commitments (much less their other commitments under regional and multilateral trade agreements) -- the trade in financial services would increase.⁸⁸ Yet, in order to create an international FinTech-enabled procurement market, regulators must tackle rulemaking in the finance as well as procurement fields.⁸⁹

If FinTech affects international law, such effects will take place on a contract-by-contract basis. In theory, international agreements do not forbid (or even necessarily discourage) the use of technologies and electronic means.⁹⁰ Yet, if cross-border parties to a public procurement wish to use FinTech apps, their contracting terms will likely need to specify such use. Such a case-by-case basis for FinTech's use gives rise to a potential **FinTech free-for-all**. As long as nothing prohibits FinTech's use in contracting, procuring entities and foreign suppliers can offer, require and use any FinTech applications they desire.

Such a free-for-all would discourage the development of a principles-based multi-lateral public procurement system in three ways. First, the lack of common standards for blockchains will slow down the accession of some of the lesser developed countries acceding to the GPA. Lesser developed countries often tend to just copy other countries' standards, and adopt the most popular standard. Lack of such popular standards would keep these countries in a state-of-waiting. Second, keeping FinTech-related standards in contracts -- while certainly in line with the philosophy of international donor organizations -- would do little to build minimum standards in international law.⁹¹ Both the GPA and GATS favour the kind of multilateralism - through the use of most favoured nation (MFN) rules -- that would encourage the adoption of the least restrictive rules when using FinTech in government procurement.⁹² A contract-by-contract approach to adopting FinTech in public procurement would thus deprive some countries from

Relevant WTO Agreements and Recent RTAs, *WTO Working Paper ERSD-2014-21*, 2014, available [online](#).

⁸⁶ Rudolf Adlung, The Trade in Services Agreement (TISA) and Its Compatibility with GATS: An Assessment Based on Current Evidence, *World Trade Review* 14, 617, 2015, available [online](#).

⁸⁷ Carlo Maria Cantore, *The Prudential Carve-Out for Financial Services: Rationale and Practice in the GATS and Preferential Trade Agreements*, Cambridge, 2018.

⁸⁸ A. Ueno, Multilateralising Regionalism on Government Procurement, *OECD Trade Policy Paper No. 151*, 2013, at p. 2, available [online](#).

⁸⁹ Lev Bromberg, Andrew Godwin and Ian Ramsay, Cross-Border Cooperation in Financial Regulation: Crossing the Fintech Bridge, *Capital Markets Law Journal* 13(1), pp. 59-84, 2018, available [online](#).

⁹⁰ Emmanuelle Gann, Can Blockchain Revolutionize International Trade?, *WTO Working Paper*, 2018, p. 68, available [online](#).

⁹¹ The World Bank and the EBRD (the two organizations that embody the two procurement philosophies used by international aid and finance organizations) both seek to rely on borrower's own procurement systems. Parties to cross-border tenders would generally welcome any move away from international rules imposed from abroad -- and toward their own rules and systems.

⁹² See e.g. Kamala Dawar, The WTO Government Procurement Agreement: The Most-Favoured Nation Principle, the GATS and Regionalism, *Legal Issues of Economic Integration* 42(3), 2015, pp. 257-280, available [online](#).

benefiting from potentially advantageous FinTech-related terms that others have adopted. Third, if donors like the World Bank decide to pursue FinTech aggressively, they risk reintroducing ‘minimum standards’ into procurement which they have tried to swear off for years. The vacillation between using recipient country rules and a donor’s rules has made international procurement more complex - and sometimes even led to complete project failure.⁹³ The European Development Fund’s rules on recipient countries’ procurements have - in some cases - hampered (rather than encouraged) the development of local procurement systems.⁹⁴

Such a free-for-all would have FinTech-enabled public procurement legal standards developing in a relative vacuum. FinTechs -- because they operate online and thus easily across national borders -- should need to, at least, announce which regulator they fall under.⁹⁵ Even such a minimum standard would have its opponents (in that the FinTechs themselves prefer the lightest regulatory touch possible). Similarly, establishing national jurisdiction may prove impossible for crypto-assets transferred electronically according to rules in one jurisdiction which apply to goods in another jurisdiction.⁹⁶ At a bare minimum, regulators should adopt law which ensures the adherence to principles like the rule of law, transparency, and proportionality.⁹⁷

Chinese FinTech and Belt-and-Road Based Procurement as a Threat to Established Procurement Principles?

China’s advances in both FinTech and cross-border procurement make her rules and practices particularly influential world-wide. Governments use both their financial systems and international procurement to advance their national interests and domestic policies.⁹⁸ Yet, China’s head start in FinTech makes her laws and market practices

⁹³ Sandeep Verma, Use of Country Procurement Systems by MDBs — A Good Time to Switch? User Perspectives Amidst Select Procurement Practices in the State of Rajasthan (India), *Proceedings of the University of Nottingham: Public Procurement-Global Revolution VIII Conference*, 2017, available [online](#).

⁹⁴ See Fred Borson, EU Procurement Policy under Development Aid Financing, *European Procurement & Public Private Partnership Law Review* 11, 220, 2016, available [online](#).

⁹⁵ Matthias Lehmann, Global Rules for a Global Market Place? - Regulation and Supervision of Fintech Providers, *Boston University International Law Journal* 38, 118, 2020, available [online](#).

⁹⁶ Pietro Ortolani, The Impact of Blockchain Technologies and Smart Contracts on Dispute Resolution: Arbitration and Court Litigation at the Crossroads, *Uniform Law Review* 24(2), 430–448, 2019, available [online](#).

⁹⁷ Almost 25 years ago, authors like Moe and Gilmour noted that government works differently from the private sector procurement in that governments must adhere to particular principles in their public administrative law. See Ronald Moe and Robert Gilmour, Rediscovering Principles of Public Administration: The Neglected Foundation of Public Law, *Public Administration Review* 55(2) 1995, 135-146, available [online](#).

⁹⁸ FinTech represents one of many ‘innovative policies’ governments have sought to promote through procurement. Many authors have argued that international procurement laws have attempted to -- and often failed at -- balancing social and other policies with keeping a level economic playing field internationally. See Christopher McCrudden, *Buying Social Justice: Equality, Government Procurement, & Legal Change*, Oxford, 2007.

particularly influential.⁹⁹ Not only does FinTech adoption in China exceed that by value than any other market, but Chinese investment in foreign FinTech ventures gives the country an international presence unrivalled by the EU and US.¹⁰⁰ China's highly developed FinTech ecosystem will make using other forms of finance in Chinese public procurements less and less practical.¹⁰¹

Chinese officials have already promised/threatened to speed up the **Fintechization** of public procurement internationally.¹⁰² The Belt and Road Initiative represents \$4-\$8 trillion in cross-border procurements (namely, Chinese government entities buying foreign companies' goods or foreign governments buying Chinese companies' services).¹⁰³ Only about 40% of countries with Belt and Road Initiatives agreements have procurement provisions in place.¹⁰⁴ Anyway, 60% of Chinese companies end up winning these tenders - with procurements done according to much looser rules than those in the West.¹⁰⁵ The Chinese *Government Procurement Law* and the related *Implementation Rules* provide that Chinese public procurement facilitates the achievement of goals designated by state policies.¹⁰⁶ Plans, like the 2019's Peoples Bank of China's *FinTech Development Plan* could easily interpret procurement as part of their remit.¹⁰⁷

China's influence in the **Asian Infrastructure Investment Bank** (AIIB) could further cement international procurement rules' evolution toward those more similar to Chinese rules, rather than those in the West.¹⁰⁸ Many have seen the AIIB's lending as part of

⁹⁹ See Yvon Moysan, China, the World's Biggest FinTech Market, *Journal of Digital Banking* 2(3), 249-258, 2018, available [online](#). See also Unnamed author, Fintech in China: What Lies Ahead, *Knowledge@Wharton*, 2019, available [online](#).

¹⁰⁰ See Wei Wang and David Dollar, What's Happening with China's Fintech Industry? *Brookings Order from Chaos Blog*, 2018, available [online](#).

¹⁰¹ See Ying-ying Zhang-Zhang, Sylvia Rohlfer and Jay Rajasekera, An Eco-Systematic View of Cross-Sector Fintech: The Case of Alibaba and Tencent, *Sustainability* 12, 2020, available [online](#).

¹⁰² See Bonnie Buchanan and Cathy Xuying Cao, Quo Vadis? A Comparison of the Fintech Revolution in China and the West, *SWIFT Institute Working Paper No. 2017-002*, 2017, available [online](#).

¹⁰³ Meahl provides the \$4-\$8 trillion number. Green, citing Ghossein (*infra* note 278), talks about the 60% of bids being won by Chinese bidders, and adds some extra discussion about finance along the New Silk Road. See Bill Meahl, China's Belt and Road: The New Silk Road? *Supply Chain Digital*, 2020, available [online](#). See also Will Green, Three Fifths of Belt and Road Contracts go to Chinese Firms, *Supply Management Online*, 2019, available [online](#).

¹⁰⁴ See Michele Ruta, Matias Herrera Dappe, Somik Lall, and Chunlin Zhang, *Belt and Road Economics: Opportunities and Risks of Transport Corridors*, 2019, available [online](#), at Table 1.2.

¹⁰⁵ Tania Ghossein, Bernard Hoekman and Anirudh Shingal, Public Procurement in the Belt and Road Initiative, *MTI Discussion Paper No. 10*, 2018, available [online](#).

¹⁰⁶ Ghossein provides a more extensive analysis of Chinese procurement law in this context. See Government Procurement Law. art. 9. See also Implementation Rules of the Government Procurement Law at art. 6. See Ghossein (*supra* note 278) at p. 12.

¹⁰⁷ E.g., see Jun Wan, Wei Quan, and Kanxi Liao, FinTech 2020: China, *Global Legal Insights*, 2021, available [online](#).

¹⁰⁸ Jędrzej Gorski, Recent Developments in Procurement of Projects Financed by the Multilateral Development Banks. What Can EU's Public Procurers Expect from the China-Led Financial Institutions?, *Chinese University of Hong Kong Centre for Financial Regulation and Economic Development, Working Paper No. 15*, 2016, available [online](#).

China's broader ambitions to expand its financial services and other markets abroad.¹⁰⁹ One can easily imagine China's FinTech rules following their FinTech firms worldwide.¹¹⁰ As such, if China's FinTech hubs create FinTech standards which large organizations like China Development Bank or AIIB adopt, one could imagine a large number of countries (and even the US or EU) 'receiving' such rules from abroad - rather than developing them domestically/internally.¹¹¹

Much international aid passes through types of public procurement rules which encourage a **free-for-all approach to cross-border** FinTech-enabled public procurement.¹¹² Chinese rules take a laissez-faire approach to FinTech development at home and abroad - with state policy encouraging the adoption of Chinese standards. Western multilateral aid organizations (as previously discussed) aim to use local procurement regulations wherever possible. Banks and other procurement/trade finance providers will, in turn, use the resulting procurements rules at home and abroad.¹¹³ Until some form of international law comes into place, such finance rules literally take place according to a low bar set by aid organizations' anti-fraud and audit standards.¹¹⁴

In theory, FinTech markets could spontaneously evolve the rules needed to guard against such a free for all. Automated procedures in blockchain and smart contracts could add large-scale efficiencies to procurements done by often incompetent or corrupt procurement officials.¹¹⁵ Both blockchains and the information provided from the trade of tokens (be they tokens over the consignment rights to cargo to the ownership of a securitized asset) can help ensure aid recipients distribute aid money for its intended purposes and actually spent for those purposes.¹¹⁶ Specifically, and the point bears quoting in its whole, "the use of smart contracts in government procurement processes will also require the clarification of liability issues...and interoperability issues will need

¹⁰⁹ Many scholars have noted that Chinese MNEs form their own special category of procurement - given their strong government links. See Ravi Ramamurti and Jenny Hillemann, What is 'Chinese' about Chinese Multinationals? *Journal of International Business Studies* 49, 34-48, 2018, available [online](#).

¹¹⁰ Sara Hsu and Jianjun Li, *China's Fintech Explosion: Disruption, Innovation, and Survival*, Columbia Press, 2020.

¹¹¹ Frost might oppose such a view, seeing FinTech rules spreading as the benevolent result of gracious policymakers promoting financial inclusion. Few authors see cross-border financial regulation in geopolitical terms. See Jon Frost, The Economic Forces Driving Fintech Adoption Across Countries, *BIS Working Paper* 838, 2020, available [online](#).

¹¹² Simon Evenett and Bernard Hoekman, International Cooperation and the Reform of Public Procurement Policies, *World Bank Policy Research Working Paper* 3720, September 2005, available [online](#).

¹¹³ Sope Williams-Elegbe, *Public Procurement and Multilateral Development Banks' Law, Practice and Problems*, Hart Publishing, 2017, available (in part) [online](#).

¹¹⁴ Western aid does not completely relinquish their authority to regulate aid contract-related procurement in jurisdictions without sufficiently strong financial management and audit institutions. Yet, in practice, they rely on inefficient local institutions far more than they should. See Verena Fritz, Marijin Verhoeven, and Ambra Avenia, The Political Economy of Public Financial Management Reforms: Experiences and Implications for Dialogue and Operational Engagement, World Bank, 2017, available [online](#).

¹¹⁵ Government Accountability Office (US), Multilateral Development Banks: U.S. Firms' Market Share and Federal Efforts to Help U.S. Firms, 1995, available [online](#).

¹¹⁶ Emmanuelle Gann, Can Blockchain Revolutionize International Trade?, *WTO Working Paper*, 2018, p. 68, available [online](#).

to be addressed before parties to the WTO GPA can put in place such systems”¹¹⁷ If true, financial technologies will drive international - as well as - national law in FinTech-enabled public procurement.

If China does establish the standards under which FinTech-enabled international procurements occur, such standards may - themselves - represent an unfair barrier to international trade.¹¹⁸ To that end, an international body -- replacing the Financial Stability Board’s (FSB) current *de facto* role -- should oversee and ensure that FinTech regulations promote a level procurement playing field.¹¹⁹ Public procurement authorities have no obvious forum for harmonizing their policies -- like the FSB or WTO.¹²⁰ Disagreements about principles all parties agree might stem from lack of a forum where such disagreements could receive a fair hearing.¹²¹ **Just like national authorities could usefully include procurement officials in their FinTech debates, international bodies could do likewise.**

Such a body should not simply attach to an existing international financial organization. Simply creating a FinTech procurement financing working group at the FSB, BIS or OECD would again downplay the important role played by trade finance experts and procuring entity experts themselves. The General Agreement on Procurement (GPA) has no permanent secretariat -- and the GPA does not look at finance issues closely.¹²² If the World Customs Organization, or even the International Telecommunications Union, could get their own standing international organization, why does international procurement still lack such importance? **Why not establish an International Public Procurement Authority?** Figuring out how to establish a FinTech-enabled procurement regime which promotes the procurement finance domestically and internationally could represent one of its first -- and most important -- tasks. If banks really do disappear (as Satoshi Nakamoto said), such an authority could best figure out how procurement finance could move forward with the new technologies at our great-grandchildren’s fingertips.

¹¹⁷ *Id.*, at p. 69.

¹¹⁸ Maria Anna Corvaglia, Public Procurement and Private Standards: Ensuring Sustainability Under the WTO Agreement on Government Procurement, *Journal of International Economic Law* 19(3), 607–627, 2016, available [online](#).

¹¹⁹ Matthias Lehmann, Global Rules for a Global Market Place? The Regulation and Supervision of Fintech Providers, *Boston University International Law Journal* 38, 118, 2020, available [online](#).

¹²⁰ The regular UNCITRAL meetings related to the Model Law might provide this forum. However, these meetings tend to reflect states’ multilateral bargaining power. See Caroline Nicholas, Negotiations and the Development of International Standards in Public Procurement: Let the Best Team Win, *Trade Law and Development* 7(3), 2015, available [online](#).

¹²¹ Hilde Caroli Casavola, Internationalizing Public Procurement Law: Conflicting Global Standards for Public Procurement, *Global Jurist Advances* 6(3), 2006, available [online](#).

¹²² The WTO hosts regular rounds of GPA negotiations, but plays no role typically served by a procurement policy authority. A standing body would likely focus far more on enforcement and market conduct than policy. See Sue Arrowsmith and Robert Anderson, *The WTO Regime on Government Procurement: Challenge and Reform*, Cambridge, 2011.

Conclusions

A FinTech-enabled public procurement could make government/public buying easier, faster, cheaper, and more transparent. Yet, unmanaged, they could allow for gross violations of public procurement law. Such violations could result in a domestic and international free-for-all, where contracting authorities procure as they will. Such a free-for-all would certainly prevent presently-existing organizations from upholding the principles of equal treatment, non-discrimination, proportionality, and transparency, which have helped safeguard the public interest.

The current strategy of letting a thousand flowers bloom will result in such a free-for-all. In this free-for-all, contracting authorities will disadvantage future FinTechs, harm the beneficiaries of public spending, and potentially lock-in FinTech-based financing technologies which discriminate, harm disproportionately some, and hide public spending in a black box of inscrutable algorithms. Bespoke regulatory or supervisory technologies can not simply pair up with bespoke FinTech applications - as such technologies lack the kind of guidance that has served traditional supervision for the past century or longer.

Changes to national law (particularly administrative law affecting central government and the wider public sector), and work from FinTech associations and advocates in procurement policy bodies will need to guide the development of FinTech-enabled public procurement. Procurement policymakers will need to join the panoply of other interested regulators (most notably financial regulators) to create FinTech applications which benefit all. Few areas of trade finance and broader financial regulation will remain untouched. Hopefully, their regulators will also be similarly revolutionized (disintermediated).

The changes FinTech could cause in cross-border public procurements could also drag along changes in the international law governing them. The Agreement on Government Procurement, the range of UNCITRAL Model Laws (most notably the one on public procurement) and the regulations governing procurement financed by multi-lateral donor agencies, all struggle with even adopting e-procurement. Introducing FinTech-based finance into international law will probably require a body dedicated to dragging cross-border procurement finance into the 21st century. Such a body could advise, help set standards, and rein in the free-for-all currently taking place between international organizations and nation-states.

China poses particular risks to a global procurement legal order based on level-playing-field legal principles. China's lead in FinTech and cross-border government procurement -- according to rules aimed at promoting China's interest rather than the global general interest - represent something an international body focused on FinTech-enabled public procurement law could look at. If China sets the rules for the next century's law governing the use of FinTech in public procurement, these rules should ensure adherence to the principles which have grown trade and growth up to now.