

Accounting for Sustainability in Asia: Stock Market Regulation and Reporting in Hong Kong and Singapore

Felicia H. M. Liu ^{a*b}

David Demeritt ^a

Samuel Tang ^c

^a Department of Geography, King's College London, London WC2R 2LS, UK

^b Department of Geography, National University of Singapore, 1 Arts Link, Kent Ridge, Singapore 11757

^c School of Business and Management, Queen Mary University of London, London E1 4NS

* Corresponding author: felicia.liu@kcl.ac.uk

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Abstract: Sustainability reporting ‘nudges’ firms into behaving more sustainably by forcing them to account publicly for their wider social and environmental performance. This libertarian paternalist approach to governance through disclosure rather than command-and-control regulation is well established in Anglo-Saxon jurisdictions, but comparatively untested in the emerging markets of Asia where different state traditions and forms of business organization raise questions about its transferability and effectiveness. This paper contributes to research on corporate social responsibility, neoliberal environmental governance, and Asian varieties of capitalism by providing the first comparative analysis of the origins, design, and initial impact of new sustainability reporting requirements on the stock markets of Hong Kong and Singapore. In mandating sustainability reporting, both exchanges were similarly concerned with following international norms and competitors but differed in the style and granularity of their company disclosure requirements. These policy design choices reflected different developmental state traditions and the different audiences that market regulators in Hong Kong and Singapore sought to influence through these public accounts. Notwithstanding substantial differences between Hong Kong’s rules-based and Singapore’s principles-based approach to reporting, the response in both markets was remarkably similar. In both cases sustainability reporting was largely ignored by local market players who dismissed it as a foreign practice of interest to only a small number of western institutional investors and providing little incentive to go beyond tick box compliance. These findings raise questions about the effectiveness of disclosure requirements at nudging Asian businesses towards sustainability.

JEL codes: D22, G14, G38, M48

Keywords: corporate sustainability reporting, Asian capitalism, developmental state, environmental regulation, nudge

In the face of climate change, the once purely voluntary practice of sustainability reporting is fast becoming a market requirement for major, publicly-traded corporations. In 2015, the Hong Kong Stock Exchange (HKEx) became the first in Asia to mandate all companies listed on its stock exchange to report their greenhouse gas (GHG) emissions along with a host of other environmental, social and governance performance indicators (for example, waste, energy consumption, employee welfare, board gender ratio). The Singapore Exchange (SGX)

followed suit within a year, requiring all listed firms to observe its previously voluntary guidance on sustainability reporting. These stock market regulations follow similar moves in the US and Europe to require sustainability reporting as part of wider efforts to harness capital markets to the cause of environmental sustainability. To date most of the research in economic geography on the ‘greening’ of finance has focused on the operation and impacts of new quasi-markets and financial instruments, such as emissions trading and biodiversity offset markets (Bumpus and Liverman 2008; Bigger 2018), green bonds (Bracking 2015; Johnson 2014), and ethical investment funds (Hadfield-Hill 2007; Hughes 2011). The underlying mechanisms of accounting and certification that make such financial processes possible have largely been ignored.

Mandatory sustainability reporting builds upon a host of voluntary initiatives to encourage firms to account publicly for their social and environmental performance. For more than two decades now its largely western-based proponents have heralded sustainability reporting as a cure-all that enhances company value and corrects market failure by providing the transparency needed for the market to reward improved environmental performance as much as immediate profitability (e.g. GRI 2006; KPMG 2016). Geographers have challenged such approaches to environmental governance through disclosure on grounds of both fairness and effectiveness (Guthman 2007; Knox-Hayes and Levy 2011; Havice and Campling 2017). Their skepticism is not unfounded. Several studies have shown that sustainability reporting has little effect on firm performance (Jones *et al.* 2007; Tang and Demeritt 2017) and often is merely symbolic window-dressing (Cho *et al.* 2015; Bowen 2014). However, past research has focused almost exclusively on US and European markets (e.g. Chen and Bouvain 2009), scarcely considering Asian economies or the role of this regulatory style in non-liberal societies. With Asia home to many of the world’s fastest growing and most polluting economies,

there are important questions about the mobility and effectiveness of such stock market regulation in different political economies.

To address those gaps this paper compares the development, implementation, and impacts of mandatory sustainability reporting in the Hong Kong and Singapore stock markets. With domestic market capitalization valued at USD 3,193,236 and USD 649,456 respectively (WFE 2016), HKEx and SGX are significant markets in their own right as well as serving as gateways for global investors to the economies of China and Southeast Asia. As such these two related but ‘differentiated’ (Lai 2012) Asian stock markets provide good cases for exploring how well this style of regulatory nudging fits with the various developmental state traditions and forms of business organization prevailing across the region. In this way we seek not only to further the development of what Gibbs (2006) has called ‘environmental economic geography’, but also to wider debates about corporate social responsibility (Ormond, 2015), neoliberal environmental governance (Heynen et al. 2007; Christophers 2017), and varieties of capitalism in Asia (Carney et al. 2009; Zhang and Peck 2016).

Corporate Reporting, Regulatory Styles and Asian Political Economies

Sustainability reporting is an extension of the long-standing practice of financial reporting, whereby firms publish their financial accounts to show their credit-worthiness and demonstrate to shareholders that company executives are managing firm assets in the best interests of their principals. Beyond the reports of financial profit and loss long required by both general company law and the specific listing rules imposed by stock markets on publicly-traded companies, firms are increasingly reporting on a wide range of other non-financial matters. In this paper we use the term sustainability reporting generically to refer to that broader family of non-financial reporting practices by which firms account publicly for their wider environmental, social and governance (ESG) strategies and performance.

Sustainability reporting differs from traditional financial reporting in at least three respects. First, unlike financial reporting, the matters of concern that sustainability reporting accounts for are not always quantifiable or even tangible. For example, it took more than a decade for accounting organizations, business groups, and international environmental NGOs to develop international standards to account for GHG emissions without double counting (Lovell and MacKenzie 2011). Beyond GHGs, international standard-setting organizations, such as the Global Reporting Initiative (GRI), have developed various other metrics and frameworks to help companies perform sustainability reporting in more consistent and comparable ways (Brown *et al.* 2009). Second, the expanding number of things that firms are accounting *for* has been accompanied by an expansion in the audiences they make themselves accountable *to*. Whereas financial reporting is chiefly addressed to shareholders and creditors with an economic interest in firm finances, sustainability reporting addresses a much wider set of ‘stakeholders’ in society at large concerned about the environmental and social performance of firms, such as consumers, government regulators, and the general public. Third, unlike the legally mandated publication of annual financial accounts, sustainability reporting was historically voluntary. While international standard-setting organisations, like the GRI, have been instrumental in developing sustainability reporting rules, decisions about whether to report were traditionally left to firms themselves.

Scholars have offered a number of competing explanations for the spread of sustainability reporting by firms. In accounting and management studies, proponents of ‘stakeholder theory’ (Donaldson and Preston 1995) explain firm reporting behavior as a reflection of the values of those with some controlling ‘stake’-- whether as directors or in some other capacity—in the firm (Cotter and Najah 2012; Liao *et al.* 2015). By contrast, advocates of ‘legitimacy theory’ explain the adoption of sustainability reporting in terms of the need for firms to secure acceptance from external audiences, like consumers, regulators, and NGOs (Deegan *et*

al. 2002; O’Donovan 2002). Similarly, ‘signaling’ theorists (cf. Connelly *et al.* 2011) understand corporate disclosure as a way for managers to signal their virtue and brand their firms as more socially and environmentally responsible than competitors (Cormier *et al.* 2005; Ormond 2015). From this perspective critics have often condemned sustainability reporting as a form of ‘greenwashing’, designed to conceal environmentally damaging behavior behind a veneer of corporate social responsibility (Cho *et al.* 2015; Bowen 2014).

In contrast to this emphasis on organizational culture and strategy, geographers more typically look to structural factors driving the growth of sustainability monitoring and disclosure regimes. In addition to Foucaultian arguments about subjectification creating new norms around carbon footprinting and labelling as simply the ‘right’ thing to do (Freidberg 2014; Ormond and Goodman 2015), economic geographers have also shown how reporting has reshaped relations of power within production networks (Guthman 2007; Havice and Campling 2017). The Carbon Disclosure Project and other sustainability league tables create strong ‘mimetic’ pressures (Dimaggio and Powell 1983) for firms to report like their peers, to avoid being ‘named and shamed’ by NGOs and other pressure groups (Knox-Hayes and Levy 2011).

As sustainability reporting has become normalized over the last two decades, governments and stock market regulators are now beginning to require it as an integral part of conventional corporate reporting (Table 1). KPMG’s (2016) latest ‘Carrots and Sticks’ assessment of the global reporting landscape found a substantial increase in disclosure requirements: the total number of reporting instruments increased more than two-fold between 2013 and 2016, with some kind of recommended or required sustainability reporting instrument present in 64 of 71 countries they reviewed.

Year	Jurisdiction	Regulation
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2008	Denmark	The Danish Financial Statement Act mandates large companies to include ESG information with their annual reports.
2008	Shanghai	The stock exchange recommends all companies to engage in ESG reporting, with environmental information disclosure being mandatory for the extractive sector.
2010	US	The Securities and Exchanges Commission requires companies to disclose their exposure to climate risks in their annual filings.
2013	UK	Companies Act 2006 (Strategic Report and Directors' Reports) Regulations 2013 require listed companies to report on the GHG emissions for which they are responsible.
2014	Australia	Australian Securities Exchange recommends listed companies to disclose any material exposure to economic, environmental and social sustainability risks.
2014	EU	EU Directive 2014/95/EU on non-financial reporting requires large companies across the EU to disclose a host of information about their ESG policies and performance.
2015	Hong Kong	HKEx mandated ESG reporting as a listing rule.
2015	Malaysia	The stock exchange requires all companies to provide a 'sustainability statement' in their annual reports.
2016	South Africa	Succeeding previous King Codes that requires sustainability reporting, the newest King IV Code requires all listed companies to conduct integrate reporting.
2016	Singapore	SGX mandated sustainability reporting as a listing rule.

Table 1. Examples of jurisdictions with sustainability reporting regulations

This growth has prompted renewed questions about the impacts and value of sustainability reporting. In Power's (2003) influential analysis of the 'audit explosion', sustainability reporting is purely symbolic and typically decoupled from operational practice and management decision-making within firms. Nor is the information it generates necessarily useful for investors trying to make more environmentally sustainable choices (Sullivan and Gouldson 2012). Neo-Marxist geographers have questioned the very idea that sustainability disclosures can fix market externalities and resolve the crisis-prone contradictions of capitalist finance (Bracking 2015; Christophers 2017; Johnson 2014).

Research to date has focused much more on the uptake and response of firms rather than on why states or market regulatory authorities have begun to require sustainability reporting. However, research on other forms of mandatory business disclosure, such as the US EPA's toxic release inventories (Hamilton 2005), connects them to a wider style of 'libertarian paternalist' governance (Thaler and Sunstein 2008). It uses information to 'nudge' regulatees into changing their behavior by raising awareness of sustainability, publicizing good performance, and 'naming and shaming' laggards. This is said to be more effective and less costly than command-and-control regulation because it allows regulatees the flexibility to decide for themselves how best to improve their own performance (GRI 2006; KPMG 2016).

Although its proponents see sustainability reporting as universally applicable, most of the empirical research on the adoption and operation of 'nudge'- style regulation has focused on Anglo-Saxon polities (e.g. Hamilton 2005; Jones *et al.* 2014; Escobar and Demeritt 2017). It is not clear how well regulation through disclosure will travel to other political economies. In east Asia, for example, strong states have traditionally faced little opposition to command-and-control policies for achieving their economic development goals. Even if there remains

fierce debate about extent to which the different ways in which governments across the region have intervened to direct investment flows, organise labour markets, and steer the strategies of leading sectors and firms in the interests of national competitiveness can be conceptualized in term of an Asian ‘developmental state’ (Johnson 1999; Stubbs 2009). Arguably strong developmental states have access to more direct instruments for influencing business than neoliberal polities where ‘nudge’ has become the default policy option (Jones *et al.* 2014). However, Yeung (2014) describes how recent shifts in global production networks have weakened the ability of Asian states to direct private sector activities, potentially making nudge strategies more attractive to them as instruments of indirect economic steering. On the other hand, calls for sustainability reporting and transparency from business are not compatible with wider traditions of governance in Asia where political decision-making processes are often opaque, media coverage restricted by state- and self-censorship, and open public debate limited (Rodan 2004).

Nor is it clear how well regulatory mechanisms based on naming and shaming will function in ‘hybrid regimes’ (Diamond 2015)—transitioning states normatively accept liberal democracy but exhibit undemocratic or authoritarian traits— where civil society lacks the power, or indeed possibly even the inclination (Holden and Demeritt 2008), to exercise its public voice and hold poorly performing organizations to account (Hamilton 2005). In Indonesia and the Philippines, for example, the USAID promoted the adoption of pollution disclosure policies modelled on the US EPA toxic release inventories scheme. Though successful in the USA (Hamilton 2005), these policies failed in both Asian cases. Reporting requirements were poorly enforced by under-resourced and sometimes corrupt local officials while local publics struggled to access and use the information to pressure politically well-connected polluters to stop (Lee 2010; Lee *et al.* 2013). Sustainability reporting is a different kind of corporate disclosure, and stock market regulators have stronger enforcement levers,

including de-listing, to ensure compliance. Nevertheless, questions remain about its fit with Asian state traditions.

There are also questions about the ‘institutional complementarity’ (Crouch *et al.* 2005) of sustainability reporting with Asian varieties of capitalism. Scholars differ about the diagnostic features of Asian capitalism (cf. Carney *et al.* 2009; Witt and Redding 2013; Zhang and Peck 2016), but family-controlled enterprises and business groups are often cited (Steier 2009), as is the involvement of leading shareholders, both as executive directors and major purchasers and providers, in business operations (Walter and Zhang 2012). Another distinguishing feature is the greater reliance of Asian production networks on informal coordination through personal relationships of reciprocity, patronage, and trust rather than legally enforceable contracts tendered on market price alone (Yeung, 1997; Kiong and Lee, 1999). Such systems of ‘insider’ control and coordination reduce the demand for formal reporting mechanisms, like audit committees chaired by independent non-executive directors to review company accounts, for holding company management accountable to shareholders (Steier 2009). Indeed research on publicly-traded companies in Hong Kong and Singapore has shown the quantity and frequency of corporate disclosures to be positively correlated with wider ownership of firms by non-insiders (Chau and Gray 2002). Given these different traditions of corporate governance, the appeals of sustainability reporting for east Asian companies, investors, and stock market regulators are far from clear.

Case Study Rationale and Methodology

To explore these questions, we focus on the cases of Hong Kong and Singapore, whose stock markets were the first in the region to require sustainability reporting. Formally, both HKEx and SGX are organized as private companies that in turn are regulated by government finan-

cial market authorities in their respective jurisdictions. Hong Kong and Singapore are of similar size, in terms of population and GDP, and share common law traditions of English company law, which Gallego-Alvarez *et al.* (2017) highlight as an important factor shaping international variation in reporting. Both markets cater primarily to small- and medium-capitalization firms (those with values of less than USD 2bn and USD 10bn respectively), which comprise 89% of HKEx and 93.7% SGX by total number of firms (Corporate Knights Capital 2017). These similarities have led Hong Kong and Singapore to be grouped together as exemplifying a distinctive type of Asian capitalism (Witt and Redding 2013).

Our two cases differ in two other important respects, whose implications for sustainability and stock market regulation could be assessed through our comparative research design. First, despite competing fiercely with one another as international financial centers, Hong Kong and Singapore occupy complementary positions within the global finance system (Lai 2012). HKEx is much larger and more involved as a major gateway to China, now the world's largest economy. The Singapore market, by contrast, is focused more on facilitating international trade to Southeast Asia and supporting government efforts to position the city-state as a global hub for knowledge intensive industries (Woo 2015). This points to a second important difference between our case studies: the status and strength of their respective governments. In pursuing its economic development plans, the Singapore government has exercised its sovereignty as a classic developmental state (Olds and Yeung 2004). By contrast, Hong Kong has never been an independent state. Although promoting "the status of Hong Kong as an international financial centre" is set down in the Basic Law (Article 109) as a core duty of the Government of the Hong Kong Special Administrative Region (HKSAR), its formal powers to achieve that development goal have always been more limited, both under British colonial rule and, since 1997, under the 'one country, two systems' principle of limited local self-government within the People's Republic of China.

We employed a multi-method approach to collect data iteratively from three types of stakeholders involved in HKEx and SGX: (1) stock exchange regulators, (2) listed companies and (3) practitioners, such as accounting professionals, business service consultants, and NGOs involved in developing and implementing sustainability reporting frameworks. Our research design is illustrated schematically in Figure 1:

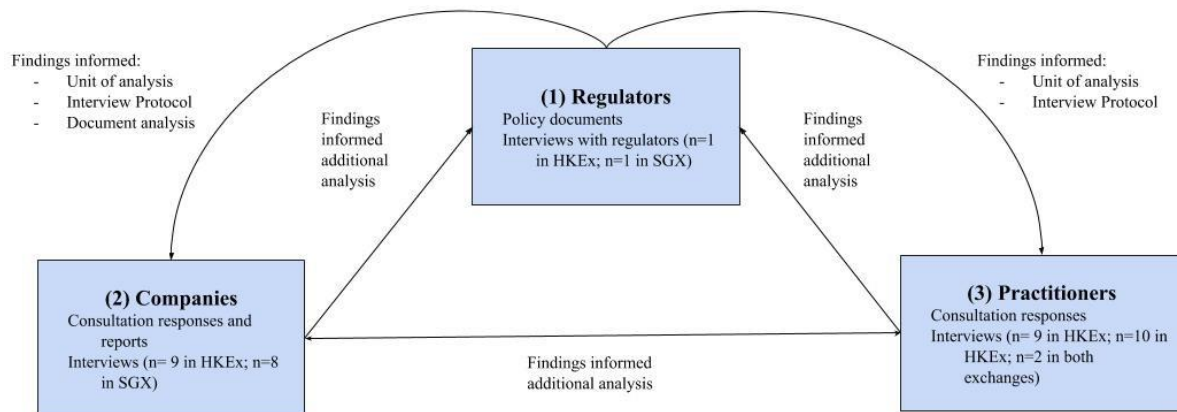


Figure. 1 Research design based on three iteratively consulted sources of information from regulators, listed companies, and practitioners in Hong Kong and Singapore

We first analyzed policy documents, including materials from public consultations, company reports, grey literature, and broadsheet coverage in the business and English language press. Only HKEx published all the responses to its consultation (n=254); responses to SGX were sometimes available from respondents or on respondent organization websites. We then conducted 40 interviews with 46 individuals – between May and September, 2017 – from our three stakeholder groups. Interviews were conducted in English (n=34) and Cantonese (n=6), as per informant preference. To mitigate the problem of key ideas being ‘lost in translation’, the interviewer asked for clarification of key terms in English when required. To encourage frank and open responses, informants and their organizations are anonymised.

Thus are described in broad, non-identifying terms. Many informants preferred not to be audio-recorded (n=34) in which cases extensive notes were taken during the interview and then supplemented from memory immediately afterwards.

Informants were asked about their current engagement and previous experience in sustainability reporting, their opinions about the new regulations, their personal or organization's involvement in their formulation, and impressions about the market's responses to sustainability reporting and the regulation. Interview notes and transcripts were then coded and triangulated against the documentary material to ensure analytical robustness.

Findings

From voluntary to mandatory sustainability reporting

The timelines for mandating sustainability reporting in both exchanges were similar. In July 2015, HKEx published its public consultation paper announcing its intention to “upgrade” its voluntary sustainability reporting guidelines to a mandatory ‘comply or explain’ basis (HKEx, 2015a: 3). Six months later, SGX (2016a: 2) published its own public consultation about “elevating” its existing voluntary reporting guide to a mandatory ‘comply or explain’ basis.

Despite these similarities in timing, the two markets rationalized the move to mandatory sustainability reporting differently. HKEx (2015a) explained that mandatory reporting would address two market inefficiencies. First, in 2014 the HKSAR Government had revised the Companies Ordinance to require all Hong Kong incorporated companies to describe their ESG policies in their directors' reports. To ensure a ‘level playing field’ across the exchange the HKEx proposed making sustainability reporting mandatory for all publicly-traded companies, regardless of their country of incorporation (HKEx 2014: 1). Second, the HKEx was concerned that the low take-up of its voluntary reporting guidance was creating information

asymmetries that could potentially distort the market. According to the Securities Future Council (SFC, 2016), the statutory agency responsible for financial services regulation in Hong Kong, investors should be able to engage with firms if they have concerns about ESG matters. This is impossible without clear and consistent disclosure. To fulfill its legal charter HKEEx (2015a: 1) felt obligated to address this market failure and “ensure an orderly, fair and informed market”.

In contrast to that narrowly technical focus on market efficiency, SGX justified mandatory sustainability reporting by pointing to wider environmental concerns and international duties, specifically the Paris Agreement on Climate Change and the UN Sustainable Development Goals (SGX 2016a: 1), to which the Government of Singapore, unlike the HKSAR, is a direct signatory. In addition to those moral and diplomatic imperatives, SGX (2016a: 2) also emphasized the value of sustainability reporting to companies themselves as a rationale for requiring companies to do it:

“Most importantly the issuer builds enterprise value both externally through communication with investors and other stakeholders as well as internally within its operations.”

As in Hong Kong, few companies were reporting voluntarily, but in moving to mandatory sustainability reporting SGX (2016b) was less concerned with market failure than with “enhanc[ing] the visibility of SGX-listed companies among investors” and thereby positioning Singapore as a leading center for green investment in Asia. This long-standing goal has even shaped the city-state’s response to climate change. Having long refused to accede to the Kyoto Protocol, Singapore signed on in 2005, when it perceived that joining might create opportunities for local business growth (Hamilton-Hart 2006).

Despite the contrasting rationales offered in their public consultations, key informant interviews suggest that in fact the decision by both markets to require sustainability reporting was driven by similar mimetic concerns for keeping up with international norms and competitors. Asked to explain why HKEx opted for mandatory reporting, the first reason an HKEx official highlighted was the need to observe wider trends internationally:

“It’s a global trend and we cannot ignore it. Hong Kong is an international financial center. We need to be seen as keeping up with international regulatory developments” (Regulator, HKEx).

Similarly, a SGX official also pointed, first and foremost, to the need to follow wider developments in sustainability reporting:

“As more interest is developed around the topic, both from investors and from the wider community... we observed an upward trend and decided to act upon it”
(Regulator, SGX)

Indeed, informants typically only mentioned the formal justifications offered in the consultation papers when prompted. By contrast, they consistently volunteered that “lagging behind” competitors, as Practitioner 14 put it, was the primary rationale for mandatory reporting. As a SGX regulator explained:

“Neighboring jurisdictions such as Hong Kong and Malaysia are mandating similar requirements. It is important to maintain regional competitiveness in the eyes of investors.”

HKEx officials were no less concerned with how they compared with competitor exchanges:

“We regularly conduct jurisdictional comparison with the largest stock exchanges in the world that we deem as competitors, including London, New York, Shanghai, Shenzhen and Singapore...We either try to catch up or do better than them” (Regulator, HKEx).

Such comments suggest regulators are strongly driven by mimetic pressure to implement sustainability reporting regulations, whose appeals are ornamental rather than environmentally transformative.

Reporting Rules and Principles

Since the move to mandatory sustainability reporting was partly motivated by mimetic considerations, it is perhaps not surprising that both markets looked to borrow reporting rules and principles from elsewhere, rather than inventing their own. One place they looked was the GRI, whose G3 reporting framework (cf. GRI 2006) provided a model for both HKEx and SGX. Specifically, HKEx based its stipulations for ‘general policy disclosures’ on G3’s ‘management approach’ (HKEx 2015a). Likewise SGX (2016c: 4.1) recommended companies ‘reference’, without necessarily ‘report to’, the GRI reporting standards, so as not to overwhelm first time reporters, who, it was felt, might find its requirements too demanding (Regulator, SGX).

Both exchanges also adopted the ‘comply or explain’ provision recommended by GRI (2013) to give companies the flexibility to opt out of particular disclosure requirements if they explain why. This approach was favored by practitioners in both markets as a way of “introducing sustainability reporting softly” (Practitioner 17, SGX) and “avoid[ing] over-regulation” by granting opt-outs while leveraging peer pressure to ensure compliance, since “out of competitiveness companies would avoid ‘explaining’” rather than look badly “when benchmarked against their peers” (Practitioner 10, HKEx).

Despite modeling themselves after the same GRI reporting framework, HKEx and SGX adopted different approaches to mandatory reporting (Table 2). HKEx was much more prescriptive and detailed in its specific content requirements. Having provided voluntary guidance and training to support sustainability reporting, HKEx (2015a: 17) found through “market feedback ... that many issuers are waiting for the recommended disclosures of the ESG Guide to be upgraded to ‘comply or explain’ before they begin to report.” Accordingly, HKEx revised its ESG reporting guide to specify 12 areas of required disclosures about company policy as well as a further 32 environmental and social KPIs. Many of these are quantitative, with 12 specific environmental KPIs also subject to the ‘comply or explain’ provision, including GHG emissions and intensity, waste production, and energy consumption.

In adopting this rules-based approach, HKEx (2015a: 18) was “mindful of the risks of setting the ESG reporting bar too high prematurely.” Although they would also like, eventually, to do more with social issues as well, these are both more sensitive politically and more difficult to measure (Company 5, HKEx), so the initial mandatory KPIs are strictly environmental. As a HKEx official explained:

“[HKEx] also felt environmental issues are more pressing...if we ask too much we’re unlikely to get all...so if we do it step by step, we’re likely to push through policy changes [in other areas].”

As part of that incremental process, the HKEx consulted in 2011 on a list of recommended KPIs for the voluntary ESG reporting guidelines it subsequently published in 2012. Reporting on those KPIs was initially voluntary because “an issuer will need to put systems in place to collect data and it takes time before an issuer can meaningfully report on some KPIs” (HKEx 2011: 5). However uptake was limited. In 2015, HKEx found that 80% of large capitalisation firms (>USD 10bn) were following HKEx's recommendations by reporting ESG information, but only 36% of small capitalisation (<USD 2bn) firms. In response, HKEx (2015a: 5)

“upgraded” sustainability reporting to ‘comply or explain’, to compel more compliance while still “giving issuers flexibility” to opt out if certain KPIs proved inappropriate.

	HKEx (2015b): <i>Environment, Social and Governance Reporting Guide</i>	SGX (2016c): <i>Sustainability Reporting Guide</i>
Reporting style	Rules-based: quantitative and qualitative ESG indicators	Principle-based: qualitative assessment of sustainability
Content requirements	12 general policy and legislative compliance disclosures 32 environmental and social key performance indices (KPIs), with the 9 quantitative and 3 qualitative environmental KPIs falling under 'comply or explain'	Five primary reporting components: (1) Material ESG factors (2) Policy and practice (3) Past performance, quantitative indicators and future targets (4) sustainability reporting framework (5) Board statement
Reporting principles	Material Consistency	Materiality Report risks as well as opportunities Balanced reporting Performance measurement system Global standards comparability Stakeholder engagement Independent Assurance
Compliance standard	Comply or explain	Comply or explain

Table 2. An outline of the reporting requirements in HKEx and SGX

By contrast, SGX (2016a: 6) was keen to avoid being “overly prescriptive”. Rather than mandating very specific disclosures or KPIs, the SGX adopted a ‘principles-based’ approach. The SGX (2016c) reporting guide outlines the broad principles that companies are expected to follow in order “to tailor their descriptions precisely to their own circumstances rather than fit their reporting to what is externally determined as appropriate” (SGX 2016a: 4). Following the materiality principle, companies are expected to report on any ESG factors they consider material to company performance in a balanced and independently assured way that considers their performance and its comparability to global standards, as well as both risks and opportunities. While companies are encouraged to develop their own KPIs as appropriate, SGX does not require them to report any specific ones. Rather than mandating *what* companies report, like HKEx, SGX guidelines focus on *how* companies report, including the internal thinking and external communications required as well as assurance processes underpinning their reporting.

The contrasting choices made by HKEx and SGX to adopt rules- versus principles-based standards reflect important differences in regulatory goals and traditions between the two jurisdictions. With its larger stock market HKEx (2015a: 6) was interested in sustainability reporting to address market distorting information asymmetries and enable “investors to determine how best to meet their ownership responsibilities in relation to their investment in listed companies.” One advantage of requiring companies to report using the same KPIs is that standard metrics enable benchmarking and comparison. A number of informants in HKEx highlighted comparability as a key advantage of requiring companies to report the same KPIs. As Company 6 explained, “KPI approach... I think we prefer it, because it is easy for stakeholders to interpret and compare.” Other companies agreed that HKEx’s prescriptive approach was “convenient for comparison and benchmarking” (Company 7).

While benchmarking can also be informative for company boards, investors were the primary audience that HKEx (2015a: 1) was concerned with addressing with its rules-based approach for “encourag[ing] more widespread and standardized ESG reporting amongst issuers.” As a sustainability investor responding to the HKEx consultation explained, comparable reporting frameworks and KPIs are:

“necessary building block for structuring the platform development of sustainable financial products in the Hong Kong market. This will address the current market gap for impact investors (like ourselves) who are on the rise and are increasingly seeking to integrate ESG considerations into their investment portfolio but lack the product and platform in the local market” (RS Group Asia, 2015).

But HKEx’s prescriptive approach to mandating particular quantitative environmental KPIs was also reinforced, informally, by the HKSAR government. One informant explained how HKSAR pressed HKEx to mandate GHG emission reporting to help address the city’s environmental and climate change goals:

“They urged us to do things. I mean Hong Kong laws are very difficult to pass, the government is relatively chaotic... in other countries GHG emissions is normally regulated by law but in Hong Kong, the government basically said HKEx you go do something about it, as we are more effective in making companies sit up and listen than the government” (Regulator 2).

This preference for using the market rather than the state to set and enforce standards fits with what the former Chief Executive of HKSAR Donald Tsang (2006) has called the “big market, small government” style of regulation. Limits to its sovereignty reinforced this tendency for HKSAR to act as a ‘market facilitator’ state (Mok 2008), intervening only occasionally to steer social and economic development that is driven primarily by market forces

and a well-organized business community. Woo (2015) describes how Hong Kong's development as an international financial center involved relatively sharp distinctions between the strategic role played by the state in setting broad financial policy and that of private market actors who developed the sector with little direct involvement by government. Even when faced with the need to collect GHG emission data to fulfil its duties as part of China's wider commitments to the 2015 Paris Climate Accords, HKSAR looked to private regulation through HKEx rather than hard mandate. Government lobbying then reinforced stock market regulators' more general preferences for prescriptive KPIs to enable investors to benchmark company performance and thereby open the stock market to more environmentally conscious investors from abroad.

SGX's rejection of prescriptive KPIs in favor of a principles-based approach reflected different market regulatory goals and the more active role played by the Singaporean state in standard-setting and steering development more generally. Proponents of SGX's principles-based approach insisted that it encouraged companies to engage more meaningfully with the sustainability issues material to their business. As Practitioner 14 commented:

“SGX's materiality approach is better than Hong Kong's because it encourages companies to consider materiality rather than just ticking boxes.”

This view was echoed by four other practitioners.

Flexibility, however, made it more difficult for SGX to offer investors the kind of like-for-like comparisons between firms and sectors so prized by HKEx. In its official consultation document, SGX (2016a: 4) acknowledged that a principles-based approach would inevitably lead to variability in “targets and key performance indicators”. But it insisted that the losses in market efficiency were more than mitigated by the way that principles-based reporting exposed company management to more exacting and individualized scrutiny by the market:

“Not only does the ‘comply or explain’ approach provide latitude for the reporting issuer to put its best case to investors and other stakeholders, it also produces individuality from issuer to issuer that allows investors to discern differences and make assessments. The market will be richer for the variety and individuality” (SGX 2016a:4).

This would force companies to think and thereby actually improve their sustainability performance. Our SGX informant explained the rationale for its principles-based approach this way:

“Part of the pain is the thinking, the reflection on materiality, but this is also the best outcome expected from this endeavour, which is how sustainability fits into the corporate strategy rather than merely completing a compliance exercise without considering the impact.”

A principles-based approach complemented Singapore’s stated aim of using sustainability reporting to improve company performance and thus national competitiveness, though one informant also suggested that the decision not to require comparable KPIs was reinforced by “government nervous[ness] about international benchmarking” (Practitioner 13, SGX). As the official consultation document declared:

“It is timely for issuers to face the issue of sustainability and consider whether and how it can usefully enhance business through reporting and better management of sustainability risks and opportunities” (SGX 2016: 3).

To that end a number of informants described how SGX officials engaged extensively with companies and with the consultants who would be involved in supporting companies to understand, report on, and manage the sustainability issues. As an informant from SGX recalled:

“we were trying to formulate strategies to get companies to buy into getting started onto the [sustainability] journey.”

This concern with getting firms to do the right thing reflects a paternalistic tradition of governance in Singapore, in which the state sets broad economic and competitiveness goals and works closely with business leaders to achieve them (Woo 2015). SGX carefully drafted its guidance on sustainability reporting to reflect government preferences. As Company 2 explained:

“The drive in regulating is intertwined between SGX keeping in line with international trends in sustainability reporting and the Singaporean government keeping in line with international climate change and sustainability discourse, especially because in Singapore major institutions are very closely connected with the government.”

Partly as a result of close governmental involvement, the SGX consultation paper not only rationalized sustainability reporting in terms of Singapore's international obligations to UN climate change and development goals, but also adopted a principles-based approach that complemented the government's tradition of economic interventionism by directly obligating company boards to address them, rather than relying on market forces and investor pressure as in HKEx.

Initial Market Responses

Despite those different approaches to sustainability reporting, there has been little difference in the initial responses to the new stock market regulations in Hong Kong and Singapore. The vast majority of firms listing on both markets are small and medium capitalization, and in both markets smaller firms tended to be more hostile to reporting than bigger ones, for reasons succinctly explained by a company representative in Singapore:

“The burden of sustainability reporting is especially harshly felt by smaller companies that see it as an additional cost, because they lack the internal expertise so they must hire external help, and more often than not lack the resources to do so...SMEs are quite against it, they do not see the need, [they] see it as a cause of headache” (Company 11).

Hong Kong firms complained about the compliance costs collecting and reporting on so many proscriptive KPIs:

“‘Comply or explain’ requirements will create high pressure on issuers to meet with the standard, where the benefits of this approach far outweigh the cost to be incurred, in particular, for small and medium sized listed companies” (Anonymous Response 4, HKEx).

Although Singapore’s principles-based reporting requirements are more flexible and thus supposedly less burdensome, small cap firms there made the same kind of aggrieved but non-specific complaints about reporting burdens as in Hong Kong. As our SGX informant explained:

“Feedback from the small and medium cap association was ‘what could be changed’, in a sense that whether the requirement could be done without, and if it is inevitable how to make it less stringent.”

In contrast to the consistent antipathy among listing firms, accountancy practitioners were almost uniformly supportive of the new reporting requirements imposed. After all, the new regulations promised generate new consultancy opportunities. However accounting practitioners from both markets were pessimistic about the willingness of their clients to doing anything more than they had to satisfy sustainability reporting requirements. In Hong Kong, Practitioner 8 said, “Many companies have limited budget and resources...they only care about finishing the tick boxing exercise.” Practitioners in Singapore reported very similar attitudes:

“80% of our clients were hostile towards the regulations. They saw it as a box ticking exercise that inflicts further operational cost upon their company, so they were only interested in doing the minimum” (Practitioner 14, SGX).

Although SGX’s principles-based approach was supposed to avoid box ticking and spur firms into reflecting on the sustainability issues material to their businesses, they were not doing so. As one consultant bemoaned:

“Almost all clients are only worried about compliance and doing the minimum, none of them is 100% for sustainability... at first I would try to educate my clients about materiality and sustainability, but now I don't bother” (Practitioner 15, SGX).

Informants pointed to several specific features of Asian markets that inhibited firms from going beyond compliance in terms either of the information they reported or actually using it to drive improvements in sustainability. Company 7 attributed this to the business culture in the region:

“Culture, especially amongst SMEs, is an issue. They take on a ‘defensive’ mindset, so they're more interested in fending off the regulation, and they're often lacking an ‘entrepreneurial’ mindset, as in how can I make money out of this shift to sustainability discourse.”

Many informants believed that investors on the HKEx and SGX stock exchanges were indifferent to sustainability disclosures. Informants repeatedly referred to sustainability reporting as a ‘western’ or ‘European’ practice that was somehow foreign to Asian stock markets. “International investors,” noted Practitioner 1, “are more concerned about issues of sustainability than local investors.” On the Hong Kong market, “usually it is the European investors who would require PE [private equity] firms to produce a E&S [environmental & social] risk-assessment report to inform and assist their investment decisions” (Practitioner 11). But they were only a small minority; most local investors did not care about sustainability. Similarly in Singapore, informants reported that the only interest in sustainability performance came from US or European institutional investors whose numbers are “not significant enough to drive a market-wide change” (Practitioner 15), particularly as those international investors tended to focus on the small number of large-cap firms and ignore the small- and medium-cap firms who comprised the majority of issuers listing on the HKE and SGX markets. Company 15 recounted how investors in their medium-cap SGX listed firm were not interested in “looking at non-financial performance... so far I have only got one or two calls max asking specifically about sustainability issues. Some of them along the way ask about board composition or one or two other questions, but it has always been on governance, rather than carbon footprint.”

Informants offered different explanations for the comparative indifference of local investors to sustainability reporting. Some pointed to the organisation of Asian capitalism,

which is more reliant on family ownership structures that see major shareholders more involved in day-to-day management and hence less reliant on formal reporting processes to keep abreast of the firm's operations and exposure (Chau and Gray 2002). For example, Practitioner 6 explained:

“Reporting is a very western concept...the market culture of Asia is different. Stakeholders are usually closer to the operational core of the company and therefore the demand for information, financial and non-financial alike, is lower.”

In Hong Kong particularly, informants attributed the disinterest in sustainability reporting to a culture of short-termism that led investors to ignore the longer-term opportunities and risks for companies from sustainability issues. “Investors,” our HKEx informant complained, “are driven by short-termism and would not demand ESG information.” This dim assessment of HKEx as “full of stock punchers looking at the short-term” was echoed by Practitioner 8, who applauded HKEx for “introducing sustainability reporting ...[and] pushing for behavioral change”. Another company informant was also hopeful that the culture of HKEx was beginning to change:

“Reporting is a westernized idea. It is no longer the case that Asian businesses and investors care less - well, care is one thing and do is another thing, but in general we have seen a lot of progress here” (Company 4, HKEx).

Informants from Singapore were slightly less optimistic, pointing to how Asian investors and citizens expected the state, rather than markets or individuals, to take responsibility for protecting the environment. Insisting it was “a matter of culture,” Company 2 explained:

“In Europe and the US there is a larger social responsibility engraved into the culture and mindset not only of corporates but also of individuals, whereas in Asia

that's less of an issue. Looking after the public good is a domain of government rather than something consumers and companies should try for individually."

Beyond such sweeping, almost stereotypical, depictions of Asian publics as simply passive, informants highlighted some specific features of the political cultures in Hong Kong and Singapore that blunted the nudging effects of sustainability reporting. Although there were often fierce public debates in Hong Kong, environmental politics took a backseat to other concerns, as Practitioner 8 explained:

"The civil discourse in Hong Kong is very politicized. We are obsessed about mainland-Hong Kong tension and housing problems. No one pays attention to more sophisticated conversations about environment sustainability beyond paper recycling".

Company 6 also bemoaned the limited public saliency of environmental issues in Hong Kong, blaming the local media for 'de-amplifying' (Kasperson *et al.* 1988) public concerns:

"If you study the LegCo [Legislative Council of Hong Kong] debates they actually talk about sustainability and the environment a lot. It's just that these things don't get reported because they are not politically exciting"

But without the threat of public mobilization (Hamilton 2013), Practitioner 12 thought sustainability reporting would do little to nudge Hong Kong firms into action, since they are "still largely at the stage of being concerned with reputation rather than a business case for sustainability".

Although the underlying political dynamics were different in Singapore, informants offered a similar dim view of the effectiveness of sustainability reporting there. They noted that the concept of a public 'right to know' is thinly rooted in Singapore (Rodan 2004). Even

when information is publicly available, environmental campaigners in Singapore highlighted the difficulties in mobilizing the kind of public protests that might force action by companies, or indeed the government. For example, Practitioner 18 observed:

“There is an inherent trust in well-established institutions, including large companies and government to ‘know what they are doing’ or ‘to know better’, so they are unwilling to challenge the actions of these institutions.” (Practitioner 18, SGX).

Whereas firms in other jurisdictions felt public pressure to issue voluntary sustainability reports, if only to pre-empt potential criticism by NGOs and other activists, Company 10 thought the top-down origins of sustainability reporting in Singapore were diagnostic of a more general weakness of civil society in Singapore:

“sustainability reporting has to come from the top down because the voice in civil society is too weak.”

Informants agreed that having been told to report, Singaporean firms would comply with the letter of the law. As Company 9 explained, “Singaporeans are very law-abiding peoples, so notwithstanding the challenges, companies would try to produce reports of some kind.” But without stronger public pressure, firms seem unlikely to do anything more.

Conclusion

Our comparative case study analysis of mandatory sustainability reporting in Hong Kong and Singapore has sought to assess the effectiveness of this style of libertarian paternalist regulation and its fit with wider developmental state traditions and varieties of capitalisms in Asia. In both of our cases, market regulators were driven to require reporting by similar mimetic concerns for following international fashions and keeping pace with competitors. However,

there were important differences between Hong Kong and Singapore in both their formal rationales for the requirement and in the design of specific reporting standards.

These regulatory choices were shaped by the different state traditions and competitive position of each jurisdiction. HKEx rationalized sustainability reporting as necessary to fix inefficiencies within its much larger capital market. To that end it adopted a rules-based approach that required companies to make detailed reports on specific environmental KPIs to facilitate benchmarking and competition within the market. While HKSAR played an atypically prominent role in lobbying HKEx to require firms to report their GHG emissions, the government otherwise left private market regulators to decide for themselves whether and how to respond to sustainability concerns. This hands-off approach to stock market regulation is consistent with Hong Kong's wider embrace of 'big market, small government' styles of neoliberal governance (Tsang 2006). Much more fundamentally, however, it reflects the limited autonomy of HKSAR, which lacks the power to act independently of Beijing and fulfill its duty under the Basic Law to promote "the status of Hong Kong as an international financial centre" like a classic developmental state.

Stock market regulation in Singapore was more directly influenced by the developmental imperatives of its more muscular state. SGX justified mandatory reporting as helping Singapore discharge its international duties as a UN climate change signatory. Government officials were closely involved in designing SGX's reporting standards, but their focus was not, like in Hong Kong, on sustainability reporting as an instrument of climate policy. Instead, Singapore officials were concerned with securing the city-state's wider position as a regional business hub. A principles-based approach to reporting fit well with this developmental goal and with the paternalist instincts of the Singaporean state. Rather than mandating specific KPIs that might expose firms to international benchmarking and make Singapore look bad, SGX's reporting standards allowed companies to decide how best to report on the

sustainability issues material to their business. In turn the materiality principle gave the government a mechanism to obligate company boards to address their own sustainability performance directly, rather than relying on market forces and indirect pressure from investors as in HKEx.

Our findings suggest that mandatory sustainability reporting will do little either in Hong Kong or Singapore to nudge businesses towards sustainability. Both markets are dominated by small and mid-cap firms, which responded with similar antipathy to the new reporting regulations, despite the substantial differences in their design. While business complaints about compliance costs are not unexpected, what is more surprising—and more significant for the effectiveness of sustainability reporting—was the widespread indifference of local publics and investors. In both Hong Kong and Singapore sustainability reports were of interest only to a small number of western institutional investors, whose positions were too small to move either market or influence company operations.

Our article is hardly the first to have questioned the effectiveness of such libertarian paternalist policies in improving environmental performance (Guthman 2007; Shove 2010; Escobar and Demeritt 2017). By showing that reporting regulations in Hong Kong and Singapore are performative window-dressing with little consequence for investment flows or internal business practice, we confirm the findings from past research on sustainability reporting in the US and Europe (e.g. Sullivan and Gouldson 2012; Tang and Demeritt 2017). However, in contrast to widespread complaints in the west about ‘greenwashing’ (Bowen 2014; Cho *et al.* 2015), we found very little concern for environmental legitimacy among businesses in Hong Kong or Singapore. Far from issuing reports to signal their virtue, listed companies had mandatory sustainability reporting forced upon them by stock market regulators keen to secure their own legitimacy by keeping up with international listing norms adopted by stock markets elsewhere. In this context it is not surprising that firms saw little reason to go beyond

compliance, since the impetus for reporting in both markets was primarily mimetic legitimacy-seeking rather than any strategic concerns for their environmental reputation.

Beyond these empirical contributions to the literatures on corporate social responsibility and environmental regulation in Asia, our paper contributed theoretically by conceptualising sustainability reporting as a form of libertarian paternalism and exploring its fit with the state traditions and varieties of capitalism in two contrasting cases. In this way we sought to provincialize libertarian paternalism, which has been debated with reference to canonical examples drawn largely from the US and UK (e.g., Shove 2010; Thaler and Sunstein 2008). Partly of course, this is because those neoliberal states have been its most enthusiastic proponents, but their particularities are often forgotten amidst the heated debates about nudge as a universal policy paradigm. The case of sustainability reporting in Hong Kong and Singapore provides an opportunity to see how well these ideas travel and to identify the institutional factors required for their success.

Our analysis highlights several inter-related features of Asian political economies that reduce the effectiveness of sustainability reporting. First, such formalized methods of accounting for firm performance play a limited role in the financing, organization, and control of many east Asian companies. Whereas institutional investors in the west typically favor large capitalization firms, both HKEx and SGX are dominated by small- and medium- capitalization firms. Such enterprises often have narrow, family-based ownership structures whose principal shareholders are closely involved in business operations either as directors or through personal involvement with associated firms up and down the supply chain. Sustainability reporting has less influence on these insiders, who can draw on other sources of information, than on outside institutional investors who depend on such forms of external audit control to keep appraised of their holdings and ensure they are well managed.

Second, we also found evidence that local investors on the Hong Kong and Singapore stock markets are indifferent to sustainability concerns. Compared to western institutional investors, whose principals are notorious for their sensitivity to ESG issues and sustainability reporting about them (Cotter and Najah 2012), our informants consistently reported that local investors were unmoved by environmental concerns. Accordingly sustainability reports played no role in their assessment of a firm's economic prospects and profitability.

In turn, this de-coupling was reinforced in different ways by the wider political cultures and state traditions of Hong Kong and Singapore, which limit environmental mobilization and conflict with the tacit liberalism that sustainability reporting depends on and extends. Though energetic, Hong Kong's public sphere is absorbed by political controversies over its relationship with China, and environmental campaigns struggle for public attention. Singapore's political culture is more quiescent but no less indifferent to environmental concerns, which have long been subordinated to the technocratic demands of its developmental state (Neo 2007; Han 2017). Partly owing to the lack of openness in the decision making by governments and other large institutions in both polities, in terms of transparent processes and inclusive participation, the publics are not in the habit of listening when companies make sustainability disclosures. Even if they were, state concerns with maintaining social order, always strong in Singapore and increasingly so in Hong Kong, limit the scope to organize consumer boycotts or other forms of popular protest that might challenge leading firms for their environmentally destructive practices. Without stronger mechanisms for NGOs, consumers, and wider publics to hold companies accountable (Hamilton 2013), firms have little financial or reputational incentive to respond to the nudge provided by sustainability reporting.

Beyond Hong Kong and Singapore, these problems with investor indifference and weak public voice are likely to apply elsewhere across the region. In this way our research

raises some more general questions about the geographic specificity of sustainability reporting that the normative tone of debate about libertarian paternalism tends to overlook. Further comparative research into other forms of disclosure-based nudging in Asia would help identify the relative importance of the two factors highlighted by our research for the ineffectiveness of sustainability reporting regulations. If investor indifference is the key barrier to successful sustainability reporting, we might expect disclosure policies aimed at other audiences, such as consumer labelling, to be more effective at nudging corporate behavior change (Bowen and Panagiotopoulos, 2018). However, if other disclosure-based nudging policies equally fail to gain traction amongst consumers, we could then be more confident of the determinant impact of the weakness of the public sphere.

To date the bulk of research in economic geography on environmental certification and disclosure has focused on the US and Europe (e.g. Roracher 2009; Foley and Hébert 2013), but with promises of the universal effectiveness of ‘nudging’ through environmental disclosure driving their spread into Asia and beyond, further research is needed to explore the impacts and effectiveness in other contexts. For example, Johannesburg Exchange in South Africa is the global pioneer in mandating ‘integrated reporting’ (IoDSA 2009). Research in such developing markets would help clarify the drivers and institutional prerequisites for the effectiveness of disclosure policies in promoting corporate sustainability. These avenues of research solicits the attention of economic geographers, not least for the increasing prominence of the phenomenon in both the business sector and in international politics. Such research thus answers to the call for economic geographers to connect the ‘economics’ with the ‘environment’ in current times of ecological crisis and environmental change (Gibbs 2009).

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