

Green Bonds in China and the Sino-British Collaboration:

More a partnership of learning than commerce

INTRODUCTION

The growth of labelled green bonds (LGBs) in China since 2016 has been phenomenal¹. LGB issuance (domestically and internationally) in China was US\$34 billion in 2016 (or 39% of the global total), up from a starting point of US\$1 billion in 2015 (UNE, 2017). This means that China contributed 87% of the global LGB issuance growth from 2015 to 2016. Moreover, in the first three quarters of 2017, China issued LGBs worth USD20.91 bn, accounting for 23% of the global total (CBI and CCDC, 2017b).

Through this development, China is acquiring a new identity, namely as a global front runner, if not leader, in green finance². It has been praised for 'showing thought leadership' in green finance by a top UK official³. After the promulgation of the national *Guidelines for Establishing the Green Financial System* jointly by seven ministries in August 2016, China is now considered by some as 'the most proactive country in the world in pursuing a coordinated and comprehensive approach to greening its financial system' (Gilbert and Zhou, 2017:1), or 'the leading force in green finance across the globe' (IIGF and UNE, 2017:14). This new identity forms a strong contrast with China's laggard environmental and sustainable development record. A decade ago, China was considered as one of the ten 'rogue' environmental states (Lindqvist, 2007). Even today, China ranks 120th out of 180 countries in the 2018 Environmental Performance Index (Yale Center et al., 2018), and 71st out of 157 countries on the Sustainable Development Index dashboard for 2017 (Sachs et al., 2017).

So what has caused China's meteoric rise in green finance in such an apparently inhospitable environment and in such a short time? More specifically, what role has the UK-China strategic partnership played in this development? China introduced the G20 Green Finance Study Group (GFSG)⁴ in 2016 during its G20 presidency and has co-chaired the group alongside UK ever since. Moreover, recent rounds of China-UK Economic and Financial Dialogues (EFDs) have made green finance a priority area for the partnership between UK and China. However, as will be shown later in this article, UK appears to have not benefited much in business terms from this development. How do we understand and explain this puzzle?

Focusing on the afore-mentioned questions, this article examines the role of UK-China collaboration in promoting green finance (especially LGBs) development in China, the extent to which it meets the UK's wider objectives regarding UK-China bilateral relationship and the underlying factors. Drawing on desk research and interviews conducted as part of a British Academy funded project, this article argues that while this collaboration has contributed to the development of green bond market in China largely through learning, its effect on UK-China trade is limited, falling far short of UK's expectation. We explain this asymmetry by highlighting the underlying structural barriers created principally by China's macro-economic control regime.

The rest of this paper is organized as follows. Part One provides a brief overview of UK-China trade relations. Part Two explores theoretical perspectives that could shed light on the present topic and their relevance to the research questions. Guided by these perspectives, Part Three then analyses the growth of green bond market in China and the UK-China collaboration. Part Four concludes.

UK-CHINA TRADE RELATIONS: A BRIEF OVERVIEW

The UK-China relations were historically dominated by the issue of Hong Kong. After the return of Hong Kong to the Chinese sovereignty in 1997, however, UK government's efforts shifted to engagement. At the same time, the two sides experienced what Brown (2016) calls 'reversed asymmetry between the two powers' (p. 6), namely that, while UK was a more powerful economy and a greater geopolitical player before 1997, China has increasingly risen above the UK afterward.

The UK government's strategy towards China is expressed in a strategy paper, *The UK and China: A Framework for Engagement*, issued by the FCO (2009) in the final days of the New Labour government. This document identifies three discrete areas where the UK 'could and should work with China'. These areas include: (a) getting the best for UK from China's growth; (b) fostering China's emergence as a responsible global player; (c) promoting sustainable development, modernisation and internal reform in China (p. 27). Obviously, this formulation is an uneasy mixture: while the first element is an expression of naked self-interest in terms of economic gains, the second echoes the call by US Deputy Secretary of State Robert Zoellick in 2005 for China to become a 'responsible stakeholder' (Shambaugh and Ren, 2012); the third element attests to UK's wish to encourage China onto a liberal, modernising and sustainable development path. UK's approach also resonates with the EU's strategy towards China (Fox and Godement, 2009).

Within the three-pronged framework, financial collaboration has gained increasing importance over the time. This focus seems to be a good choice, as China embarks on its transformation towards a services-led economy and the internationalisation of its currency RMB. On the UK's side, much rides on the success of this strategic choice. Brown (2016) observes:

UK's exports to and imports from China (£m)	34224	42803	45988	46977	55014	56493	54221	59061
China's share of UK exports and imports (%)	4.1	4.6	4.5	4.5	5.1	5.3	5.1	5.2
China's share of UK exports (%)	1.9	2.3	2.6	2.8	3.5	3.6	3.2	3.1
China's share of UK imports (%)	6.2	6.6	6.3	6.1	6.7	6.8	6.9	7.2
UK-China trade deficit (£m)	- 19148	- 21889	- 19972	- 18503	- 19088	- 18787	- 21391	- 25447
China's share of UK's trade deficit (%)	57.2	53.2	79.3	55.5	54.0	51.0	66.1	59.2
UK-China trade deficit in services (£m)	1332	1402	1206	1250	1288	1182	1462	1707
Share of goods in UK's total exports to China	74.6	79.3	81.0	81.0	76.9	82.1	77.8	80.2
Value of UK's service exports to China (£m)	1916	2164	2466	2704	4143	3380	3642	3329

Source: ONS, UK Balance of Payments, The Pink Book: 2017.

Fourth and finally, the role of financial services does not match the policy emphasis assigned to it. Within UK's exports in services to China, finance ranks 4th place in terms of value (Table 2). As of 2016, it accounted for 8.0% of UK's total service exports to China, compared with 35.2% for travel, 20.6% for transportation and 18.3% for 'other business services'. It is also evident in

Table 2 that although UK's exports of financial services to China grew by 7.7% from 2015 to 2016, the growth rate was the lowest among the five sectors that recorded growth.

Table 2. UK Service Exports to China by Type of Service (£million)

	2015	2016	Change* (2015-16)
Transportation	552	687	+ (24.5%)
Travel	1613	1171	-
Construction	16	35	+ (118.8%)
Insurance & pension	19	19	0
Financial	248	267	+ (7.7%)
Intellectual property	125	119	-
Telecommunication, computer & information services	181	210	+ (16.0%)
Other business services	640	610	-
Personal, cultural and recreational	66	75	+ (13.6%)
Government	102	102	0
Total services	3642	3329	-

Source: ONS, UK Balance of Payments, The Pink Book: 2017. *Positive (+) and negative (-) signs represent respectively positive and negative growth.

In the specific area of LGB issuance, London has been able to win two out of nine offshore deals by Chinese issuers (see Table 3). However, in terms of the amount of capital raised, London's share is only 18%, compared with Luxembourg's 60%. More on this later.

PERSPECTIVES

The above discussion raises two key research questions: 1. How can we explain the dramatic growth of green bond market in China since 2016? 2. Why has UK failed to benefit significantly from this growth despite its explicit policy objective?

Our hypothesis is that the key driving force for green finance in China is the coupling of the financialisation of its economy and the centrally-orchestrated pursuit of 'ecological civilisation' from 2012 (accentuated from 2015), rather than external factors. On the other hand, the scope for UK to benefit from this growth is limited by the structure of UK-China trade (especially limited trade in financial services), China's strong macro-economic control regime and its approach to international relations that prioritises learning and identity transformation rather than the opening-up of its markets. Below, we explore these aspects in further detail, starting with an evaluation of the relevant theoretical literature on international relations.

Perspectives on UK-China Relations: Realism, Liberalism and Constructivism

Each of the three dominant schools of the International Relations discipline can shed some light on the UK-China collaboration here. Realists argue that, because of the anarchic structure of the international system, the *competition for power* is central to international relations (Mearsheimer, 2016). This competition has the tendency to precipitate inter-state conflict and stimulate efforts by states to secure their position or maintain the balance of power through various strategies, of which three could be relevant here. In this perspective, the UK may *bandwagon* on a rising China (Schweller, 1994) or engage in internal or external *balancing*. Inversely, China may adopt a *hedging* strategy in its engagement with UK to counter UK's ability to constrain itself through building diplomatic, economic, and political relationships with third states or organizations, in the event of a deteriorating relationship (Goh, 2006).

In contrast, liberals stress the influence of processes and institutions on state action. Liberals argue that 'process can generate cooperative behaviour, even in an exogenously given, self-help system.' (Wendt, 1992: 392). Emphasising the role of markets, free trade and competition, liberals believe that inter-dependencies through economic exchanges and international institutions are a good guarantee for greater security for both sides (Russett, 2016). Some liberals assert an important role for the transformation of identities and interests in explaining state action. A particularly insightful argument in the liberal tradition is that increased transactions and contacts change attitude and state's definition of their interests through *learning*. Learning occurs internationally when 'new knowledge is used to redefine the content of the national interest.' (Nye, 1987: 378). Nye makes a distinction between simple and complex learning:

'Simple learning uses new information merely to adapt the means, without altering any deeper goals in the ends-means chain. The actor simply uses a different instrument to attain the same goal. Complex learning, by contrast, involves recognition of conflicts among means and goals in causally complicated situations, and leads to new priorities and trade-offs.' (p. 380)

UK's policy framework towards China is a clear embodiment of the liberal tradition. Indeed, in its relationship with China, UK has tried to present itself as 'uniquely liberal' (Brown, 2015). Breslin (2004) finds it possible to justify the twin-goal (to develop commercial opportunities for UK companies and to promote positive social and political changes in China) of UK's post-1997 China policy in the liberal tradition. A study by Fox and Godement (2009) of EU member states' attitude towards China characterises the UK as 'economically liberal and politically critical' towards China. It could be argued that learning is central to the pursuit of UK's second and third goals towards China.

Finally, constructivists challenge the shared view by neorealists and neoliberalists that states' interests are given exogenously by structure and argue that identities and interests are shaped or constructed by social interactions between diverse actors (Wendt, 1992). A key insight of constructivism is that identities inform interests, and that both can change. Wendt (1992) specifies a four-stage process in which an egoist (like China) could seek to transform its identity through the interaction between its own actors and those of other states. These stages include: (a) the breakdown of consensus about identity commitment; (b) the identification of new possible selves and aspirations; (c) inducement for the alter to take on a new identity; (d) being rewarded by the alter.

In the constructivist perspective, UK and China could be engaging in a process of developing new intersubjective identities for each other through their collaboration on green finance. This interpretation would be consistent with evidence from elsewhere. Research shows that UK policy makers and the public tend to construct UK's own positive identity through its foreign policy. While it was once a common practice to portray UK as a good and caring colonist in comparison with other European powers such as the French, today UK increasingly adopts a view that sees itself as a tutor who could coach China to become a responsible player in international affairs (Gallagher, 2011). As a market leader in financial industry, coaching China to explore green finance would be a natural position for UK to assume.

On the other hand, such a partnership of learning would serve China's interests well.

Admittedly, China's foreign policy and the discourse on its own identity have been dominated by realist views (Shambaugh and Ren, 2012). For much of the past two decades, China has practiced a strategy of *taoquang yanghui* (keeping a low profile) in international relations partly due to the lack of confidence to be more active or play a leadership role. This practice has made China a 'partial power' according to Shambaugh (2013), with its economic might under-matched by its global influence. Under President Xi's leadership, however, China since 2014 has shown

increased interest in contributing to global governance and offering what its leaders describe as 'Chinese solutions' for meeting challenges facing the mankind (Xi, 2014, 2017). Learning could arguably be an important aspect of this new posture, although it has not been officially framed in this way.

International relationship is of course only part of the equation influencing the UK-China collaboration over green finance. As widely acknowledged, domestic politics often plays a crucial role in determining national interest and foreign policies (see for example Nye, 1987; Sterling-Folker, 2016). We now turn to the domestic landscape.

Different Systems at Home: Neoliberalism vs Financial Statism

As birthplace of both John Locke and Adam Smith, UK has long been a bastion of the liberal tradition. More recently, from May 1979, when the Conservative Party of Margaret Thatcher was elected to power, successive UK governments have adopted a neoliberal approach to economic policy (Arestis and Sawyer, 2005). Among others, key components of the neoliberal approach include a belief in the superiority of the market to the state and of private property to public and social ownership, retreat from industrial policy, emphasis on competition policy and the promotion of foreign direct investment.

A key feature of neoliberalism is financialisation (Harvey, 2005). The latter is broadly defined as 'the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies' (Epstein, 2005: 3). Financialisation entails high leverage in capital structure of firms, an emphasis on 'shareholder value' and an 'equity culture' (Dore, 2008). Along with globalization and neoliberalism, it has been characterised as one of the three profound transformations that have occurred since the 1970s across the world (Epstein, 2005). Crucially, UK has been a key beneficiary of

financialisation, with London universally acknowledged as a top global financial centre (Sassen, 2001; Yeandle, 2017)

There has been a parallel process of financialisation in China, from the second half of the 1990s. This process dates back to China's Shareholding System (*gufengzhi*) reform as part of its policy package to build a Socialist Market Economy (Zhang, 2004). The reform turned large state-owned enterprises (SOEs) into shareholding enterprises to give the SOEs operational autonomy while enabling the state to maintain and exercise control.

Existent research has highlighted evidence of financialisation in China. For example, from 1978 to 2013, the contribution of finance, insurance and real estate (FIRE) to GDP had risen from 1.5% to 5.9% and from 4.2% to 11.8% respectively (with acceleration after 2005). On the other hand, the proportion of net profits earned by A-share financial publicly listed corporations in the total net profits earned by all listed corporations increased from 7.4% in 2000 to 49.3% in 2009. Furthermore, over the course of 2004-2013, the proportion of profits earned through financial channels by non-FIRE enterprises rose from 3.3% to 19.6% (Zhang, 2015). As of 2014, China's bond market was the third largest in the world. Moreover, the government is keen to encourage corporations to raise funds by bond issuance so as to reduce corporations' heavy reliance on bank loans (Goldman Sachs, 2015).

If financialisation represents a shared trend between UK and China, scrutiny reveals major differences in terms of the key players and the development dynamics. Wang (2015) argues that the financialisation in China is unique in the preponderant role played by the Chinese state in spearheading the application of shareholder values and in creating China's financial markets. He characterises this phenomenon as 'the rise of the shareholding state'. In this sense, financialisation in China merely adds to the state's toolkit for economic control in terms of regulation and budgeting. Wang writes:

'Financialization of the state refers to the process in which the Chinese state transforms its management of the economy from administrative intervention and fiscal allocation to supervising its massive state assets according to shareholder value.' (p.621)

Wang suggests that the financialisation of the state in China is a solution for maintaining state control in the face of reduced roles of central planning- it uses the state 'as a tool to create markets or to transform the state field into a market field'. For illustration, as of 2012, 953 state-controlled corporations were listed in China. This number accounted for 40% of all listed companies and 51% of total market capitalization on the A-share market. China Development Bank (CDB) alone had issued 31% of China's total securitized products by 2014 (Wang, 2015). Wang suggests that state developmentalism and entrepreneurship coupled with financialisation have created a new kind of state in China. Xu (2014) called this new system 'financial statism', which encompasses state-owned financial institutions, financial restraint policies and a capital control regime. Such a system gives the state extraordinary power by selectively relaxing or tightening control in areas of its choice. In this perspective the explosive growth of green bonds may be as much a side effect of the intensification of financialisation in China, as a result of a concerted effort to green the financial system in China.

Politics of Greening Finance in China

To fully appreciate the impetus for green finance in China, it is necessary to recognise China's long-term development goals and strategies, and the priority assigned to green finance. Starting from the 13th Party Congress in October 1987, the Community Party of China Central Committee (CPCCC) has consistently articulated a strategy for China's modernization, although the specific wording has changed over time under different top leadership. President Xi (2014) has explained these goals as follows: (a) to double the GDP and per capita income between 2010 and 2020; (b) to accomplish the modernization programme and for China to become a

'prosperous, strong, democratic and culturally advanced socialist country' by 2050. He characterises these goals as the 'Chinese dream'.

In this historic context, the 'Scientific Outlook on Development' introduced at the 17th Party Congress (Hu, 2007) represents a watershed. This outlook has 'comprehensive, balanced and sustainable development as its basic requirement' and takes 'overall consideration as its fundamental approach'. It advocates 'balanced development to ensure sound and rapid economic growth' to quadruple the per capita GDP between 2000 and 2020. It also calls for the promotion of 'a conservation culture by basically forming an energy- and resource-efficient and environment-friendly structure of industries, pattern of growth and mode of consumption', thus ushering in the agenda of 'ecological civilisation' (*shengtai wenming* in Chinese). Subsequently, between 2007 and 2008, various Chinese authorities promulgated policies on green credit, insurance and securities (Aizawa and Yang, 2010). The 18th Party Congress report (Hu, 2012) further emphasises the integration of ecological progress – a term used inter-exchangeably with ecological civilization - into the other four areas (economic, political, cultural and social). As part of the integrated approach to ecological civilisation, the push for green finance development widened significantly after the 18th Party Congress and during the preparatory work for the 13th FYP (2016-2020).

Political prioritisation is a key characteristic of green finance development in China. This situation is made clear in the CPCCC and the State Council's (2015a) 'Opinions on Further Promoting Ecological Progress' (hereafter 'the Opinions') and the 'Integrated Reform Plan for Promoting Ecological Progress' (hereafter 'the Integrated Plan') (CPCCC and State Council, 2015b). The 'Opinions' not only emphasise the crucial role of ecological civilisation for the realisation of the 'Chinese Dream'. They also call for efforts to carry out extensive international cooperation and 'build up the image of a major responsible country' and 'transform green

development into new comprehensive national strength'. Outlining strategies for a multi-faceted transformation of China's current socio-economic system, the Integrated Plan includes a call to establish a green finance system to further mobilise private capital. Eventually, the 13th FYP, announced in March 2016, pronounced a new economic development model embodied in five key words: 'innovative', 'co-ordinated', 'green', 'open' and 'sharing'. Following the announcement of guidelines on the issuance of financial and corporate LGBs respectively by the People's Bank of China (PBoC) (the central bank) (No. 39) and the National Development and Reform Commission (NDRC) (No. 3504) in December 2015, Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) published guidelines for their green bond pilot programmes respectively in March and April 2016. These concerted actions ushered in a wave of rapid expansion in green bond market in China.

ANALYSING THE UK-CHINA COLLABORATION ON GREEN FINANCE

In the light of the literature review in the previous part, it is hypothesised that while the combination of the financialisation of the state-cum-economy and strong political impetus towards 'ecological civilisation' has driven the tremendous growth of the green bond market in China, structural and strategic factors have limited the scope for UK businesses to be more deeply involved in and benefit from this growth. Below we test this hypothesis by focusing on two aspects: 1. How have UK and China collaborated over green finance and how has this collaboration supported the development of green bond market in China, transformed the respective national identities and facilitated learning ? 2. How has a dual market structure for green bonds, namely rapid expansion at home market and slow growth in overseas market, developed and limited the economic benefits to UK?

UK-China Collaboration in Green Finance

International collaboration has played an integral role in supporting China's effort to green its financial system through institutional learning. This role is evidenced in the early collaboration between the International Institute for Sustainable Development (IISD) (Canada) and the Development Research Center (DRC) of the State Council in China and the work of the Green Finance Task Force (GFTF) involving the UNEP Inquiry into the Design of a Sustainable Financial System (hereafter 'the UNEP Inquiry'). The former is a joint exploration by the IISD and the Finance Research Institute of the DRC. Initiated in the second half of 2013, this 18-month project explored 'policy options to support China in developing a "green financial system" and to encourage such developments internationally' (IISD and DRC, 2014). Significantly all four of China's key financial regulators participated in this work. The project's final report, titled 'Greening China's Financial System' (IISD and DRC, 2015), presents a framework for green finance. The latter is a collaboration between the Research Bureau of the PBoC and the 'UNEP Inquiry', leading to the establishment of the GFTF in July 2014. The GFTF involved more than 40 experts, with a majority of whom drawn from within China. It published 16 background papers. Its final report, titled 'Establishing China's Green Financial System', was published in April 2015. This report makes 14 recommendations including the promotion of green bonds (GFTF, 2015).

Within this context, UK has played a major role in supporting green finance development in China through information and knowledge sharing as well as practical and moral support. As early as October 2013, two months before the establishment of the UNEP's Inquiry in Jan 2014, the 5th China-UK EFD recognised green, circular and low carbon development as a source of new economic growth and acknowledged the importance of collaboration between the public, private and financial sectors in areas including carbon markets, green finance, and standards and regulation (HMT and FCO, 2013). When the GFTF was established under the co-sponsorship of the PBoC and the UNEP's Inquiry, Sean Kidney, CEO of the UK-based Climate

Bonds Initiative (CBI), was one of the eight named international experts. The international version of the GFTF's final report was produced with financial support from UK's Department for International Development (DFID) (GFTF, 2015).

In subsequent years, often with funding from the FCO, CBI has played a key role in supporting the development of green bond market in China. It acted as an advisor, information and knowledge disseminator, champion, cheerleader and independent monitor for green bonds in China. CBI' activities have included:

- Publication of 'How to Grow Green Bonds in China' in March 2014;
- Publication of 'Growing a green bonds market in China: Key recommendations for policymakers in the context of China's changing financial landscape' report in March 2015;
- Publication of its series of China Roadmap 2016 reports (a total of 4 papers, in both languages) with funding from the FCO;
- Publication of a Chinese version of its annual flagship publication 'Bonds and Climate Change' from 2016;
- Co-development of the ChinaBond China Climate-aligned Bond Index with China Central Depository & Clearing Co. Ltd (CCDC) and China Energy Conservation and Environment Protection Consulting Co. Ltd (CECEP) in 2016;
- Co-production of the 'Study of China's Local Government Policy Instruments Policy Instruments for Green Bonds' (April in 2017, in Chinese and English) with FCO funding;
- In its first ever Green Bond Awards in February 2016 (for 2015) and then in March 2017 (for 2016) respectively, CBI recognised the PBoC as a 'Pioneer in Green Bond Policy Development' and 'Innovative Regulator'. Several other Chinese institutions have also received accolades in different categories of the Awards.

Apart from CBI, other UK institutions also contributed. UK's Green Investment Bank's Green Investment Handbook was translated into Chinese and is widely circulated in China. The co-chairmanship of the G20 GFSG by the PBoC and the Bank of England represents perhaps the most visible effort of mutual support, learning and new identity-building for the two countries. Furthermore, in 2017, the China-UK Green Finance Task Force was established by the Green Finance Committee of China Society for Finance and Banking and the City of London's Green Finance Initiative. Designed to increase financial cooperation between the two nations and grow green investment and opportunities, this task force has held regular meetings, facilitated learning about how to work with financial markets and provided opportunities for China to publicise what it is doing with green finance.⁵

The co-development of the ChinaBond China Climate-Aligned Bond Index, launched in September 2016, illustrates well how UK-China collaboration helps. This Index is jointly developed by the CCDC, CECEP and CBI. While CCDC provided data on all the bonds traded on the domestic interbank bond market and stock exchanges in China from the 31st December 2009, CBI and CECEP identified bonds that are in line with CBI's Climate Bonds Taxonomy (CBT) and the PBoC's Green Bond Endorsed Project Catalogue (PBoC, 2015). Based on this list of qualified bonds, CCDC then constructed the index, with the results updated monthly and made available on Bloomberg, Thompson-Reuters, Wind and Finchina. The Index is made up of 210 bonds amounting to RMB 1.3 trillion, with transport sector claiming 91% of issuance (CBI et al., 2016). CBI's CBT is also one of the four standards that the CCDC used to construct two other indices, ChinaBond China Green Bond Index and ChinaBond China Green Bond Selected Index (ChinaBond, 2016).

The jointly developed ChinaBond China Climate-Aligned Bond Index has given China not only international visibility, but also generated real catalytic effects. For example, in November 2016, the Bank of China (BoC) launched one of the first Green Covered Bonds globally (and the first one out of China). The USD 500m issue was secured partly by a pledge of a portfolio of domestic climate-aligned bonds traded on China Interbank Bond Market. The LGB offers bondholders dual recourse to both BoC's London Branch and a cover pool, which is made up of climate-aligned bonds on the banks' balance sheets and included in ChinaBond China Climate Aligned Bond Index (CBI, 2017c). This example illustrates that market infrastructure jointly developed between UK and China has directly enabled the growth of Chinese LGBs.

Therefore, the emergence of China as a global front-runner/leader in green finance can at least partly be attributed to the UK-China collaboration in this area. UK's contribution can also find support in the policy outcome papers of the recent rounds of UK-China EFD. While the Outcomes Paper of the 7th UK-China EFD in September 2015 acknowledges the UK as 'a world leader in green and sustainable finance', the China-UK 8th EFD Outcomes Paper commits both to 'support UK and China to become innovation centres of green finance'. It pledges to '[S]upport the efforts of China and UK to green their financial systems, and together lead global efforts to grow the green finance market, through a UK-China Strategic Green Finance Partnership'. Finally, the Policy Outcomes Paper of the 9th UK-China EFD, which took place on the 16 December 2017, further states that '[T]he UK and China recognise each other as their primary partner in green finance for capital raising, product innovation and thought leadership. China and the UK have been jointly playing a leading role in driving global green finance development including through co-chairing the G20 Green Finance Study Group...' (HM Treasury, 2017: 28). Evidently, China's emerging global leadership in green finance is inseparable from the UK-China strategic partnership.

The significance of China's newly acquired identity as a global leader in green finance is well recognised by key actors in China. For example, in his Foreword for the 'Progress Report on Establishing China's Green Financial System' (IIGF and UNE, 2017), Shi Jianping (Vice President of the Central University of Finance and Economics and the Chairman of the International Institute of Green Finance), writes:

'China's achievements in the field of green finance have become consolidated proof of the country's promotion of ecological civilization construction,...China is becoming recognized by the international community for its leading role in worldwide green finance development with its innovative, yet effective, approaches. The achievements of China in the field of green finance have created a 'Chinese Solution', which has become a pattern for reference in developing green finance.'

The Making of a Dual Green Bond Market in China

By the 31st May 2017, China had more than USD300 bn worth of climate aligned bonds⁶ out of a global universe of USD895 bn, more than twice as much as what the second largest issuer, the United State, held. The UK, in a fourth position (after France), had a little over USD 50 bn. China was the third largest issuer of LGBs, behind USA and France (CBI, 2017a). The extent of green bond development in China is indicated by the fact that LGBs make up 2% of total bond market in China, but less than 0.2% globally (Kidney and Liu, 2017). There is also a diversification of issuers. In 2017, issuers spread from state to local level, evident in the surge of issuance by City Commercial Banks and Local government Financing Vehicles (CBI, 2017a). Nevertheless, there are causes for concern. On the one hand, after the explosive growth in 2016, the expansion of the green bond market continues, but at a much slower pace, falling short of the expectation of doubling the amount of 2016 (Kidney and Liu, 2017). Instead, the amount of issuance in the first three quarters of 2017 represents only an increase of 11.2% on

year-on-year basis (CBI and CCDC, 2017b). Closer examination reveals that the explosive growth in 2016 can be attributed to three key factors:

1. The issuance in 2016 was driven by large, state-owned and -controlled financial institutions on the interbank bond market. Three banks (Pudong Development Bank, Industrial Bank and Bank of Communications) alone issued a total of RMB130 bn, claiming 84% of the total value of the LGBs issued. By October 2017, more than 70% of the LGBs were issued by financial institutions (CSJ, 2017). In the ChinaBond China Climate-aligned Bond Index, government-backed bonds account for 70.8% (Kidney and Liu, 2017). 90% of climate-aligned bonds in China were issued by entities backed by the sovereign or sub-sovereign government (CBI, 2017a).
2. Some issuers have treated LGBs as an opportunity to top-up their capital, as the regulation of NDRC (2015b) allows LGB issuers to use up to 50% of the proceeds to repay bank loans and invest in general working capital (CBI and CCDC, 2017a). This rule contrasts with no more than 10% by CBT standards.
3. A key advantage of LGBs was expedited process of administrative approval for issuance (*ji bao ji pi* in Chinese). Industry insiders estimate that it would take only one month to obtain approval for an LGB, compared with three months for the approval of normal bonds.⁷

In other words, what drove the explosive growth of LGBs in 2016 was financialisation and financial statism in China and the selective relaxation of state control. However, two factors are now undermining the further growth of LGBs:

1. Many market players are sceptical of the net benefits of LGBs because of disparity in standards and high issuance costs. According to a report on Chinese Securities Journal, average issuance costs had risen from 3.24% in 2016 to 4.47% for the first 10 months of 2017 (CSJ, 2017). Based on like-for-like comparison and publicly available information,

research finds that in the third quarter of 2017, 77% of the green bonds were issued at a higher cost of funding than their comparable non-green equivalents in China (CBI and CCDC, 2017b). In comparison, 56.5% of the LGBs issued until 30 June 2017 had cost advantage compared with comparable vanilla bonds (GFC, 2017).

2. Second, rather than improving on meeting international green standards, green bond issuance in China seems to suffer from falling standards. The percentage of internationally aligned Chinese LGBs was only 63.5% in the third quarter of 2017, compared with 78.2% in the first half of the year; the ratio of LGBs with second opinions fell by 26% in the third quarter of 2017 (CBI and CCDC, 2017b).

On the other hand, the Chinese green bond market is highly unbalanced between its onshore component and its offshore component. While the domestic green bond market has expanded rapidly as a whole, the offshore bond market has grown slowly because of the constraints of approval process of overseas bond issuance and capital flow controls. In 2016, 26% of the green bonds were issued outside China (CBI and CCDC, 2017a). However, as of the end of October 2017, capital raised from offshore LGBs amounted to a total of USD\$7.9 bn, accounting for only 12.6% of the total (CBI et al. 2017). While this ratio is much higher than that of the ordinary bond market, where foreign investors own less than 2% of the capitalization, it means that the LGBs boom in China remains a domestic phenomenon.

This dual market structure means that there remain to be significant barriers for international businesses and institutions (UK's included) to be more deeply involved in the green bond market in China. Some of these are related specifically to green bond market itself such as the lack of unified green standards and insufficient understanding about the opportunities among potential issuers and investors, whereas others are more deeply rooted in the wider economic management regime in China ranging from the lack of transparency of Chinese credit rating

systems, capital flows control, market access, to the lack of participation by non- state actors (CBI et al., 2017).

One of the barriers is the centralised control over overseas debts. A key instrument of this control is the reformed registration system concerning corporate debts issuance in overseas markets, introduced by the NDRC (2015a). This system removes the need for corporations to apply for individual quotas for issuing debts abroad and replaces it with a system of registration system, which is supposed to simplify the process. In practice, however, state control is exercised through the imposition of an annual cap on the total foreign debts that corporations can occur nationally (or for sub-national jurisdictions for selected provinces or banks). Once this cap is reached, it becomes impossible for corporations to obtain NDRC registration, which effectively blocks the path to offshore debt issuance (CBI et al., 2017).

Given the predominance of state-backed entities in issuing LGBs and the control over overseas debts, it is reasonable to assume that Chinese corporations are not free to decide when and where to issue their green bonds. Industry insiders commented on the ‘politicised’ nature of such decisions. For example, the LGB issuance by the BoC in London in November 2016 was arranged to coincide with the visit of the Chinese Vice-Premier Ma Kai to the UK.⁸

Effects on UK-China Green Finance Business Opportunities

The UK has so far scooped only two of the nine offshore LGBs listings by Chinese entities, accounting for 18% of the capital raised (see Table 3). Given the acknowledged strategic partnership in green finance between UK and China (HM Treasury, 2017), this outcome requires explanation.

Table 3 List of Chinese Labelled Green Bonds Offshore⁹

Issuer	Month of Issuance	Amount (USD million)	Jurisdiction of issuance
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Agricultural Bank of China	December 2015	994	UK
London Taxi Company (Geely)	May 2016	400	Singapore
Xinjiang Golden wind	May 2016	152	Hong Kong, China
Bank of China	July 2016	3030	Luxembourg & US ¹⁰
Bank of China	November 2016	500	UK
Three Gorge Corporation	June 2017	725.9	Ireland
Industrial and Commercial Bank of China	October 2017	2150	Luxembourg
China Development Bank	November 2017	1620	Hong Kong and Germany
Bank of China	November 2017	1450	France
All		8262.5	
Memo items			
Share of UK		18.08%	
Share of Luxembourg		59.95%	

Sources: CBI et al., (2017) *Facilitating Cross-Border Capital Flows to Grow the China Green Bond Market*, p. 10. Percentages for UK and Luxembourg are calculated by author.

To start with, this disappointing result for UK can be attributed at least partly to inter-hub competition between the London Stock Exchange (LSE) and the Luxembourg Stock Exchange (LuxSE). LuxSE was the first exchange to list a green bond in 2007. Although the LSE introduced a green bonds list in July 2015, the LuxSE launched the Luxembourg Green

Exchange (LGX) in September 2016, making it the first ever platform dedicated entirely to green securities (CBI, 2017b). In China, LuxSE teamed up with the SZSE to launch the CUFÉ-CNI Green Bond Index Series. Furthermore, September 2017 saw the signing of a memorandum of cooperation between the SSE and the LuxSE over green bonds, especially to increase market transparency through green bond information display (CBI and CCDC, 2017b). As of April 2017, LGX listed 112 green bonds (CBI, 2017b). The total value of LGBs listed on LGX stood at EUR50.3 billion (about £43.8 billion) in May 2017 (CBI, 2017d). By comparison, at the end of November 2017, the number of green bonds listed on LSE was 59, with USD20.2 bn equivalent raised (LSE, 2017). Evidently LSE is so far significantly behind LuxSE on hosting green bonds.

However, coupled with the dominance of state-backed entities, the wide geopolitical spread of Chinese overseas LGB listings exhibited by Table 3 also suggests that there is likely a deliberate strategy that is at work by Chinese issuers as vehicles of state policy. It is possible that the role of the UK in global politics may have worked against it in this instance, as the logic of hedging would suggest. It is also likely that Brexit has diminished the attractiveness of London as a financial hub. Further research is needed to explore the possible effect of cost differences, as one interviewee suggested.

CONCLUDING REMARKS

This article has addressed two key research questions around the drivers of rapid LGB development in China, the contribution of the UK-China collaboration and the effects on UK-China trade. Its analysis strongly supports the hypothesis that a combination of financial statism and the pursuit of 'ecological civilisation' is the key driving force for LGB development in China, although international collaboration has also played a part. On the other hand, despite UK's contribution towards this development, four factors have limited the commercial benefits for UK from this development, including: (a) low volume of financial transactions between UK and China; (b) limited financial market openness in China; (c) possible adoption of a hedging

strategy by China in allocating offshore listing opportunities of Chinese LGBs; (d) inter-hub competition.

Do these findings mean that the UK-China collaboration in green finance has failed for UK? Far from it. At least three positive outcomes have come about. First, through this collaboration, UK has been able to make progress on its second and third objectives. Two kinds of mechanism can be identified. First, there are substantive resonance (a) between China's 'Scientific Outlook on Development' and the global sustainable development agenda; (b) between China's 'ecological civilisation' drive and Ecological Modernisation theory and practices; and finally, (c) between the international 'greening finance' agenda and China's effort on this front. Second, as shown earlier, the Chinese LGB market is at least six times (12.6% vs under 2%) more open than the mainstream interbank bond market in terms of the proportion of capital raised from foreign investors. Therefore, notwithstanding limitations, China is moving in the direction that the UK encourages.

Second, the collaboration has consolidated UK's identity as a tutor for China and added credence to UK's claim of global leadership in green finance. Third and finally, UK may have also learnt from its interaction with China. For example, the UK established in September 2017 its own Green Finance Taskforce to 'help deliver the investment needed to meet the UK's Industrial Strategy and Clean Growth Strategy; further consolidate the UK's leadership in financing international clean investment; and maximise the opportunities to be had for UK businesses in this rapidly growing area' (BEIS and HMT, 2017). Somewhat going against the grains of UK's liberal tradition, establishing the task force and formulating the Industrial Strategy and Clean Growth Strategy may have been stimulated by the interaction with China. In this sense, it might be justified to add a fourth dimension to UK's policy framework on China: two-way learning.

On the other hand, this article raises some research questions for China. For instance, is financial market closedness and heavy regulation bad for China's pursuit of global leadership in green finance? The answer is likely to be 'yes', as China's current lead in green finance is very much based on the use of administrative levers and the state-backed financial institutions, rather than allowing the market to play its true role. Obviously, success based on such unconventional institutional arrangements has limited relevance to other developing countries, making this 'Chinese solution' less useful to them. Another question is whether the same set of issues may affect the sustainability of its green finance industry, by limiting the latter's integration with the global market and restricting the role of non-state actors. Again, the answer is likely to be 'yes'. In other words, for China to become a true leader in green finance, it would be necessary for it to make the transition from simple learning - treating green finance merely as a tool to mobilise private capital - to complex learning by making fundamental changes to its economic system.

Finally, what implication can we draw from this study in terms of the future of UK-China relationship, especially in the context of Brexit? Most importantly, the evidence presented in this article puts a question mark over the assumption that China could fill the trade void left by the EU trade partners to a large extent, as breaking down the structural and behavioral barriers will take time. Indeed, even setbacks are possible. In their study of the Renminbi Qualified Foreign Institutional Investment (RQFII) scheme and its effects on London, Töpfer and Hall (2017) identify a dispersed allocation of the RQFII quotas by China, similar to the allocation of offshore LGB listings here. They notice the City of London's diminished interest in the RMB business because of reduced expectation of the appreciation of RMB (and related business opportunities) and the lack of integration of the Chinese banks in London under their exclusionary staffing policy. In fact, the share of RMB as a currency for international payments has declined from 1.60% in December 2015 to 0.98% in December 2017 (SWIFT, 2018). In the light of these, it

would be mistaken to expect quick systemic changes in China and to Sino-British trade relations.

ENDNOTES

¹ ICMA (2017) defines green bonds as ‘any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and /or existing eligible Green Projects...and which are aligned with the four core components of the GBP.’

² The G20 Green Finance Study Group (2016) defines green finance as ‘financing of investments that provide environmental benefits in the broader context of environmentally sustainable development’ (p. 3).

³ Speech by Harriett Baldwin MP, Economic Secretary from the HM Treasury at the official launch of the City’s London’s Green Finance Initiative on 14th January 2016.

⁴ This has been renamed G20 Sustainable Finance Study Group under the Argentina presidency (2018).

⁵ Interview with a Chinese member of the Task Force in London on 31st January 2018.

⁶ Climate aligned bonds include both labelled green bonds and unlabeled bonds issued by those entities who derive over 95% of their revenue from climate-aligned assets (CBI, 2016).

⁷ Interview in Shanghai on 10 April 2017.

⁸ Personal interview in London on the 31st May 2017.

⁹ Some discrepancy between the data here and those in the Chinese official database for green bonds (<http://greenfinance.xinhua08.com/zt/database/>) is detected. We have adopted the data here without adjustment due to incomplete comparability.

¹⁰ According to <http://greenfinance.xinhua08.com/zt/database/>, the two jurisdictions are Luxembourg and Hong Kong. The issue was in five tranches: USD2.25 bn (in three tranches) and Euro500m listed on Luxembourg Exchange; RMB1.5 bn listed on Hong Kong Exchange. Converting Euro 500m at the exchange rate of 1.1075 obtains USD553.75m, giving Luxembourg Exchange a total of USD2803.75 m for this issue.

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