

Greening the finance of China's commodity imports

Lessons from practice
September 2016

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Foreword

Based on enhanced efforts to share knowledge with foreign banks about good practices, China's banking industry has launched a number of activities in the field of 'green credit' and has obtained some notable results across banking supervision, quantitative methods to measure progress and capacity for banks to self-assess their performance.

According to our statistics, at the end of 2015, China's 21 main banking institutions have extended up to 1.7 trillion RMB in green credit to strategic emerging industries, an increase of 7.6 per cent compared with 2014. They have also extended up to 5.3 trillion RMB in green credit to energy-saving and environmental protection projects and services, an increase of 19.8 per cent compared with 2014. These two equate to 9.7 per cent of all lending in 2015, an increase of 16.4 per cent compared with 2014.

Credits for energy-saving and environmental protection projects and services bring obvious environmental benefits. According to our statistics, at the end of 2015, the projects supported by China's 21 main banking institutions helped to avoid the use of 0.22 billion tons of coal, to reduce CO₂ emissions by 0.55 billion tons, to reduce chemical oxygen demand (a measure of water pollution) by 3.55 million tons, to reduce ammoniacal nitrogen compounds by 2.27 million tons, and to save 0.76 billion tons of water.

Despite such achievements, we must point out that there is further room for improvement in how Chinese banks 'green' their lending activities. For example, green credit policies at present mainly cover project finance and the working capital of a company, but they do not include trade finance and other forms of credit such as housing mortgage loans.

The production and trade of agricultural commodities play an important role in generating carbon emissions and impacting sustainable development. China is one of the biggest importing countries of agricultural products. Implementing green credit standards in trade finance processes for agricultural commodities is therefore an urgent task for China's banking industry still to achieve. Indeed, finding ways to encourage investors, producers and traders to manage environmental and social risks and obey the standards of sustainable development as well as reduce the credit and reputational risks finance providers are exposed to are all very important.

This report by the University of Cambridge Institute for Sustainability Leadership and the Central University of Finance and Economics shows thorough and pioneering research on the environmental effects of agricultural commodity production and trade. Crucially, it also highlights related risks which China's banking institutions and leaders need to understand better, especially those who care about greening Chinese banks' lending activities, building an ecological civilisation and achieving genuinely sustainable international development. Chinese banks and leaders will also find clear examples of best practices and approaches in this report which they can use to improve the healthy development of China's green credit system.

Mr Ye Yanfei
Policy Research Bureau
China Banking Regulatory Commission

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Executive summary

Our research focuses on imported agricultural goods. Of all China's imports, agricultural commodities stand out in that China has a dependency on imports to feed its population, they represent a relatively low percentage of the dollar-value of imports but on average have the highest embodied greenhouse gas emissions per unit value. The latter factor is because the expansion of agricultural lands is very often associated with deforestation, which in turn is the second largest source of global greenhouse gas emissions after power generation. Sustainable methods of production of these commodities can make them significantly less environmentally harmful. This research asked whether it is possible to green the finance of China's commodity imports, and thereby address the risks associated with such unsustainable agricultural production.

Importance of this topic to China

This research project was informed by a series of expert workshops in China as well as supporting analysis. During the process, it became clear that Chinese banks, their regulator and Chinese commodity importers all acknowledge that supporting sustainability in soft commodity supply chains is an increasingly important issue. Five strategic developments that make this work important for China were identified. These are foreign relations, security of supply, China's industrial policy, financial regulation, and the credit risk exposures of individual banks.

Existing good practices

This research project learned that several Chinese and foreign banks are already proactively working to increase the share of sustainable soft commodities in their trade finance businesses, although it is fair to say that all are at an early stage. Best practices exist at two levels from the perspective of a bank's management systems – the client relationship level and the transaction level. Across these levels, four different types of intervention were observed, using respectively (i) know your customer (KYC) processes; (ii) risk management (RM) processes; (iii) employee performance processes; and (iv) cost of capital interventions. The last type of intervention includes innovations such as the Banking Environment Initiative's product, the [Sustainable Shipment Letter of Credit](#). A critical enabler that underpinned most of the good practices was the improvement of information technology (IT) and data capacity for green finance.

Remaining challenges

Notwithstanding these good practices, Chinese banks still face many challenges to make progress on 'greening' their trade finance. These concentrate in four areas, namely: 1) a lack of a level playing field, 2) a lack of clear definitions, 3) a lack of ownership and 4) a lack of capacity. A number of ideas were raised during the workshop series by researchers to address these challenges.

Challenge	Possible pathways forward
Lack of a level playing field	A well-respected authority such as the CBRC could choose to signal its support for banks to take stronger action in this area by issuing or clarifying relevant policy guidance.
Lack of definitions	Clarity could be brought on definitions by integrating existing work by Chinese non-financial industry authorities into banking guidance.
Lack of ownership	One or more banking industry bodies such as the China Banking Association (CBA) could adopt green trade finance within their agendas. Ownership could also be increased if banks were to set a nominal but ambitious target for new green trade flows to be financed. This would help to communicate the relevance of this topic to all parties and could help to differentiate them from competitors. Ownership could additionally be increased by an industry body such as the CBA if it were to facilitate a public league table, the 'China Green Trade Finance League Table', of Chinese banks' performance in green trade finance.
Lack of capacity	Capacity could be increased by bringing together commodity companies and banks into a forum where cross-industry learning can be facilitated. The CBA could play a beneficial role by hosting the banking industry side and partner with other relevant platforms already active in China. If such a forum were to be founded, it could benefit by forming strategic partnerships with international experts that are already active in this field.

Why focus on agricultural commodities?

After careful consideration, this research project has focused on agricultural (or 'soft') commodities as a starting point, rather than 'hard' commodities such as metals and minerals. It is important to understand the rationale for this decision.

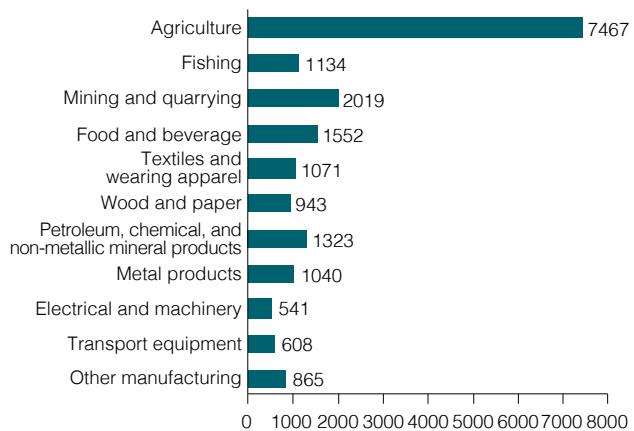
Even though the dollar value of China's agricultural commodity imports is relatively low, representing less than 5 per cent of all Chinese imports by value, their strategic importance is high because of the importance of agricultural imports to China's economy and population.¹

Viewed from a different angle, agricultural commodities take on an even greater significance: soft commodities are, on average, the category of China's imports with the highest embodied greenhouse gas emissions measured in terms of carbon dioxide equivalents² per unit value.^{3,4}

Figure 1 shows that for every US\$1000 spent on Chinese imports, the amount of emissions generated is highest for agricultural commodities. It is noteworthy to consider that in this analysis the emissions per dollar of, for example, petroleum is considerably lower than that of agricultural commodities.

A key part of the explanation for this is that expansion of agricultural lands is very often associated with deforestation, which in turn is the second largest source of global greenhouse gas emissions.⁵ Of the deforested areas in the tropics, for example, the largest proportion is used for livestock and to grow animal feed (49 per cent) and the second largest part is used to grow the oil crops soy and palm oil (27 per cent).⁶ As Figure 2 shows, soybeans form the largest single commodity of all China's soft commodity imports with 42 per cent of the total dollar value. Palm oil is the third largest single product of China's soft commodity imports. It represents 4.6 per cent of the amount spent on importing soft commodities.

Figure 1: Embodied emissions in every US\$1000 of China's imports at a sector level, 2012 (Unit: Kg)



The high embodied emissions in a relatively small number of strategically important soft commodities makes sustainable production important for China. Alternative, sustainable methods of production can significantly reduce the negative impact of agricultural production on the environment, thereby also supporting the longer term productivity of agricultural land and the livelihoods of those that depend on it. A number of high-profile producer companies now argue that the choice between economic development (by maximising production) and environmental protection (by setting aside native landscapes) is a false one. During the workshop series, commodity importers active in China reported experiencing shifts in the market – both from competitors and customers – to pay more attention to sustainability in agricultural commodities. Many place a strong emphasis on third-party certification schemes to evidence their commitment.

Figure 2: Composition of Chinese soft commodity imports in 2014, courtesy of the MIT Observatory of Economic Complexity⁷



Why is ‘greening the finance of China’s commodity imports’ important to China?

The research and engagement with relevant experts revealed that there are five strategic developments that make this work important for China. These are foreign relations, security of supply, China’s industrial policy, financial regulation, and the credit risk exposures of individual banks.

1. Foreign relations

As one of the world’s most important commodity importers, China has self-interest in taking fuller account of the negative impacts unsustainable production methods have on its key trading partners.

This work has focused in particular on the fact that the unsustainable production of some agricultural (or ‘soft’) commodities is known to be a strong driver of tropical deforestation.⁸ In addition to the greenhouse gas emissions associated with deforestation, the detrimental effects include impacts on biodiversity, soil erosion, water cycles and public health, all of which ultimately risk undermining livelihoods for agricultural producers.

Moving away from such unsustainable production methods at scale requires a realignment of buyer and seller preferences. With 60 per cent of global soy bean imports, China is by far the largest importer of soy in the world. In the palm oil trade, China is the second-largest importer with 11 per cent of all imports. China could therefore play a significant role in altering the detrimental effects of unsustainable production and supporting a shift to more sustainable methods, which are already well understood. Transparency about changing buyer preferences will enable production to match the needs of the market over time. A variety of measures exist to verify that agricultural production is sustainable, one of the most prominent measures being sustainability certification schemes. Growing the demand for such certified commodities should therefore be a shared policy objective between major importers and exporters, to support development at local and global scales that is truly sustainable. Chinese participants in this research project frequently commented that if China were to adopt such a policy objective in its own foreign policy, such as the *One Belt, One Road* strategy, this would ensure that China’s lessons from its own development experience were being shared with other nations.

2. Security of supply

Given its dependence on agricultural imports, China has self-interest in ensuring that significant shifts in standards for agricultural production do not threaten its own supply chains.

In markets around the world, governments are working to counter the detrimental effects of traditional agricultural production on the development prospects of producer countries. Measures relating to forest-sensitive supply chains consist of a mixture of national legislation, policy measures and partnerships with leading businesses, often prompted or supported by civil society action. Virtually all examples demonstrate that this is not a straightforward or linear trend – think, for example, of the debates around the Brazilian Soy Moratorium and the Forest Code or the challenges of enforcing the Indonesian Government’s policy to ban clearance of peatland. However, the backdrop of the Paris Climate Agreement is important. That agreement sent a strong signal that the world’s governments intend to deliver a net zero carbon global economy well before the end of the century. Achieving this cannot be done without addressing agriculture. The direction of travel is therefore clear.

Related to this is a growing trend whereby investor sentiment towards companies that are not adhering to sustainability standards is shifting. For years, forward-thinking institutional investors have been concerned about investing in such companies.⁹ As a sign that this trend may be becoming mainstream, the credit rating agency Moody’s recently announced that it is putting a major palm oil producer on review for a rating downgrade because the company was suspended from the Roundtable on Sustainable Palm Oil (RSPO).¹⁰ If unsustainable producers start to find that their access to capital is threatened, this trend could undermine the security of supply for importers.

Why is 'greening the finance of China's commodity imports' important to China? continued

3. Industrial policy

China's own policies are already seeking to address these issues. Under the guidance of China's Ministry of Commerce (MOFCOM), industry bodies such as the China Chamber of Commerce of Foodstuffs and Native Produce (CFNA), the China Chamber of Commerce of Metals, Minerals & Chemical Importers and Exporters (CCCMC) and the Chinese Academy of Forestry (CAF) are developing specific guidance for Chinese firms that invest overseas in commodities like palm oil and timber. Their aim is to ensure that Chinese firms align appropriately with international sustainability norms and they are working together under a programme called InFIT, the International Forest Investment & Trade Programme.

4. Financial regulation

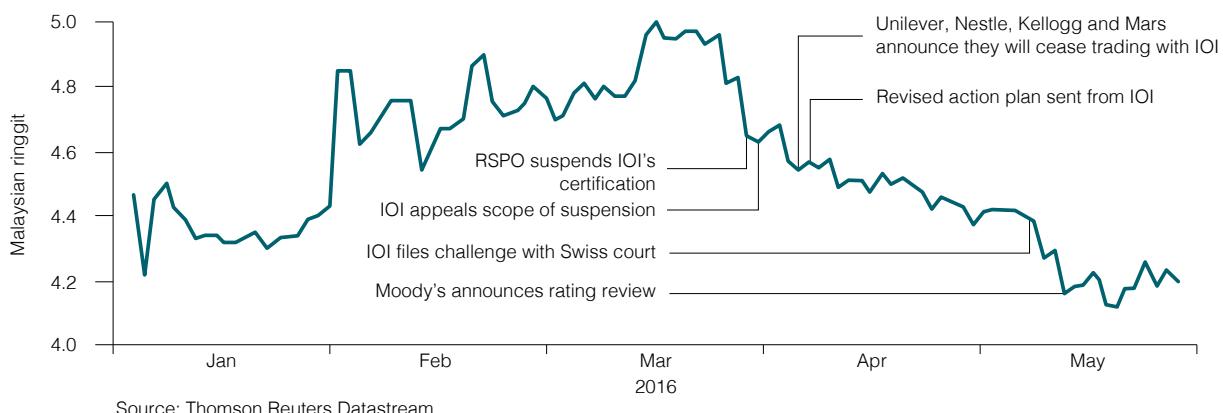
The China Banking Regulatory Commission's (CBRC) Green Credit Guidelines already require Chinese banks to adhere to international sustainability norms in all of their overseas financing. This is a strong starting point in terms of having an existing regulatory framework that could be used to target these issues. Some banks have included trade finance in the credit lines they identify in order to calculate total green credit volumes to report to the CBRC. At present, however, there is no more specific guidance about how to apply this policy to shorter term forms of finance like trade finance. It seems that many Chinese banks will simply identify the trade finance

credit lines that they extend to so-called 'green borrowers', irrespective of what is the underlying commodity being shipped. Without further specific guidance, Chinese banks are unclear what more is expected of them.

5. Credit risk exposures

The trends listed above imply that banks may start to face rising credit risks from financing trade of unsustainably produced commodities. This is less an issue at the level of individual trade finance transactions, which tend to be short term and hold the commodities being shipped as collateral, and more an issue at the client relationship level. The recent example of the ratings agency Moody's announcing that it was considering a credit rating downgrade for the palm oil producer IOI after it was suspended from the RSPO has already been mentioned. One of the reasons cited by Moody's was that various customers of IOI said that they would stop buying from the company as a result of its expulsion from the RSPO (see Figure 3 below). Since all banks seek to develop long-term relationships with clients, as well as cross-sell a variety of different financial services to them, the issue of credit risk exposures should be looked at from the overall client level. In addition, some foreign banks are already deciding that the reputational risks of being associated with certain unsustainable producers are too great, something that might also become more relevant in China.

Figure 3: IOI share price (Malaysian ringgit) since the start of 2016, courtesy of Financial Times (May 26 2016)



What good banking practices exist?

This research project demonstrated that several Chinese and foreign banks are already proactively working to increase the share of sustainable soft commodities in their trade finance businesses, although it is fair to say that all are at an early stage. Some are even considering whether 'green trade finance' flows could be among the assets financed by a green bond issuance.

Best practices exist at two levels from the perspective of a bank's management systems – the client relationship level and the transaction level. Across these levels, four different types of intervention were observed, using respectively (i) know your customer (KYC) processes; (ii) risk management (RM) processes; (iii) employee performance processes; and (iv) cost of capital interventions. The interaction between these is as follows:

	Client relationship level	Transaction level
Know your customer	•	
Risk management	•	•
Employee performance	•	•
Cost of capital		•

The client relationship level encompasses all the business the bank does with a specific client. The quality and prospects of current and potential clients are reviewed on a regular basis in order to determine the bank's appetite to do business with the client. Decisions at this level determine whether all types of transaction will be declined or approved. In some cases, banks will also consider the characteristics of specific transactions to determine whether they wish to proceed or not, and on what basis.

Good practice in the know your customer (KYC) process

KYC processes are a core activity of banks. They exist because banks want, and are legally required, to verify the identity of their clients at the outset of a client relationship. The reason banks are legally required to do this is to ensure that they are not being used for criminal activities such as money laundering, even unintentionally. Typically, a bank would work with so-called customer acceptance policies (determining which types of clients the bank does and does not want to service) and customer identification processes (in which prospective clients are verified by means of legal

documents confirming their identity). Once a client has passed these steps, it can be serviced with specific products and services. If the client does not pass, it will be denied the services of that bank and may have more difficulty obtaining such services from other banks, if it can at all.

In the case of risks arising from companies involved in unsustainable production of soft commodities, a bank can use its KYC process to ensure that it does not do business with companies that do not comply with sustainability criteria set out in its customer acceptance policies. This research project learned that two major Chinese banks have chosen to implement such an approach, in line with international best practice. This is particularly significant in the case of soft commodity production because it is widely reported that up to half of tropical deforestation is actually the result of illegal conversion of forested land to agriculture, with significant proportions of the resultant commodities then being exported.¹¹

Good practice in risk management (RM) processes

RM processes are also a core activity of banks. Once a person or organisation has been approved by the KYC process and has become a client, RM processes help manage the risks associated with that client. The purpose of RM is to enable the bank to take informed decisions. It does this by properly identifying, assessing and prioritising risks.¹² The aim is to ensure that banks consciously take on risks that are balanced by a proper reward. The intention hereby is on the one hand to minimise, monitor and control the probability and/or impact of unfortunate events. On the other hand, the aim is to maximise the realisation of opportunities. RM processes help manage various types of risks for banks such as credit risk, market risk, reputational risk, business/operational/strategic risk, liquidity risk, interest rate risk, and many others. To the world outside of banks, RM makes the difference between certain clients being provided or not with different products and services. RM could also make the difference between clients having to comply with a strict monitoring and information-provision regime or not, as well as pricing decisions.

In the case of risks arising from companies involved in unsustainable production of soft commodities, a bank can choose not to provide or prolong certain products or services if the risks from a client's operations, markets, behaviour or other factors were considered to be too high. This research project learned that one major Chinese bank has proactively chosen to phase out the financing of so-called 'non-green' credit relations. It did this as part of its designated 'green finance policy' that covered nine areas, including

What good banking practices exist? continued

agriculture, in line with the requirement from the CBRC to start 'self assessments' of performance against the Green Credit Guidelines.

Good practice in employee performance processes

A key performance indicator (KPI) is a business metric that is used to evaluate factors that are crucial to the performance of a business. Banks use KPIs to give direction to their business lines and employees. Typically, a KPI stipulates a certain benchmark figure that needs to be attained or avoided. Examples of this could be the operational cash flow for a business unit, percentage of sickness absence for a team manager or profitability of clients and/or their satisfaction rates for employees.

This research project discovered that one major Chinese bank has included a 'green' metric in the KPIs for its employees. Typically this means that employees are rewarded if they attain certain targets for 'green financing'.

Good practice in cost of capital calculations

The same bank that included green finance in its KPIs helped its employees in attaining these targets by adjusting its calculation of *economic capital*. A definition of economic capital is 'the methods or practices that allow banks to attribute capital to cover the economic effects of risk-taking activities'.¹³ Economic capital is calculated by the banks themselves to help with the management of their business. It affects the pricing terms that are subsequently offered to clients for different services. In this sense it differs from so-called 'regulatory capital' which is the amount of capital a bank is obliged to hold by banking regulators and is elaborated on below.

Since decisions about economic capital fall within the remit of an individual bank's risk-reward management, it makes sense that different banks make different judgements with respect to sustainability risks. Knowledgeable banks, or banks wishing to build specific market exposure, are able to grow their credit portfolios in such a way that they optimise their exposures to sustainability risks and use economic capital adjustments to drive this. For this particular major Chinese bank, the rationale for its adjustment of economic capital was that it found that green finance deals had better credit risk profiles than ordinary deals.

Other good practices identified during the research project were instruments that allow for a relief of so-called regulatory capital for sustainable trade finance transactions. The BEI's Sustainable Shipment Letter of Credit is an example of such an instrument. It is designed for the trade financing business and allows for lower financing costs with certified sustainable soft commodities trades.

The Sustainable Shipment Letter of Credit (SSLC): regulatory capital alleviation for sustainable trade

This instrument uses a guarantee from a development bank with a top-tier credit rating to facilitate the trade finance of certified sustainable soft commodities. The guarantee allows the seller's bank to decrease the amount of regulatory capital it is obliged to hold and therefore offer preferential terms for the trade finance service to the client. In turn, this is helpful because companies involved in commodity production and trade are often highly price sensitive and it can be the case that sustainably produced agricultural commodities cost a small amount more, at least for the time being.

Currently this product is available for intra-emerging market trades of palm oil with a guarantee by the International Finance Corporation (IFC). Given this geographic scope, the SSLC is relevant for the largest palm oil exporting countries (eg Indonesia, Malaysia) and large palm oil importing countries like China. It could potentially be made available for other soft commodity classes as well.

Regulatory capital, and why it is important

The regulatory capital of a bank is the amount of capital it is obliged to hold by its financial regulator. Regulatory capital is sometimes visualised as an 'air bag' that is able to absorb losses and helps the bank to stay solvent. Banks calculate the amount of regulatory capital at a transaction level, client level, product-portfolio level and/or business unit level. Simply put, they multiply the maximum potential outstanding credit amount with a risk weighting percentage. This percentage ranges from 100 per cent for high risk types of credit to 0 per cent for low risk types of credit. The resulting amount of capital captured in the regulatory 'air bag' has to be held by the banks: they are not allowed to lend this capital out. This is costly to banks since they do have to compensate the providers of that capital, such as depositors.

How the SSLC works with regulatory capital

If the credit risk for individual transactions can be reduced, the amount of capital a bank is obliged to hold can be lowered. In this case, by swapping the higher risk of an ordinary credit exposure to the lower risk of the IFC, the costs of the transaction are lowered. The IFC currently enables this by offering a guarantee to banks that finance the trade of certified sustainable palm oil and are part of its trade programme. The benefit that thus emerges enables the bank to make preferential offerings to clients that want to trade certified sustainable palm oil.

Other possible applications of SSLCs

Currently this structure is only available for palm oil trades using Letters of Credit between emerging markets. However, structures such as these could be made available for other soft commodities, geographies and trade finance products. For this to happen, relevant certification data should be available in an accessible way and additional partners such as the IFC that will provide the guarantees need to come on board. Another variant of the concept would be to use the guarantee to increase the tenor of the trade finance facility for the client.

Critical enablers: improvement of information technology (IT) and data capacity for green finance

A clear lesson from the research project was that in order to implement interventions such as the ones mentioned above, easy access to timely and relevant data is imperative. It is the ready availability of this data that enables banks to integrate sustainability into their regular decision-making processes. This is why one of the banks that participated in the project decided to strengthen its IT and data capacity specifically to deal with green finance information flows. It uses this green finance information for monitoring, steering and reporting purposes.

What challenges do Chinese banks face to make progress on ‘greening’ their trade finance?

During this research project, it became clear that Chinese banks, their regulator and Chinese commodity importers all acknowledge that supporting sustainability in soft commodity supply chains is an increasingly important issue. However, four common challenges were identified that need to be addressed in order for action to happen at scale and in an effective way.

Challenge 1: Lack of a level playing field

The competitive nature of markets poses a challenge in that it can be difficult for individual players to adopt new practices unilaterally. On the one hand, this relates to the power of existing norms of how an industry behaves. On the other, if there is a perceived or real pricing premium for importers associated with those new practices, there can be a first-mover disadvantage. During the workshop series, participating Chinese banks made repeated calls for authorities to provide direction to help them raise standards in their own trade finance practice, whether that be through industry authorities like industry associations or through regulatory authorities.

Challenge 2: Lack of definitions

Chinese banks report that they need guidance on two important questions relating to definitions. The first question is which commodities have the potential to ever be considered sustainable. In this respect, it is to be expected that certain mineral commodities would be treated differently to many soft commodities, where alternative methods of production mean that such resources can be genuinely sustainable. The second question is which sustainability certification schemes (or other indicators of suitable practice) can be considered as acceptable in the Chinese context.

Challenge 3: Lack of ownership

Another challenge to be overcome for Chinese banks is the question of ownership. In the current banking market structure, it is unclear for some Chinese banks which division of a bank ‘owns’ the topic of green trade finance, or at least who is responsible for driving this agenda. As has already been noted, the current Green Credit Guidelines do not yet give sufficient clarity about the expectations of banks in their shorter term forms of financing. It is therefore difficult for Green Credit personnel to take ownership for greening trade finance services. Meanwhile, for the same reason, it is also difficult for the trade finance community to take responsibility for the topic. Without clarity on who will own this topic, progress will be slow.

Challenge 4: Lack of capacity

Despite a high level of engagement from a wide variety of banking experts in China during this research project, it was clear that the topic of ‘green trade finance’ is a new one to the Chinese banking industry. This is also true for foreign banks: it is a new topic for everyone. However, it was notable during the workshop series that ideas for product innovation and for seizing new business opportunities from this agenda were mainly originating from foreign banks. There is no doubt about the creativity and commercial acumen of personnel in Chinese banks, but this does perhaps point to a need for targeted capacity building on this topic amongst trade finance professionals specifically.

What are the possible pathways forward?

A number of ideas were raised during the workshop series to address these challenges.

Lack of a level playing field

- **Official recognition of the importance of greening China's trade finance.** Given the relevance of greening the finance of commodity imports to China, there is an opportunity for a well-respected banking authority such as the CBRC to signal its support for banks to take stronger action in this area. One idea would be to issue or clarify relevant policy guidance that specifically refers to shorter term forms of financing like trade finance. With such a step, it would be important to ensure that there is sufficient clarity about what good practice entails.

Lack of definitions

- **Integrate existing work by Chinese industry authorities into banking guidance.** As has been detailed in this report, a variety of different Chinese industry bodies are already working to set out guidance for companies investing overseas in agricultural production, under the supervision of the Chinese Ministry of Commerce, so that they are clear what is considered sustainable from a Chinese point of view.¹⁴ The trend appears to be towards greater alignment and co-ordination with other international efforts to tackle illegal logging and deforestation. Up to this point, Chinese banks have been unaware of such work and could become more involved now. An opportunity therefore exists for the same approaches to be incorporated into official guidance for banks, so that their trade finance activities are aligned with China's industrial policy. A simple step, for instance, could be for banking guidance to refer to a list of approved certification bodies.

Lack of ownership

- **Banking industry association leadership.** As a first step towards greater banking industry leadership on this issue, one or more banking industry bodies could take a lead. The China Banking Association (CBA), for example, could be well-positioned to take such a leading position given its ability to mobilise the deep expertise of its Trade Finance Committee or its Green Credit Committee. Either, or both, of these committees could put the topic on its agenda to deepen the CBA's existing leadership on the green credit agenda and help to address the issue of ownership amongst dispersed stakeholders.

- **Commercial targets.** The question of who owns this topic could also be seen as an opportunity for trade finance bankers within Chinese banks. Banks could set a nominal but ambitious target for new green trade flows to be financed, which would help to communicate the relevance of this topic to all parties and could help to differentiate them from competitors.

- **China Green Trade Finance League Table.** Another idea to support greater ownership of the issue that was raised is for an industry body such as the CBA to facilitate a public league table of Chinese banks' performance in green trade finance, informed by data from each of the banks. This would also help to educate the public on the value of trade finance services and China's progress towards supporting sustainable development in other countries. A simplified approach whereby the CBRC or CBA agree some priority statistical benchmarks may be necessary to start with in order to address wider data challenges.

Lack of capacity

- **Form a Chinese bank-client industry platform.** International experience indicates that, on this issue, the practice of bringing together commodity companies and banks into a forum where cross-industry learning can be facilitated can be very powerful. Such learning can be accelerated by independent experts, such as academics or civil society organisations. The CBA could play a hosting role on the banking industry side and partner with other relevant platforms active in China, for example the Sustainable Soy Trade Platform.¹⁵ In other countries, such as Brazil and Indonesia, industry bodies similar to the CBA are already taking up this role.

- **Form strategic partnerships with international experts.** If a Chinese bank-client industry platform were to be formed, an opportunity would exist to foster an ongoing relationship with the emerging international community that is working on the same topic. The Banking Environment Initiative, through its Sustainable Trade Finance Council, is one such group.

References and notes

¹ BACI International Trade Database 2014 data as used by Simoes, A. J. G., & Hidalgo, C. A. (2011). Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence. The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development. San Francisco, California, August 7–11, 2011. Palo Alto: AAAI.

² Equivalent CO₂ (CO₂e) is the concentration of CO₂ that would cause the same level of radiative forcing as a given type and concentration of greenhouse gas.

³ Based on analysis commissioned for this project from CUFE researcher Duan Yuwan, and reviewed by Professor Douglas Crawford-Brown of the Cambridge Centre for Climate Change Mitigation Research.

⁴ Calculating the embodied emissions at a sector level in one unit of monetary value of imports for each sector. This measurement is chosen given that each sector in the report includes substantially different products and commodities, which may be measured in different physical units. Note that calculating 'embodied emissions' takes into account emissions associated with all stages of production of a commodity, but not its end use or consumption.

⁵ Winrock International and Woods Hole Research Center. (2012). *Progress toward a consensus on carbon emissions from tropical deforestation*. Washington: Winrock International and Woods Hole Research Center.

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⁸ The production of soft commodities accounted for 55 per cent of global deforestation in the period from 1990 to 2000. Source: European Commission. (2013). *The impact of EU consumption on deforestation: Comprehensive analysis of the impact of EU consumption on deforestation*. Brussels: European Commission.

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¹⁰ Chain Reaction Research. (2016, May 18). The Chain: IOI threatened by possible Moody's downgrade. Chain Reaction Research. Retrieved from <https://chainreactionresearch.com/2016/05/18/the-chain-roi-threatened-by-possible-moodys-downgrade/>

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¹² See also International Organization for Standardization. ISO 31000 – Risk management. Retrieved from <http://www.iso.org/iso/home/standards/iso31000.htm>

¹³ Bank for International Settlements. (2008). Basel Committee on Banking Supervision Consultative Document – Range of practices and issues in economic capital modelling.

¹⁴ Three sets of guidelines are currently under development: for timber, for palm oil and for natural rubber.

¹⁵ Paulson Institute. (2015). Sustainable Soy Trade Platform. Retrieved from <http://www.paulsoninstitute.org/economics-environment/conservation/sustainable-soy-trade/>

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Head Office

1 Trumpington Street
Cambridge, CB2 1QA
United Kingdom
T: +44 (0)1223 768850
E: info@cisl.cam.ac.uk

EU Office

The Pericles Building
Rue de la Science 23
B-1040 Brussels, Belgium
T: +32 (0)2 894 93 20
E: info.eu@cisl.cam.ac.uk

South Africa

PO Box 313
Cape Town 8000
South Africa
T: +27 (0)21 469 4765
E: info.sa@cisl.cam.ac.uk



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