China’s Low Carbon Finance and Investment Pathway

Annex C: China’s financial reform and implication for low carbon investments

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1. Introduction

This section seeks to understand some key issues: What are the relationships between the proposed Chinese financial reforms and climate friendly investments? What are the nexuses between the purposes of the financial reforms and the mission of facilitating climate friendly investments? How would the financial reform measures affect climate friendly investments? To find the answers to these questions, we must first understand the current issues pertaining to the financial sector that the reform is attempting to address. Then, taking a holistic view, we will explore the relationship between the financial reforms and China’s core issue – its macro-economic transformation –. We will then return to those questions initially raised and plot the likely influences from the financial reform measures on climate friendly investments and make preparations for putting forward relevant policy suggestions and opinions.

2. The Financial Reform Process

China’s 30 year economic boom has seen its financial industry grow from practically non-existent to a position where it must now perform a new role in economic growth to meet new requirements under the new economic situation. Just as the Chinese economy has to transform from the simple, extensive expansion of production for subsistence needs to a new economy for advanced, variable, and immaterial new demands, finance, in service of the economy, must also be reborn into an effective and efficient distributor of resources distributor rather than a simple provider of capital.

The financial reform process we see today is the result of the proactive efforts to adapt to the change. In general, the financial reform can be summarized as the following main aspects outlined below.

2.1 Further Opening of the Financial Market to Domestic and Foreign investments

Several levels of efforts are to be made for more extensive opening up of the financial industry to both domestic and foreign investors in order to encourage financial innovations and meet the challenges of the new century with a more sophisticated network of financial markets and products. In the process, equity financing will emerge through various channels and direct investment will grow to cultivate financial innovations. Financial Innovation can
further advance through a multi-level capital market system that incorporates banking, capital markets, public financial institutions, insurance considerations and equity financing.

2.1.1 Commercial Bank’s Reform – Encourage Private Capital Entry

Direction and Reform Progress
The reform of the commercial banking sector is crucial to the financial reform process. State commercial banks have dominated the banking industry for years. The profit model of commercial banks is also non-diversified – more than 80% of banks rely on profit from interest rates differences. Bank loans are also mainly targeted at large- and medium-sized companies and state-owned enterprises (SOEs), with limited flow of capital to private small- and medium-sized enterprises (SMEs).

To address this market domination and encourage greater private capital into the commercial banking market, the government is allowing corporates to establish small and medium banks and encouraging greater participation of capital within existing banks. Through these reform measures, the existing structure of bank loans preferring large enterprises (especially large- and medium-sized) SOEs will be supplemented by more capital flow to private SMEs, helping China to create a comprehensive financial service structure.

However, there remain operational risks for private banks, since China has not established a deposit insurance system. Therefore, strengthened supervision in market entry rules and operation will be required. At present, there is also a lot of controversy about the setting of standards and conditions for private capital to establish a financial institution. The main difficulty involves identifying the acceptable level of requirements and regulations for the registration of new capital, the qualification of the initiator, ability to internalise risks, limited operation and so on. If regulations are lax, new financial risks might be brought in; if they are too strict, obstacles will be posed for the entry of private capital.

Despite these challenges, 36 private banks were approved to operate by the 20th of November 2013. However, it remains to be seen how many of these initial entrants will fare.

Column 1 Entry of Private Capital into the Banking Industry

In July, 2013, the State Council issued the Guiding Opinions on the Financial Support for
Economic Restructuring, Transformation and Upgrading, (“the Ten National Financial Measures”), which clearly put forward the extension of private capital into the financial industry. First it allows maturely developed village and township banks (VTBs) to adjust the shareholding ratio of the main initiator and other stakeholders. Second, private capital is encouraged to establish private banks, financial leasing companies and consumer finance companies.

This policy has made a considerable opening for establishing banks. The data of CBRC (China Banking Regulatory Commission) shows that by the end of March, 2013, 903 VTBs had been established in China, among which 836 had been approved for opening. The total amount of the assets of these new VTBs had reached 454 billion RMB. In terms of coverage, after more than 6 years’ development, the number of legal financial institutions in the VTBs had reached about 1/3 of the traditional rural credit cooperatives, and their service areas are mainly the local economic entities. If the restrictions – the main initiator must be a commercial bank whose shareholding ratio has to reach 20%, and other initiator shall not exceed this proportion – can be relaxed, similar small banks completely controlled by private capital are very likely to appear.

Figure 1 The Assets Layout of the Banking Industry in China (trillion RMB)
Even if private capital flow incurs, its proportion of the total amount is still quite limited. Compared with the 138.4 trillion RMB total capital assets of financial institutions in the banking industry in China at the end of March, the total amount of 454 billion RMB total assets of the VTBs will reflect a mere fraction. And if we compare the averages, at present, the total assets of each VTB is about 0.54 billion RMB, which is only about the business size of relatively large regional guarantee companies. It is safe to say that even if all the VTBs are financed and established by private capital, it is very likely that they are not an effective channel for private capital flow into the banking sector, but rather a mere recognition of the current role of private finance.¹

At present, from the development of business practices, state-owned banks of smaller size are trying to issue unsecured loans. In the future, private banks might also be allowed to participate in micro-financing.

Potential impact

The entry of private capital, either by directly establishing new private banks, or by participating within existing commercial banks will diversify the equities of the banking system, expanding its coverage, triggering competition and differentiation. This will further improve effective competition of the credit market, accelerate the improvements of efficiency and services of banks. Thus, from a long-term point of view, carefully advancing the establishment of private financial institutions can facilitate the stability of the financial system.

From the perspective of the real economy, the establishment of private banks has filled the gap of financial functions of traditional state-owned banks and relieved difficulties in financing for small enterprises to some degree.

In the transition, different types of banks have adopted different development paths. The majority of the banks emphasize the differentiation strategy and specialist management concept, providing differentiated products and services. Large national banks have the advantages of scale, multiple branches and comprehensive skills/knowledge base, and tend to adopt an integrated, comprehensive and internationalization development model. In general, they tend to adopt the road towards a comprehensive, all-around international bank of large size. However, small and medium banks have tended to be more targeted and specialised, and become retail banks. The tendency towards creating unique characteristics and specialization allows China’s financial industry to grasp the opportunity created by green development, and establish new core competition of its own.

2.1.2 Reform of policy financial institutions

Direction and Progress of Reform

The 3rd Plenary Session of the 18th Central Committee of Communist Party of China (CCCPC) held in Beijing from November 9 to 12 2013 proposed “advancing the policy financial institution reform”. The direction of advancement is to clearly divide policy and proprietary business and carry out separate account management systems.

**Potential impact**

This would further diversify the financial market and end the competition between policy financial institutions and commercial banks. The policy banks will need to be more targeted in guiding capital to strategic investment. However, to date, no substantial progress has been made in this area.

### 2.1.3 Capital Market Reform—Deepening Market, Increasing Channels and Financial Disintermediation

The capital market in China is only just unfolding. The existing investment and financing channels are undergoing market-oriented reform and new investment and financing channels are developing.

Further important work must now be done on targeted areas to promote its development. First, there is a need to improve the diversification of the capital markets, which is an important part of the economic and financial reform in China. Secondly, administration needs to be streamlined and power delegated to a more local level. Thirdly, a wide range of institutional investors should be developed to meet the rising demand of financing/investment products from the people. Fourthly the pace of opening to the outside world should be accelerated through reform measures.

#### 2.1.3.1 Stock Issuing: from Verification System to Registration System

A sound stock issuing system is an important condition for the development and improvement of the shareholding system, as well as a basic component for the construction of securities market. One important task of the capital market reform in this round is the stock issuing registration system.
Decision of the Central Committee of Communist Party of China (CCCPC) on Some Major Issues Concerning Comprehensively Deepening the Reform suggests promoting reform towards a registration-based stock-issuing system. The objective is to establish a diversified financial market, optimize financing structures, and solve the problems including the lack of middle or long term funding in the development of the Chinese economy and the mismatch of long term and short term capital demand and supply in the financial market. There are certain difficulties and hurdles in transforming the stock issuing verification system to the registration system, which is unlikely to be achieved in short term. However, the introduction of ‘preferred stocks’ is expected to start soon, which can enrich market choices.

Under the reform of the stock issuing registration system, the size of listed and issued stocks will increase and investors will have more choices. New stocks will no longer be scarce resources and the excessive high issuing price that restrains the performance of Chinese market will be solved. In addition, the registration system lowers the threshold for the listing of a company. Premium from implicit guarantee by the government will be eliminated, and the market will focus more on value investment. With the promotion of a delisting (supporting exit) system, the investors shall invest more rationally.

Potential Impact
This reform will help enterprises with potentials but are risky to obtain funding in the securities market in order to develop, increase the investment judgment of the investors, and reduce the dependence on government. At the same time, it will inevitably exert great influence on the prices of existing listed stocks.

The registration system reform of stock issuing will help good but light-asset companies become more bankable and prevent rent-seeking in the company listing.

---- Professor Sun Lijian, School of Economics, Fudan University

Under the registration system, the supporting exit system will play an important role. The issuing size of listed companies will be extended and the issuing price will be lowered, which is beneficial for securities traders. However, the sponsor risks will increase in the future.

---- Li Xunlei, VP and Chief Economist of Haitong Securities

At present, the fear of the stock market for IPO is not because the number of the listed companies, but because the high price listing of new shares. In the long term, as the registration reform progresses, the premium in the IPO or implicit guarantee can be ignored, and new shares are no long scarce resources. Investors will become more rational when facing the various choices.

---- Wang Jianhui, deputy general manager of R & D Capital Securities
Column 2 From Verification System to Registration System: Let the Market Judge

The so-called registration system is a prerequisite for the securities supervision department to publicize the stock offering. Once an enterprise meets the published conditions and requirements, they can issue stocks. This system is widely adopted in mature stock markets with a higher degree of marketization.

Under the registration system, when the issuer applies for issuing stocks, it has to submit various public data to the securities regulator in a complete and precise way. The securities regulator is responsible for carrying out a compliance formal examination on the authenticity, accuracy, completeness and timeliness of the application documents. The quality of the issuing company is left for the securities intermediary organizations to judge and decide. This type of stock issuing system has higher requirements on the issuers, the securities intermediary organizations as well as the investors.

At present, the verification system adopted in China is a hybrid of the registration system and the approval system (where administrative and pre-determined decisions are made regarding the target and amount of issued stocks to be allocated, and local governments or administrative departments will recommend enterprises to issue stocks according to the target). The current system abolished government’s role in setting the target and amount while the responsibilities of the securities intermediary organizations have been brought in to judge if an enterprise has fulfilled the condition to issue stocks. However, the securities regulators carry out substantive examination on the compliance and marketability of the stock offering and have the right to deny the application for stock offering.

Table 1 Comparison of Approval System, Verification System and Registration System

<table>
<thead>
<tr>
<th>Item</th>
<th>Approval system</th>
<th>Verification system</th>
<th>Registration system</th>
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</thead>
<tbody>
<tr>
<td>Target and amount</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Standard of issuing and listing</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Main referral (sponsor)</td>
<td>Government or administrative departments</td>
<td>Intermediary organizations</td>
<td>Intermediary organizations</td>
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The registration system demonstrates the freedom of market economy, the autonomy of entities, and the structured as well as efficiency of government’s oversight over the economy. Under the registration system, the security regulators only carry out formal examination of the application documents, which does not concern substantive conditions of the applicant as well as the issued securities and does not make any value judgment on the securities and the way they are issued. Thus, the workload of regulators is lowered. Once the application documents are submitted, the application will take effect automatically after a certain period required by law, and the tedious authorization procedures can be avoided. Under the registration system, entities are free to act, and as long as the issuer meet the disclosure principle required by law, even zero-value securities can enter the market. Profits or losses resulted from free choices will be undertaken by investors.

### 2.1.3.2 Promoting equity financing through various channels

Promoting equity financing through various channels could accelerate the pilot issuing of preferred stocks in the near future, and improve a diversified equity market in the middle
and long term. At present, the proportion of direct financing in the total financing volume in the whole society (financing size + trade payment + financial leasing + micro-finance) increased to 31.05% in 2012 from 10.14% in 2002. The proportion of indirect financing volume dropped to 68.95% in 2012 from 89.86% in 2002. To this end, the executive meeting of the State Council held on June 19, 2012 clearly identified a number of policies to speed up the development of a diversified capital market, which included the nationwide expansion of the pilot National Equities Exchange and Quotations for small and medium enterprises in China (the “New Tertiary Board”) to encourage innovation and improve financing for startup SMEs.

On December 14, 2013, the State Council issued the Decision on Issues Concerning the National Equities Exchange and Quotations and made deployments regarding the national equities exchange, which officially implemented the “New Tertiary Board”. This means that equities exchange will be available to all eligible companies nationwide and not limited to those in national high-tech zones.³

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Column 3 Equity Financing through Various Channels: National Equities Exchange and Quotations (the New Tertiary Board)

Measures for the Supervision and Administration of Non-listed Public Companies issued in September, 2012 is one of the fundamental supervision and administration system for the securities exchange OTC market in China, which was implemented on January 1, 2013. One month after the implementation (on January 31, 2013), the overall supervision system for the “New Tertiary Board” – “Interim Measures for the Administration of National Equities Exchange and Quotations Co., Ltd”, was issued. The institutional construction of the OTC market has entered a substantial stage.

Background

In general, the main board of the securities market is dominated by large enterprises.

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The “Secondary Board”, or Chinext, in China is composed of smaller, mainly hi-tech enterprises. Many SMEs are not listed in the securities exchange but trade over the counter (the OCT market), known as the Tertiary Board. China’s tertiary board went through three phases: At the beginning of 1990s, in order to solve the circulation problems of the SOEs’ legal person or corporate shares, STAQ and NET were established, which were also known as the “tertiary board”. Originally, the New Tertiary Board referred to the equities transfer system with the securities companies as agencies formed by the listing of eligible enterprises in Zhongguancun Zone, in addition to the old tertiary broad. In August 2012, the New Tertiary Board was further expanded to include Tianjin Binhai, Wuhan Donghu and Shanghai Zhangjiang. At present, 347 companies were listed, among which 147 companies were listed in 2013. 44 directional issuing were carried out and 0.69 billion RMB was raised. At present, the formal name of the New Tertiary Board is National Equities Exchange and Quotations, which is run by National Equities Exchange and Quotations Co., Ltd.

**Perspectives**

At present, the capital market in China is becoming more and more mature – increasingly mature large enterprises occupy the main board, more innovation-based new enterprises dominate the secondary board and more SMEs are seeking financing channels in the OTC market. In recent years, the supervision and administration department has continued to expand the financing system. The New Tertiary Board in China has become the main OTC market vigorously promoted by CSRS, and will make great progress in scale and the quantity of listed companies in next few years.

As to companies that cannot obtain financing through IPO, the New Tertiary Board can function well as a good alternative mechanism. The board transfer mechanism between the new tertiary broad, the main board and the GEM will also create conditions for listed companies in the New Tertiary Board to have better access to the capital market.

Regarding trading, *Interim Measures for the Administration of National Equities Exchange and Quotations Co., Ltd* clearly identifies the Market Maker (MM) System to be a choice for the trading system, which is expected to greatly enhance the vitality of trading.

**Problems**

*Cost of listing: according to conservative estimation in the industry, the expenditure*
in the first year for a listed company is above 1.5 million RMB and there are expenditures in the following years. Although the cost is comparatively low compared to IPO, it does exert pressure on SMEs and micro businesses.

Information disclosure and supervision: At the time when problems in the supervision and administration of the main board in China still frequently occur, whether the New Tertiary Board, as the OTC market, can successfully establish strict and efficient self-discipline supervision and administrative supervision still remains a question.

Liquidity: SMEs, which in general have few shareholders, are reluctant to sell equity, thus limiting liquidity of the New Tertiary Board. Reducing regulation in restricted stocks could increase liquidity.

Other local trading places

At present, different places in China are all keen on starting and developing the OTC trading system in their local areas. Shanghai opened Shanghai Equity Exchange in February 2012. Those trading places mainly focus on the stock listings of non-listed public companies and have many similarities with the New Tertiary Board in functions and trading mode. However, they don’t usually have restrictions on zones and industries.

Source: Shanghai DeBund Law Offices, Securities Times

2.1.3.2 Developing and normalizing the bond market

Direction and Progress of Reform

The development of the bond market in China is hindered by the different types of bonds traded in different and disperse markets, supervised and administrated by different institutions. 4

Since the market mechanism of the banking system in China is weak, credit resources overwhelmingly inclined to SOEs and medium and large enterprises. The direct financing market is small and prefers equities to debts. Thus, the financing problems of SMEs still exist. The State Council issued the Guiding Opinions on the Financial Support for Economic

4 The latest report from the central bank shows that progress has been made in the coordination of regulatory commissions.
Restructuring, Transformation and Upgrading to expand the financing channels and services for micro, small and medium enterprises and advises on how financial resources should be integrated to support their development. SMEs private bonds were initiated in June 2012.

SMEs private placement bonds financing takes place at a fast pace. Since no approval is needed, the bond can be issued after filing for record in the exchange. At present, the period for a private placement bond of a SME can be shortened to one month. In fact, Shanghai Exchange and Shenzhen Exchange have been actively promoting the issue of private placement bond of SMEs, and all the procedures have been greatly simplified. Since May 22, 2012, from the issue of the pilot program of SMEs private placement bonds to the actual issuing of the first small and medium enterprise private placement bonds, the time is shorter than 20 days.

2.1.3 Inclusive finance

Reform Direction and Progress

The core of inclusive finance is to provide financing services for everyone. The government is gradually developing a structure of personal credits, and supporting new financial products and channels such as P2P loan, crowd funding and internet financing. In recent years, a large number of micro financing companies have appeared in China, which have provided services to 400,000 SMEs who cannot obtain enough funding from state-owned banks, and thus a new industry in parallel with large banks came into being.

The rapid development of P2P can fill in the gap in the capital supply and demand market, make up for the flaws of traditional financial institutions, and achieve the vision of inclusive finance, which is favored by the people and won attention from the government. Liu Shiyu, Deputy Governor of the PBC attended the “2013 Internet Finance Forum” on December 4, 2013 and publicly stated “to encourage the development of internet finance and business innovation”. Overall, the market potential of P2P is great and the development trend is promising.

Figure 3 Explosion of internet finance in 2013
2.2 Liberation of the Prices and Flows of Financial Resources

Direction and Progress of Reforms

For a long time the price and flow of financial resources in China were controlled by administrative methods. The low efficiency in resource allocation causes huge economic waste. In order to change this situation, reforms will strive to improve the mechanism for market-based RMB exchange rate formation, accelerate interest-rate liberalization, and improve the national debt yield curve that reflects the relationship between market supply and demand. China will promote the opening of the capital market, raise the convertibility of cross-border capital and financial transactions in an orderly way, establish and improve a management system of foreign debt and capital flow within the framework of macro-management, and accelerate the realization of RMB capital account convertibility.

2.2.1 Market-oriented interest rate reform
Reform Direction and Process

Under the condition of market-oriented interest rate, if market competition is sufficient, any market participant cannot decide the interest rate unilaterally. A shift to market-based interest rates will accelerate the deepening of the banking industry reform in China, which can facilitate the overall market competition of the banking industry, allocate capital more effectively through market demands, and better serve the real economy.

The market-oriented interest rate reform was started in 1996. The whole process can be divided into three phases: from 1996 to 1999, the market-oriented reform was basically completed in the capital market and the bond market. From 2000 to 2004, the market-based reform was completed in the foreign currency market. From 2004 until today (the reform was actually initiated in 1998, but the comprehensive reform began in 2004), the market-oriented RMB deposit and loan interest rate reform has been the center of attention. Since 2012, the market-based RMB deposit and loan interest rate reform was accelerated.

In 2012, PBOC lowered its restriction on lending rates, which previously had a floor of 90% was reduced to 70% of the PBOC benchmark rate. On July 20th in 2013, the PBOC ended all restrictions on lending rates, and allowed partial marketization of RMB interest rate. Meanwhile, the control over discount rates will be removed, and financial institutions shall independently determine discount rates. This policy adjustment can guide the market to determine the interest rate by reference to SHIBOR (Shanghai Interbank Offered Rate) guided by the market, but not the benchmark interest of bank loan. This will benefit the shift from a ‘direct market intervention’ approach to a ‘short-term lending rate control’ led approach, which is widely undertaken by developed countries, in regulating market liquidity by China’s central bank (which is the People’s Bank of China or PBoC).^5^

In the next phase, speeding up the marketization of deposit interest rates will become the center of attention.

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^5^ SHIBOR as a lending rate is now prevalently used in commercial papers market, the repo market, debt capital as well as financial derivatives markets. It is gradually becoming a key interest rate in the Chinese financial market while an industry benchmark curve of lending rates is formed by SHIBOR, central bank bill rates and the Treasury bill rates.
Possible Impact and Effects

Gradually removing the government’s control on interest rate will help the market to play a more important role in capital distribution so that capital can flow into the most active economic activities. It will also stop interest rates differentials to be the main source of profit for Chinese commercial banks. Higher bank deposit rate will help families to obtain higher consumption ability, and higher loan interest rate will lower excessive investment. This measure will facilitate the economy to become more consumption oriented.

2.2.2. Marketisation of RMB Interest Rate and Internationalisation of RMB

The marketization of RMB interest rate will directly impact on RMB interest rate and the process of capital accounts conversion.

The execution of China’s current exchange rate regime is based on: “market-demand led, adjustment based on reference to a basket of currencies, and a managed floating exchange rate system”. Since the reform of China’s RMB exchange rate market mechanism on 21 July 2005, it has gradually formed the foreign exchange market price discovery, enhanced RMB exchange rate autonomy and promoted the internationalisation of RMB. Chinese foreign exchange management is gradually reducing administrative controls by the government, and gradually eliminating differences in treatment between: domestic and foreign enterprises; state-owned and private enterprises; and institutions and individuals.

In 2012, total trade of RMB increase four-fold to 2.1 trillion yuan, accounting for about 9% of China’s total trade in 2011.

Zhou Xiaochuan recently said in a speech that perfecting marketization of RMB exchange rate entails enhancing the role of market demand in determining foreign exchange market equilibrium while reducing the usual intervention by the central bank in foreign exchange market. Similarly, promoting market-oriented interest rate reform entails improving the marketization, pricing and quoting mechanisms of deposit interest rate on the one hand, and improving central bank’s interest rate transmission mechanism on the other.

2.2.3 Convertibility of RMB Capital Account Items
Reform Direction and Progress

In order to achieve the convertibility of RMB capital items:

1. First, cross broader capital flow management method shall change from focusing on administrative approval to monitoring analysis, from focusing on micro-management to precautionous macro-management which can greatly facilitate the investment and financing for internalization of Chinese enterprises, and the provision of RMB and foreign currency credit and financing guaranteed by domestic enterprises to entities abroad.

2. Second, the convertibility of cross-broader capital and financial transactions will be gradually increased in an orderly way to promote the two-way openness of the capital market. When the conditions are mature, the qualification and quota examination approval can be extended to eligible domestic investors and overseas institution investors, which will enjoy the increased convenience brought by the change.

3. Finally, an interconnection mechanism of the stock markets inside and outside of China will be established, and gradually eligible overseas companies will be allowed to issue stocks in the capital market in China to expand the investment channels for Chinese people. Once the relevant administrative structure is set up, qualification limitations on overseas institutions to issue RMB bonds will be relaxed. The convertibility of individual capital account transactions will be promoted along with future increases in the convertible convenience degree for direct investment, direct investor liquidation and credit, and advancement of the convertibility of Financial Derivative Instruments under the premise of administration.

Potential Impact

It is expected that in 2020, the trade amount settled in RMB will be 4 times of what it is now and reach 3 trillion USD. RMB will become the 4th largest payment currency in the world, and occupy 3% in the total current payment in the world. In 2020, the daily RMB trading amount is expected to reach 500 billion RMB.

The two-way openness of the capital market means that approval of QFII and RQFII will be sped up under the current system framework. After the reform of the new stock issuing system, private enterprises that are listed will also enjoy national treatment. Meanwhile,

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6. At present, it is demonstrated in reform measures to further expand ODII and QFII entity qualifications and increase investment.
financial system designs including international board and domestic offshore finance mechanism will be put on the agenda.

In the long term, two-way cross-border capital flow, technology flow and talents flow will become more and more convenient and the channels will be more varied. More overseas investment can participate in the domestic market in China at a deeper level. Domestic capital in China, either of individuals or enterprises, will have various choices in the domestic market as well as in the international capital market.

2.3 Financial risk control and supervision

As reform of the finance industry and wider financial reforms advance gradually, China also faces more complicated challenges in the context of financial risk control and supervision of the finance industry. In order to meet new challenges, the development of the financial supervision system will also need to advance. Financial risk control and supervision in this context has the following general objectives: implementing finance supervision reform measures and robust standard; improving supervision and coordination mechanism, defining the financial supervision duties and risk disposal responsibilities of the central government and local governmental agencies; establishing the deposit insurance system, and improving the market based exit mechanism for financial institutions; strengthening infrastructure construction for finance, and ensure the safe and effective operation and overall stability of the finance market.

2.3.1 Finance Regulatory Coordination

Reform direction and progress

At present, the finance industry in China implements “separated operation and separated supervision.” It divides financial institutions and financial markets into three sectors: banking, securities and insurance. A professional supervision institution is established in each sector. They are the People’s Bank of China (PBC), China Securities Regulatory Commission (CSRC) and China Insurance Regulatory Commission (CIRC). However, operational divisions of financial institutions in China are blurring – as more innovative financial products appear, and their categorization is more and more difficult to identify. The separated supervision system in China is failing to keep up with this new reality. The separate regulatory agencies often fail to communicate with each other or cooperate. Therefore, the reform of the finance supervision system in China is inevitable and the supervision over cross-sector operation in the finance industry cannot be ignored. Regarding
the Inter-Ministerial Joint Meeting for Financial Regulation and Coordination, Zhou Xiaochuan proposed to focus on the coordination between the monetary policy and the financial supervision policy, the cross-over financial product and the cross-market financial innovation to better share financial information and coordinate supervision to reduce duplication and gaps.  

In August 2013, the State Council agreed in written reply to the Inter-Ministerial Joint Meeting for Financial Regulation and Coordination that the Joint Meeting will be led by the PBC and members from CBRC, CSRC, CIRC, State Administration of Foreign Exchange (SAFE) will participate to strengthen communication and coordination between regulatory agencies.

Next steps include strengthening the communication and cooperation among the different departments, learning from international experience and achieving the transition of the “institutional” supervision model to “functional” supervision model.

2.3.2 Deposit insurance system

Reform direction and progress

At present, China lacks exit mechanisms in the financial market, particularly in relation to its commercial banks. If you put money into a bank, it means that you put it in a safe box, because the government will give implicit guarantees for the safety of deposit. On the surface, the implicit guarantee is good for the safety of the assets of the depositor. However, the relationship of the “protector and protected” between government and the banks means that in practice, the government cannot afford to let the banks become independent decision makers. As a result, it is inevitable that the referee of the market i.e. the government has to directly compete in the market. Furthermore, the large number of investors (depositors) are not able to build up a real understanding of risks associated with real assets management, and a mature, orderly and organic financial market cannot be established.

More specifically, the current priorities are: improving the countercyclical capital requirements, and additional capital requirements of important banks, bringing in new supervision regulations of international banking fluidity and leverage ratio, refining the classification standards for financial institutions, unifying supervision policies, reducing regulatory arbitrage, and filling the supervision gap. Reform should clarify the supervision duties and rules over overlapping financial business, financial holding companies and increase the pertinence and effectiveness of supervision.
Reforms are now underway to establish an exit mechanism for financial institutions. The main contents of the reform include: establishing a sound deposit insurance system, speeding up the legislation of the deposit insurance, issuing deposit insurance provisions at the right time, identifying the basic functions and organization models of the deposit insurance system. It also aims at further improving the protection funds for securities investors, the guarantee funds for securities investors, and the insurance granter funds management system, and formulating Guarantee Funds Regulations for Securities Investors; researching and drafting Insurance Company Risk Disposal Regulations; establishing a financial institution bankruptcy legal system suitable to the national conditions of China; standardizing the market exit procedure for financial institutions, and strengthening the effective connection between the exit of the administrative act and judicial bankruptcy.8

**Potential Impact**

Following the establishment of the complete deposit insurance system, when a financial institution nearly goes bankrupt or went bankrupt, the deposit insurance institution can use deposit insurance funds to make payments to depositors and establish a problem disposal department to play the role in protecting the interests of the depositors and maintaining financial stability. Compared with financial institutions directly subsidized by the government, the advantages of the deposit insurance system lies in the reasonable sharing of the financial losses by the market, shareholders and depositors when the financial institution goes bankrupt through establishing market based risk compensation mechanisms.

**2.3.3 Regional coordination of financial supervision**

Reforms will clarify the supervision and administration duties of the local governments with regards to local financial institutions and the financial market. They will also clarify the responsibilities of the local governments in local financial risk disposal, strengthening daily supervision and reducing administrative intervention, increasing the attack on illegal financial activities, and effectively coping with the emergencies in the financial industry in its jurisdiction, and improving the local financial ecosystem.

8 Besides, the deposit insurance system has to cover all the deposit financial institution. Reform will also implement priority claims and the differential rate mechanism based on risks, establish advanced funds, collect and examine necessary information, connect previous basic requirements such as risk disposal information collection with the current financial stability mechanism to prevent and reduce financial risks to maintain financial stability.
2.4 Next 10 years

Over the next 10 years the central bank intends to continue the program of reform and will “adhere to the reform direction of market-based allocation of financial resources, the coordinated development of innovation and supervision, firmly grasp the requirements of the real economy in the financial service, and pay attention to the protection of the interests of the market participants”. As to the development of the banking industry in China in the next 10 years, the overall focus of the CBRC will include: carry out in-depth analysis of the direction of banking reform as part of the overall financial market structure reform; identify difficulties and bottlenecks in the reform. It also needs to set the objectives for banking reform, implement reform measures and robust standard of financial supervision, advance the internal and external openness of the banking industry, further improve the risk control system of the banks, address the fragmented banking supervision system, and promote the market-based exit mechanism for financial institutions and better exert the decisive function of the market in allocating financial resources to enhance the role of financial sector in servicing the real economy, preventing financial risk and protecting the interest of consumers.

CIRC is researching and formulating the general plan for the insurance industry to implement the spirit of the 3rd Plenary Session of 18th CPC Central Committee. The supervision department will formulate concrete plans for catastrophe insurance, agricultural insurance, health and endowment insurance, improve the dispersion system for major disasters through insurance economic compensation mechanism, develop agriculture risk management systems, vigorously develop commercial health and endowment insurance and provide a variety of insurance services for rural and urban residents.

At the same time, the bond market will be further developed and regulated. Privately raised bonds from small and medium companies will be launched, and steps taken to extend the current size of the privately raised bonds will continue.
3. Financial reform and economic development

3.1 China’s economy needs green transition

Since 1978, China has transformed from a relatively poor developing to become the second largest global economic entity after the U.S., with an average of 10% GDP growth increase per year. GDP has increased 14 times in 29 years from 1978 to 2007, with an average of 9.8% increase per year (Figure 9). China’s industrial gross output has increased 23 times by 11.6% in average per year.

Figure 4 Annual Real GDP Growth Rate: China and the World (1980-2009)

However, as the World Bank’s report in “China 2030: Building a Modern, Harmonious, and Creative Society” highlighted: China needs to urgently transformed its method of development because:

- the traditional growth pattern has brought high carbon emissions, high resource consumption and environment disruption, and the imbalances in domestic and international economy, society and regions;
- the potential growth rate is expected to slow down in the next few years and China therefore needs to find a new driver for growth that is based on innovation and higher value-added production; and
• with increasing income, people in China are increasingly demanding a higher standard of welfare, a cleaner environment and a better quality of life.

Therefore, China needs to undertake further reform with green and low carbon development forming a crucial part. The concept of low carbon development must also form an integral part of the policies for overcoming future risks and finding a better and stronger growth method.

**Figure 5 Per Capita GDP And Per Capita Energy Consumption in China**

Translation:
Unit: RMB, standard coal per kilo
Blue line: GDP: per capita (China); red line: Energy consumption: per capita: living consumption (China)
Source: CEIC Database
Figure 6 Carbon Dioxide Emission of the World Main Economy Entities: Annual Emission and Cumulative Emission


Table 2 Proportion of the World Six Largest Economic Entities’ Carbon Dioxide Emission

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>8.98</td>
<td>5.65</td>
<td>8.08</td>
<td>11.29</td>
<td>19.16</td>
<td>25.34</td>
<td>27.32</td>
</tr>
<tr>
<td>EU</td>
<td>15.87</td>
<td>15.09</td>
<td>13.59</td>
<td>10.96</td>
<td>14.82</td>
<td>11.77</td>
<td>9.97</td>
</tr>
<tr>
<td>USA</td>
<td>33.68</td>
<td>31.18</td>
<td>25.32</td>
<td>22.67</td>
<td>21.75</td>
<td>19.76</td>
<td>16.44</td>
</tr>
<tr>
<td>Japan</td>
<td>2.47</td>
<td>4.96</td>
<td>4.71</td>
<td>4.76</td>
<td>4.55</td>
<td>3.79</td>
<td>2.82</td>
</tr>
<tr>
<td>Russia</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>9.26</td>
<td>5.74</td>
<td>5.28</td>
<td>4.71</td>
</tr>
<tr>
<td>India</td>
<td>1.28</td>
<td>1.30</td>
<td>1.79</td>
<td>3.01</td>
<td>4.14</td>
<td>5.28</td>
<td>7.88</td>
</tr>
<tr>
<td>Total</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>70.16</td>
<td>71.23</td>
<td>69.14</td>
</tr>
</tbody>
</table>

Note: a. Means the data from 1992; the EU has 11 counties from 1960 to 1990, and 25 from 2005 to 2030.
Table 3 Forecast of the Primary Energy Consumption in China (Oil Equivalent: Megaton)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2015a</th>
<th>2015b</th>
<th>2030a</th>
<th>2030b</th>
<th>Average annual growth from 2005 to 2030a</th>
<th>Average annual growth from 2005 to 2030b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>1 094</td>
<td>1 766</td>
<td>2 075</td>
<td>1 861</td>
<td>3 003</td>
<td>2.1%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Oil</td>
<td>327</td>
<td>517</td>
<td>625</td>
<td>652</td>
<td>1 048</td>
<td>2.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Gas</td>
<td>42</td>
<td>126</td>
<td>125</td>
<td>225</td>
<td>284</td>
<td>6.9%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Nuclear energy</td>
<td>14</td>
<td>44</td>
<td>34</td>
<td>120</td>
<td>82</td>
<td>9.0%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Hydroelectricity</td>
<td>34</td>
<td>70</td>
<td>63</td>
<td>99</td>
<td>91</td>
<td>4.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Bioenergy &amp; waste</td>
<td>224</td>
<td>218</td>
<td>229</td>
<td>251</td>
<td>219</td>
<td>0.5%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Other renewable resources</td>
<td>13</td>
<td>11</td>
<td>50</td>
<td>38</td>
<td>0.0%</td>
<td>0.0%</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1 735</td>
<td>2 754</td>
<td>3 163</td>
<td>3 257</td>
<td>4 765</td>
<td>2.6%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Source: IEA, World Energy Outlook 2007

Based on the Report on Method Research of the Low-Carbon Development (2009) by the Development Research Center, the State Council, China needs to do the following to achieve low-carbon economic development:

- Boost energy saving and efficiency and decrease its energy consumption per unit of GDP, striving for a 75%-85% decrease by 2050, with 3-3.5% reduction annually. The reduction of energy intensity would come from 3 sources: First, industrial adjustment and upgrading that sees the proportion of secondary industry dropping...
to 30% in 2050 from 50% now; the dominance of heavy chemical industry will be taken over by high-processing and knowledge-incentive industry; the value-added rate will increase to 35-40% from 25% now. Second, technology advancement including the spread of mature technology and the exploration and application of new technologies; physical energy efficiency to attain the national advanced level in 2020 and international leading level in 2030; comprehensive energy efficiency to attain the national advanced level in 2030 and international leading level in 2050. Third, development of low-carbon cities and establishment of low carbon consumption pattern to reduce carbon emission from source;

- Optimise energy structure and develop low-carbon energy. Carbon emission per-unit energy consumption should drop by 35-50% by 2050. Phase in changes to the unitary energy structure and improve the proportion of high-quality energy in 2020; more than half of new energy needs to be met by low carbon energy sources by 2030 and all new energy demand to be met by clean energy by 2050, with deployment of carbon capture and storage (CCS) expanded after 2030;

- Enhance substantially carbon productivity, with a per-unit GDP emission dropping by 85-90% - a 10 fold increase of China’s carbon productivity, with annual carbon intensity reduction of 4-5% per year. In addition, land use needs to be optimised and improve carbon sequestration capacity. 500-600 million tonnes of carbon sinks can be increased through afforestation and land management; and

- In relation to low-carbon technology research and commercialization, large-scale deployment of mature technology and R&D and demonstration of new technology by 2015. By 2015-2030, strive to lead internationally in the commercialization of new technologies that are at demonstration stage, such as third generation nuclear power, electric cars and Integrated Gasification Combined Cycle (IGCC) so that low-carbon industry becomes a significant economic growth source in China and is internationally competitive. Seek to play a world-leading role in mass application of the 4th generation nuclear power, solar power and the 3rd generation bio-energy technology from 2030 to 2050.

### Column 4 China’s Green Low-Carbon Vision in 2030

- “Green” will become an important source of economic growth. The share of green products and green services in China’s GDP will be among the highest in the world.
- China will become a world leader in key green technologies and business models and will be an important destination for commercializing many globally
important low-carbon technologies.

- China will have made real gains in low-carbon development. The correlation between growth and carbon emissions will be significantly weakened, and carbon emissions will have peaked.

- China will have adopted some of the world’s most stringent and wide-reaching environmental standards, penetrating all sectors of the economy and society.

- Similarly, China will have established a resource-efficient society. Its resource efficiency through all phases of supply, consumption, and recycling will be among the highest in the world.

- China’s cities will have low-carbon and smart transportation systems and buildings. They will be livable by international standards.

- The quality of air, water, and natural ecosystems will have improved dramatically. The recovery of the natural environment will significantly improve both public health and natural assets. Air quality, water and natural ecosystem will be improved substantially. The restoration of natural environment will advance the public health and natural property level to a large extent.

- Low-carbon living will become widespread and will involve all aspects of people’s lives, from housing, to transportation, to food and to other consumer items.

- The risks posed by climate change will be addressed through proactive planning across all key sectors, including water, agriculture, urban, and health.


The next 5 to 10 years will be a crucial period in China’s development. Choices must be made between continuing with the current energy and resource intensive economy where China tries to catch up with the developed nations by following their previous path to development, or finding a new path and turning to a highly-efficient, low-intensified material and energy, and creative low-carbon economy. If China wants to achieve the 2030 green low-carbon vision, and slow down carbon emissions after its peak, decisions will have to be made about how to relocate various resources. The questions are what function will finance play in this rearrangement and what connections are there between the financial reform and the deepening of China’s economic reform and the transformation in economic development patterns.
Figure 7 Which Emission Path Will China’s Development Take?

Note: Bubble size indicates average annual carbon dioxide emission


3.1 Financial Reform Serving Economy Transformation

Although the financial reform is significantly important in its own right, the main objective is never just on finance per se. The financial reform aims to allocate resources more efficiently through the financial channels, so that finance can better serve the real economy. That is to say, the ultimate goal of this reform is not the financial system itself, but the transformation and upgrading of economy as well as social development.

Since the financial crisis in 2008, the countercyclical growth of the financial system has played an irreplaceable role in China’s economic recovery. How should the financial sector be reformed to drive long-term healthy growth of the real economy?

3.1.1 Finance resources allocated by market

A lot of energy and resources are wasted directly and indirectly in China. Institutional boundaries are impeding the timely flows of resources, funds and talents to the right
sectors. China has gone from one extreme to another: from poverty and extreme shortage of capital, to abundance of capital that cannot find investable projects. Financial reforms must improve the ability of the market to allocate and drive resources where they are needed. This is important because China’s financial risks tend to concentrate in certain areas and investment channels through the capital market are still obstructed. The central bank, as the monetary policy maker, also needs a strong capital market system to transmit its policy signals.

The financial reform measures issued in 2013 are a further step towards the goal of marketization. All of the reforms, from the abolishment of loan interest rate control, the restarting of treasury bond futures trading, even the encouragement of private capital flowing into the financial field, aim for the market to better play its fundamental role in resource allocation. Many countries’ experience shows that only by sticking to market-oriented reform and further establishing a free financial system, can they disperse financial risks effectively and provide a powerful support for substantial economic transformation and development.

3.2.1 Financial resources pricing by market
The growth of China’s economy has been reliant on investment in the past 30 years. The implementation of interest rate control and credit rationing policy has effectively promoted investment-driven economic growth, which to a great extent promoted the infrastructure construction and development of China’s economy in the past. At the same time, however, the long-term low or even negative interest rate has led to a low reinvestment and fund utilization rate, which is one of the reasons for China’s economic huge waste. Low investment efficiency manifests itself in the low efficiency of investment conversion to economic output, while the economic low efficiency is an important factor in carbon emission, pollution and other related problems. If investment efficiency can be raised, less

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9 After 1995, the China’s capital output ratio has risen fast from 2 to 4, which means the marginal output fell by half. From the investment point of view, the investment rate has reached 50% of GDP in the past few years. Now China has put in more investment to attain the same GDP growth as Japan, Korea and Taiwan, which means China’s total factor productivity and capital marginal output are lower. Because of the large increase in investment, it is unavoidable that the consumption proportion drops in recent years in China. Source: David Dollar, former World Bank China and Mongolia director, and U.S. Department of the Treasury economic and financial envoy to China, “China's Rebalancing: Lessons from East Asian economic history”, Brief Report, Issue 035, 2013(No.1067 in total).
resources will be consumed in producing products and services of the same quality and quantity. If products and services, made with less resources and causing less emissions, can bring more regional and global public goods (such as the regional environmental protection and management, reduce global warming tends), this represents a higher level of welfare and economic development of the whole society.

China’s economy is now converting from pursuing scale to efficiency. As a base price for financial resources, the interest rate must shake off its regulation. Interest rate liberalization is good for optimizing capital allocation, raising fund utilization efficiency, and can promote China’s economic restructuring and conversion:

- according to McKinnon & Shaw’s “Financial Deepening” theory and the interest rate liberalization experience in most developing countries, in promoting investment efficiency, interest rate liberalization can keep the practical deposit interest rate moderately positive, which will benefit the deposit and subsequently the growth in investment and economy indirectly;
- at the same time, interest rate liberalization will lead the capital investment to businesses and enterprises with sustainable development capacity and emerging technology, and restrain the growth of extensive investment pattern, so as to improve the economic general efficiency and the financing and development in SMEs, promote the restructuring and accelerate the China’s economic marketization; and
- interest rate liberalization can also increase the actual deposit and the rate of return on investment, improve household consumption and promote the conversion to a domestic demand led economic growth.

### 3.2.2 Resource flow oriented by market

A significant step in deepening the reform of economic system is to make clear “the market’s decisive effect in resource allocation”. Presently, the direct and indirect wasting of energy and resource consumption is severe in China.

- Housing construction: China has some of the highest rates of vacant properties in the world. Excluding houses demolished before the end of their life span, according to the Chinese Academy of Social Sciences social policy research center, there were 30 million houses in vacancy throughout the country in 2010, with a vacancy rate of 25%. This contrasts to a rate of 10% in developed countries. That is an additional 2
billion square meters in wasted buildings. 50 kilos steel and 200 kilos cement are needed per square meter for constructing city residences, which suggests 153 million tons standard coal are wasted in producing the steel and cement. Comparatively, during the 11th 5-year plan, 182 million square meters residential housed has completed the energy-saving transformation, which saves 200 million tons of standard coal annually.

- Urban construction: according to economist Li Kaifa, the mass demolition and construction in China’s first-tier cities has resulted in a loss of 10% of GDP. 10 In 2009, 11 cities (with more than 400 billion Yuan GDP respectively) had a total of 8075 billion Yuan GDP (24% of the national GDP), which means 807.5 billion Yuan of lost GDP. 10,000 Yuan GDP consumes 0.2 tonnes of steel and 0.48 tonnes of cement; 5.5 million tons of standard coal was wasted in 2009 in mass demolition and construction.

- Grain: China’s final food consumption (restaurants, schools, canteens, and households) wastes 50 million tons of standard coal per year (Zheng Chuguang, 2011-03-05), which takes up 9.4% of the grain output in 2009. Calculating diesel, electricity and fertilizer used in agriculture production and irrigation in 2009, 1 tonne of grain needs 0.25 tonnes of standard coal, so 50 million tonnes of grain is equivalent to 1.25 million tonnes of coal.

The facts above are drawn from available data, which is incomplete and are therefore likely to represent only the tip of the iceberg in terms of China’s waste of resources.

In economic operation, failure in signaling mechanisms for resource and price will lead to inefficient resource flow and various price distortion. Investment decisions based on the distorted prices will further worsen price distortion, and expand the inefficiency of economic operation that leads to a vicious circle. China’s physical energy efficiency is now approaching that of America, with only a 2-3% gap; although its electricity generating efficiency has exceeded America, per unit GDP energy consumption is still 3.6 times bigger, and far higher that America’s even calculated on the basis of purchasing power parity. The enormous difference may find its explanation only in the severely large amount of lost GDP. Today the potential in technological progress has been developed in many fields, so China may find the answer to address the energy consumption problems in a deeper layer of the economic operation.

10 Li Kaifa, Oriental Outlook, 2010, No.23
3.3 Financial reform promoting Green development

Even though the “financial reform” may appear to have no direct relationship with “low carbon development”, they are in fact closely connected. Any kind of economic activity will tend to consume some form of energy. Therefore, a nation’s overall energy efficiency can best represent its economic operation efficiency: the energy wasted suggests the sum of invalid economic activities, which in turn shows the degree of potential in converting “cost” to “benefit” by means of “saving”. Consequently, low-carbon development in China needs flexible and effective finance, so as to realize the rational and effective allocation of the economic resources. The efficiency of the China’s overall economic reform depends largely on the financial system’s transformation towards a more flexible and effective way within its prescribed time.

Market incentives are the fundamental driving power to low carbon development – a working market mechanism is the pre-condition to realising low carbon development. The most pressing market-oriented reforms include accelerating reform in commodities market, reducing negative environmental externalities and maintaining long-term sustainability goals. The great energy-conserving and emission-reducing chances in conventional and emerging industries will also bring unexpected opportunities for financial institutions’ growth.

The first step must be for traditional industries to go through a green transformation: reducing energy consumption and increasing profit by renovating routine techniques and management methods. Although this transformation in traditional industries is not as exciting and revolutionarily effective as in the frontier green technology, with the help of information and finance, a wealth of energy-efficiency-raising investment can save cost and give high economic return. And this increase in efficiency can promote economic growth.

After this must come the expansion of emerging green industry. Clean energy such as solar, wind energy, as well as its upstream-downstream industries like the relevant equipment manufacturing and electric vehicles are included in this emerging green industry. Broadly speaking, every new market and incentive supported by innovation and research may stimulate the emergence and export of low-carbon, energy-saving and environment-friendly technologies and products. Moreover, rising public awareness will contribute to increased consumption of green products. The investment and financing opportunities arising out of the growth of these green industries are enormous.
In addition, the expansion of and switch to service industries, especially the emerging green services, cannot be neglected. The increase of the proportion of service industry’s in the GDP not only helps to reduce carbon intensity of the economy, but also supports green development with its specialized service, such as, eco-compensation services, carbon trading, energy management, etc. The opportunities this switch will present for the financial industry lie not only in investment and financing chances, but in the exploitation of new financial products and services. Therefore, the financial industry should seize the chance and grow together with the next low carbon chapter of Chinese economic growth.

Financial reform presents the opportunity to form a new financial structure that simultaneously deals with triple challenges:

- increased efficiency in the allocation of public funding and increasing the role of private capital in driving investment;
- cleaner and lower-carbon investment; and
- sustaining economic growth through increasing scale and pace of investments and encouraging greater domestic consumption.

Figure 8 Financial Framework after Reform
4. **Financial reform and green investment and financing**

Once the active and positive role of financial reform in promoting China’s green development is established, a question naturally arises: in what specific aspects and ways can the financial reform drive the green development? In the transition of the Chinese economy, what contributions will the financial industry make, and correspondingly, will there be more and larger potentials and opportunities to be tapped and captured?

4.1 **Opportunities & challenges for the banking industry**

The PBC has stated that all large-scale commercial banks, joint stock commercial banks and local banks must, in future, make investment decisions based on business principles; government will not provide specific investment guidance except the two policy banks of Export & Import Bank of China (EIBP) and Agricultural Development Bank of China (ADBC). This policy change to allow the banks to have freedom to make independent decisions presents a big opportunity but also a challenge in the absence of policy guidance. On balance, we believe that it presents greater opportunities than risks in the predictable future, specifically in the following aspects:

4.1.1 **Participation of the Private Capital**

The private capital-oriented banking reform will drastically change the status quo whereby financial resources overwhelmingly favor the state-owned and large scale enterprises. The injection of private capital can direct capital not only away from repeated and inefficient investment “instructed” by administrative/semi-administrative decisions, but also to SMEs with financing credibility. This means more effective support can be provided to the development of technology-, innovation- and service-oriented companies.

Small- and medium-sized banks have lower proportions of shares owned by the state. Due to their regional characteristics and close ties to local governments, these banks have a good knowledge of the local industrial policy as well as the credit and business operations of their local clients, which allows them to reduce credit risks in a more convenient, timely, efficient and thorough fashion. Meanwhile, compared with large banks, small- and medium-sized banks with high proportions of private capital are less bureaucratic and can make decisions faster. Also, internal approval process of these banks is faster and more efficient than that of
the large banks. So long as small- and medium-sized banks utilize their competitive advantages to the full, banking reform and the green transition of the economy will present opportunity for these banks to transform and increase their competitiveness.

However, there is a need to ensure that the growth of rural banking sector does not bring “heavily polluted” investment to the rural area, in particular the transfer of low efficiency and highly polluting production processes from urban areas that will lock them in a high-carbon pathway.

4.1.2 Interest rate liberalization

When investment returns are represented by interest rates without sufficient elasticity and response to the supply and demand, capital will automatically favour low risk investments, hence the current concentration of investment in projects of SOEs and large- and middle-sized enterprises. This leads to redundant capacities in some industries as well as financial resources being wasted through repeated excessive investments. Hard labour, consumption of material resources and emissions of carbon and other pollutants have not produced the corresponding wellbeing, but resulted in the waste of economic resources and low efficiency of overall economy.

With the liberalization of the interest rate, more capital will be directed more easily to investment in the “correct” companies or “correct” projects. All commercial banks are already keen to take advantage of China’s green economy transition. Many of these banks have already taken active preparatory steps such as internal categorization of loans, development of new departments, product design, enhancing human expertise, approval process and creation of incentives. The CBRC has also introduced the Green Credit Guidelines in February 2012.

The liberalization of interest rate alone cannot solve all the finance related problems in the green development of China, the strong progress of which can only be achieved with an integrated package of policies, measures and other complementary elements.


http://roll.sohu.com/20120411/n340277373.shtml
4.1.3 Green Functions of Banks & Green Banks

The ‘green’ functions of banks apply the ‘greening’ of both the banks’ internal operation and their investment activities. Like any other industry, the operation of banks also consumes energy and emits carbon dioxide. More importantly, banks’ decisions on loan and investment can directly affect the energy consumption and carbon emissions of all industries and projects.

Green credits involve not only carrying out the due diligence as would be required by traditional loans, but also require the bank to obtain more information, other than the standard financial report, about the client/project, such as: current and future status of the production technology; the current status, reliability and prospect of technology applied in energy conservation and reduction emission; interdependent relationships among production technology, energy conservation technology and business operation. It not only poses challenges to banking professionals with regard to knowledge, scope and competence, but also to the banks in terms of incentive mechanism, criteria of assessment, product development, departmentalization and strategy, interaction between the Head Office, branches and sub-branches, approval procedure, risk control and so on.

Green credits have a promising future and provide the opportunity for banks to expand their range of services, integrate and improve professional skills so that they can be positioned to offer more specialized and differentiated financial services. Several far-sighted domestic banks such as Industrial Bank Co and Shanghai Pudong Development Bank (SPDB) have started from scratch and succeeded in building specialized internal mechanisms, developing green credit product team, launching featured services, and establishing sizable green credit portfolios.
explored green credits aggressively, and during the past 5 years, has released green credits of more than 300 billion RMB. In 2012, SPDB launched the “Green is the Future-Green Finance Comprehensive Services Program” 2.0. Acclaimed as one that offers the most comprehensive set of green credit products and services in the banking industry, its portfolio covers both the upstream and downstream of the low carbon industrial chain and consists of “5 major segments and 10 innovative products”.

The 5 segments include: energy efficiency financing (including industrial and building energy efficiency, specifically energy efficiency and comprehensive utilization of resources at the end of energy use), clean energy financing (utilization of renewable energy and new energy by energy suppliers), environmental financing (financial services for the environmental governance to reduce the emissions of chemical oxygen demand or COD, carbon dioxide, ammonia nitrogen), carbon finance (carbon emissions permit trading both at home and abroad in the future) and green equipment supply chain financing (green equipment manufacturers as well as their upstream-downstream industrial chain).


Support for EMC Financing Mechanism

As a new type of market mechanism to save energy, EMC service providers in the market today are mostly SMEs with light assets and limited equity fund. Under the traditional lending model, EMC mainly focuses on investment in equipment without valid guarantees or collaterals, making the business difficult to expand.

SPDB has taken the initiative to launch a series of innovative products like EMC Receivables Pledge Loan, Energy Contract Financing within the IFC loss-sharing mechanism and so on. The financing term runs up to five years, lowering the threshold and guarantee conditions for borrowers; in some cases, third-party guarantee and collateral is exempted. Normally, the banks will not provide loan when the parent company, borrowing company, and the project are located in different provinces, but SPDB considers it an opportunity to solve the difficult financing and guarantee problems for small and medium energy saving service providers.
Regarding the sensitive issue of financing cost for large- and medium-sized players, SPDB offers AFD Green Intermediate Credit & Loan at an interest rate no more than the benchmark rate. This innovative business model has enabled SPDB to satisfy the financing needs of energy conservation service providers. By the end of the first half of 2013, loans released for EMC have accumulated over 6 billion RMB.

**Strengthened Internal Management of Green Credits**

At the heart SPDB’s work on green credits is to continuously increase its capacity of following the trend of and professional knowledge on industries, and to increase its ability to manage risk, which is its core competitiveness in relation to its green credits business.

SPDB has established dedicated green credit teams both at the Head Office and branches, where a professional operation and vertical management link the HQ, branch and sub-branch so well that the green credit business has achieved rapid development. From 2008 to now, SPDB has organized the banking sector green credit seminars and trainings at least twice a year, where more than 4000 people including management, product managers, risk managers, compliance managers, and customer managers participated in the training. Currently, fundamental knowledge about green finance has become the requisite subject of qualification test for would-be customer manager at SPDB.

By cooperating with the World Bank, IFC, AFD and ADB, SPDB has incorporated the idea of sustainable development. Through conducting product innovation and implementation with the aid of foreign capital and technology, SPDB has greatly improved its professional competence in the field of energy conservation and environmental protection, and strengthened its control of the technical risk of green credits.

**Consistent Innovation of Financial Services to Serve the Real Economy**

From 2008 to today, green credits released by SPDB has totaled more than 30 billion RMB. Through years of effort in financial innovation to support energy conservation and emission reduction, SPDB has become ‘number one’ in 12 green finance categories nationwide, which helps to support the low carbon economy and serve the real economy.

According to the person in charge at SPDB, the development of green credit demonstrates SPDB’s commitment to performing its social responsibility by exploiting its financial advantages, as well as SPDB’s transitional effort to seek for differentiation and strengthen its core competency. In 2012, SPDB was awarded the national prize of “Advanced Group in 11th 5-Year-Plan for Energy Conservation and Emission Reduction”. In the future, SPDB will continue to work for the long-term goal of being China’s low carbon bank and carry on the financial innovation to serve the real economy, perform its social responsibility, and make
greater contributions to making China into a conservation-minded society with quality, efficient and professional low carbon financial services.

Sources: ifeng.com, SPDB

Through expanding business scope, a few banks who are early movers in green credits have realized that the concept of “green” has a broad meaning. Despite these initiatives, however, there is yet a true specialized bank for green investment. In the future, China may need to consider whether a public green investment bank, similar to the UK Green Investment Bank, is necessary to provide and leverage additional funding for low carbon transformation.

4.2 New role of foreign capital

4.2.1 Private foreign investment

As and when the capital accounts are totally opened up, foreign capital may be able to penetrate the Chinese economy to a much deeper depth than before, which will have an impact on domestic economy that so far is protected by the closed capital accounts. Competition will inevitably get fierce.

However, we must also understand: although the current financial reform will produce far-reaching and profound influence on almost every aspect of the market reform, influence still varies in terms of degree, speed and process for different products and services. Some traditional monopoly industries such as telecomm, energy, will still remain less open to the foreign capital or domestic private capital in the short term.

Foreign capital brings about more than just competition by entering a new sector. In fact, when entering a new market, many foreign investors initially choose to cooperate with institutions holding certain market shares for the purpose of complementing resources. Take the banking industry for example, foreign banks are cooperating with their domestic counterparts in new areas such as Basel III agreement and individual credit loan, promoting the service standard of the banking industry both directly and indirectly. A similar phenomena is expected to occur in other industries.

4.2.2 International finance organizations
Along with the development of Chinese economy and the increase of overall national power, many international aid organizations are now in the process of exiting China. Those who still stay in China have adjusted their strategy to cope with the new development – moving from the role of aid providers to partners; from solving development issues for China to joining effort with China to solve the global supply issues of products. Joint projects with China often include direct or indirect skill transfer, competence development and process transplant. These partnerships offer unique opportunities to aid low carbon development. An example of cooperation between China, its financial institutions and the World Bank is given below, which demonstrates how international funding is being used to drive energy saving and renewable energy projects.

**Column 6 World Bank and EMC in China**

The EMC cooperation between the World Bank and China are marked by 4 milestones.

The first milestone was achieved in 1996 when the World Bank introduced the concept of EMC to China for the first time. As a market concept, it was a critical change from the use of state subsidy and administrative command control then applied in China. The World Bank established three EMC companies during the 1st-phase project to introduce the idea and sow the seed in China.

During the implementation process of the 1st-phase, the most serious bottleneck confronted by EMC was the financing difficulty because most EMC providers were SMEs without assets for guarantee. Therefore, the World Bank launched the 2nd-phase projects for energy conservation in China, and set up a guarantee fund for EMC. Meanwhile, the World Bank also founded EMC Association in China. This could be considered as the second milestone.

The 2nd-phase guarantee value totaled 26 million USD, 22 million USD of which was used as the guarantee fund to back up EMC projects worth of 140 million USD at the leverage ratio of 1:7. Guarantee was offered to 42 EMC service providers, many of which received the first loan thanks to the guarantee. The total energy savings of the 2nd phase amounted to 273 million tons of standard coal equivalent.

Even with the guarantee, the energy saving enterprises still found it hard to be financed. The World Bank undertook to work with the Chinese banks. From 2008 to 2011, the World Bank allocated 400 million USD to EIBC, China Minsheng Banking Corp Ltd (CMBC), and Hua Xia Bank (HXB) for transfer-lending energy conservation projects of the industrial enterprises. These projects saved 1.7million tonnes of standard coal equivalent and reduce the emissions of carbon dioxide by 4.2 million tonnes annually. The leverage ratio was 1:4.
Through working on the projects, the local banks acquired confidence and competence for financing energy conservation, and changed from being ignorant about energy saving projects to actively looking for similar projects, conducting project assessment and considering energy conservation financing as their business. This is could be called the 3rd milestone.

In addition to on-going projects in Shandong, a low carbon urban project (building energy conservation) in Changning District, Shanghai has also got under way. The World Bank will provide $100 million from Sep 2013 to 2025 to SPDB and Bank of Shanghai (BOS) to conduct lending activities, which will also allocate 100 million USD as support fund to overcome the problem of tight risk control by Chinese banks, which attach importance to the credibility of and collateral provided by enterprises. The World Bank suggests the potential amount of energy saved to be used as collateral for energy saving service providers, which could be financed on the basis of investment and profit of a particular project rather than the company’s assets. The conceptual change from asset financing to project financing is the most drastic although project financing is already quite common abroad. In this project, the two managing banks already accepted the energy saving amount as collateral, which is a breakthrough.

In the past decade, the World Bank has invested nearly 2 billion USD in the Chinese energy sector, 90% of which has been spent on energy conservation and renewable energy. The World Bank is oriented to invest in strategic and new projects in China. China and the World Bank are no longer the aided and the aid giver, but cooperation partners learning from each other.

Source: Oriental Morning Post, Idea Carbon

4.3 Facilitating the Development of SMEs

SMEs account for more than 60% of GDP, and provide 80% of the urban employment. Compared with the large or state-owned enterprises, most of them operate on obsolete production technology and underperforming machinery with low efficiency and high consumptions of power and water, and they account for a large proportion of greenhouse gas emissions from energy consumption.
In recent years, China has achieved remarkable progress in promoting energy efficiency and emission reduction of greenhouse gas, but they are mainly realized through administrative orders and promulgation of laws and regulations by forcing the state-owned large- and medium-sized enterprises with high emissions to take reduction measures. Such policy is strong, forceful and quick to create notable effect. At the same time it also excludes large number of private-owned SMEs from the scene, hence hindering the significant breakthrough of emission reduction in China.

According to a research by ESD China In 2012, the significant role to be played by SMEs in low carbon transition of Chinese economy may go far beyond our imagination. The saving potentials of power consumption and energy cost are quite remarkable in SMEs. During the 12th FYP, the potential energy savings of SMEs in 8 big industries are estimated to be 229.27 million tonnes of standard coal equivalent, and the potential energy cost savings estimated to be around 446 billion RMB per year.

Investment opportunities are concentrated in a handful of industrial sectors. The potential energy savings in 8 key industries can account for 74% of the total savings of 35 industries. Moreover, the energy saving potential is evidently concentrated in three industries: chemical raw materials and chemical products manufacturing, ferrous metals smelting and rolling processing industry and non-metal mineral manufacturing. SMEs in these three industries can contribute approximately 174 million tonness of standard coal equivalent annually, accounting for 56% of the total potential energy savings of 35 industries.

Figure 9 Industrial Centralization of the Small and Medium Enterprises’ Energy Conservation Potentials (Annual)
Research also shows that the total energy consumption of SMEs are 2.5 times of large enterprises. However, large enterprises have long obtained disproportionate attention from the policy makers and implementers.

**Figure 10 Energy Consumption of Large, Middle, Small and Non-Industrial Enterprises (2010)**

The concentration of potential opportunities is a good sign for exploring and scaling up energy efficiency improvement of SMEs, which is a relatively new sector. The concentration of market opportunities in a few industries will allow market participants to focus on key sectors to avoid fragmentation and thus avoid the excessive initial cost and long-term interests being the only benefit.

### 4.4 The unfinished business of transportation and city infrastructure investment

The national objectives in the 12th FYP aim to cultivate the green industry in China to be global example of innovation and competition. In the next step, the state will play an active role in cultivating industries and encouraging private entities to compete. The priorities include the following aspects:

- eliminating the admission barrier for private capital and stimulating private investment. Urban infrastructure and service industry such as waste-water
treatment, waste treatment, pollution source control and so on have great potential. However, there are various barriers for the entry of private capital. Once the financing limitations on private capital investors are lifted and new capital resources are created, for example through the international climate regime, investment will grow rapidly;

- deepening the reform of the SOEs and eliminating the monopolistic exclusion for newcomers to better facilitate green technology innovation.
- The development of green infrastructure, infrastructure service and infrastructure construction, and the participation of private capital in this market is not an overnight process, further research and analysis is needed in this area.

4.5 Opportunities for innovators

4.5.1 New industry and new technology

When changes appear, so too do opportunities. The excessive concentration of various resources including financial resources in the “large and strong” enterprises in the traditional industries prevents the development of new industries. One solution to this problem is the creation of the New Tertiary Board.

Similarly, private equity (PE) and venture capital (VC) etc. will also produce similar results from a different angle. The main difference between them are in industries, regions, enterprise sizes and development. The impact of the equity investment on low carbon and climate friendly investment can be enhanced through relevant national industrial policies.

With the opening up of the bond market for Chinese companies, the bond market for enterprises has become one of the sources for financing green low carbon industry. The enterprise bond market, the support of which to SMEs is similar to the New Tertiary Board, can help innovative SMEs to obtain capital. Bond financing will greatly complement equity financing at the New Tertiary Board, promoting a balanced mix of ‘equity plus bond’.

The establishment of multi-channel, direct equity and bond investment and financing channels in the financial reform can actively encourage the development of green technologies and services, and eliminate financial mechanism barriers faced by private capital.

Last but not least, the development of new industries and new technologies will also bring new opportunities for the upgrading of the traditional industry. The discovery of low
efficiency in the current production and operation model in the traditional industry has spawned many innovations. For example, after it was discovered that the usual large data storage and management system in the banks need large power consumption, Cisco discovered a business opportunity and developed the “intelligent resources system”, which helps clients to monitor the power consumption of all Cisco products in operation. It is said that this system of Cisco can save 39,000 USD in electricity bills for a normal bank branch annually.

4.5.2 Special climate investment channel
There is still a huge potential for the growth of specialised climate financing and investment in China. There are two reasons: 1) In transition to the low carbon and green economy in China, the vast majority of low carbon investment opportunities are still waiting to be discovered; 2) A great deal of the existing investments can facilitate low carbon and green transformation. The climate bond outlined in Column 12 below is a good example of the potential that exists.

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**Column 7 Climate Bond**

According to the ‘Climate Change and Bonds’ published by Climate Bonds Initiative (CBI) and HSBC in July, 2013, in 2012, 260 institutions in the world issued 1200 climate related bonds in the world, the total amount of which reached 346 billion USD, which is nearly twice as estimated in 2012. 346 billion RMB worth of bonds are in 6 sectors, including transportation, resources, finance, construction and industry, agriculture and forestry as well waste and pollution control. Among them, the transportation occupied the lion share of 263 billion USD while energy accounted for 41 billion USD.

According to the understanding of CBI, climate bonds and other financial instruments with fixed interest model do not have fundamental differences. The problem they are solving is focusing on the climate change sector, and the issuing institutions are governments, banks and companies. CBI is indifferent to whether or not these bonds are called climate bonds. What CBI cares about is whether capital really flows into the green sector. Accordingly, by the end of 2013, China has issued 127 billion USD climate related bonds. In comparison, the UK issued 50 billion USD, France issued 41 billion USD and the USA issued 38 billion USD. Of China’s climate related bonds, 119 billion USD was issued in the transportation sector dominated by high-speed trail, as CBI and HSBC included bonds issued for railway construction. The reason was that they believed comparing with other transportation vehicles such as airplanes and diesel vehicles, rail transportation has relatively small carbon
footprint. As to the energy sector, China issued 7.5 billion USD of bonds, while Europe and the USA issued 9 billion USD and 8 billion USD respectively.

With proper policy guidance, the increasing awareness of climate change and associated low carbon topics will transform into conscious and active pursuit of relevant opportunities, and thus a transformation from theoretical discussion to concrete action.

China’s own carbon trading mechanism also has developed from the stage where China depended on overseas carbon trading market to simply sell carbon sinks to a stage where China’s own exchange and trading platforms have been established, bringing in transaction items such as carbon dioxide emission target and voluntary energy saving volume. A new market is growing.

Column 8 Carbon Trade Mechanism Development in China

Collapse of the international carbon market

The largest demand in the international carbon market has come from the purchase of CERs under the clean development mechanism (CDM) under the European Union Emission Trading Scheme (EUETS). However, on 12 December 2012, the market price of CER dropped to 31 euro cents per ton. According to report by Bloomberg, the accumulated drop of CER price in 2012 reached 92%. With this price level, previously viable projects are no longer commercially feasible.

Establishment of the voluntary carbon market in China

Although the international carbon trading market encountered setbacks, China’s determination to establish the voluntary carbon market in China was not affected. The NDRC initiated pilot programmes for carbon emissions trading in Beijing, Tianjin, Shanghai, Chongqing, Hubei, Guangdong and Shenzhen, areas deemed suitable to pilot carbon emission trading, and required carbon trading pilot programmes to start in 2013 and carbon trading markets to be formed by 2015. So far all pilots have launched their carbon trading schemes.

Figure 11 Distribution of the carbon emissions trading piloting provinces
In June 2012, the NDRC issued the ‘Interim Regulations for China Voluntary Greenhouse Gas Emissions Trading in China’, which established and implemented the national framework for voluntary carbon market trading. It includes regulations on transaction procedure, supervision and technology support system, the aim of which is to regulate voluntary emission trading and increase the incentive mechanism for enterprises to participate. In October 2012, the NRDC issued the ‘Validation and Verification Norms for Voluntary Greenhouse Gas Emission Reduction Projects’, which clearly specifies the technical and non-technical requirements for validation and verification.

**Platform**

In 2008, voluntary carbon exchanges were established in Beijing, Tianjin and Shanghai. Subsequently, voluntary emission reduction trading as well as a series of technical standards and financial channels have been formed. In 2009, the “Panda Standards” was issued, which was the first voluntary carbon emission standard in China. In 2013, local trading pilot programmes started one after another. The starting time was: Shenzhen on June 18, Shanghai on November 26, Beijing on November 28, Guangdong on December 19, and Tianjin on December 26. Hubei and Chongqing pilots started later – April and June 2014 respectively.

**Characteristics**

Beijing was the first to issue ‘Rules on the Over-the-Counter Trading of Carbon Emission Quota’; Shanghai was the first to issue ‘Guideline for Carbon Emission Assessments’, which adopts the “historical emission method” and the “baseline” method to estimate quota. Shenzhen was the first to allow individual investors to participate in carbon trading.

**Size**

The carbon market in China ranked the second in the world, after the EU. The total quota of all the enterprises with emission control in the first five carbon trading pilots in 2013 reached
730 million tonnes, or 800 million tons considering the reserved quota. As to the quota size of the individual pilots, carbon market in Guangdong (where the quota reached 350 to 388 million tonnes in 2013) also ranked the second after EU ETS. Shanghai and Tianjin have similar carbon markets as California, while Beijing and Shenzhen have relative smaller quotas.

**Volume of trade**

By December 31, 2013, 445,500 tonnes of carbon was traded in the secondary market in the five carbon exchange pilot cities, the total amount of which reached 24.91 million RMB.

The pilot carbon market in Shenzhen has operated for over half a year; its transactions were relatively active and its carbon price also fluctuated the most. The carbon exchange in Tianjin was the last one to start in 2013, although it had the most active transactions. The carbon markets in Beijing and Shanghai opened in November were relatively less active. By mid December 2013, transaction volume and value of Guangdong’s carbon market ranked the second in the five pilot cities.

Apart from trading in the above secondary markets, Guangdong’s carbon trading pilot held the first carbon emission quota auction on December 16, 2013. All 3 million tonnes of quota was successfully sold at the auction.

Carbon price varies a great deal in different carbon trading pilots. At present, the price in Shenzhen carbon market is the highest, which fluctuates between 60 RMB to 80 RMB per tonne. Guangdong ranked the second with the price about 60 RMB/tonne; Beijing ranked the third, with the price of about 50 RMB/tonne; prices in Shanghai and Tianjin are relatively low, approximately 30 RMB/tonne. Compared to the main international carbon markets, Shenzhen and California have similar prices and ranked the highest in the global carbon market. Guangdong and Quebec have similar quota price.
Carbon emission trading will, in the future, play a very important role in achieving the policy objective of adopting strict carbon emission and accelerating the establishment of market-based carbon emission mechanism.

4.6 Insight through Integration

Achieving the low carbon transformation in China calls for an integrated approach to balance and consolidate the various aspects of economy. Similarly, China’s financial reform also needs to take a holistic approach to achieve its objectives and support economic transition. Therefore, although several measures in the financial reform seem to have no direct relationship with the low carbon and green transformation agenda, they are in fact likely to form the backbone of the transformation.
Regulator bodies, regional coordination and the exit mechanism for financial institutions (the deposit insurance system) are the foundation for a healthy and effective operation of the financial system. The liberation of interest and exchange rates will eventually allow the monetary policy the space to guide and control the macroeconomy. The deepening and sophistication of the capital market can bring vitality to the financial market and economy of China. Support to the R&D of green technologies, especially the strategic new industries, can be achieved by providing more and better financing opportunities and also terms of conditions for ‘young’ private enterprises. This includes, for example, the listing and trading in the “New Tertiary Board” and the privately raised bonds. A multi-layered and multi-functional capital market will become the catalyst for effective R&D, transformation and application of green technologies.

Financial reform can fix the current retorted interest rate, which might possibly change the willingness and inclination of residents to deposit money, and bring opportunities to guide residents’ consumption pattern towards green consumption, thus expanding the market demand for green products. Meanwhile, with the deepening of financial reform, companies will face higher demands in terms of operational and management abilities and fiercer competition in the commodity market, creating pressure to improve the quality of their output. A “quality over quantity” consumption in China will support green consumption trends.

(The relationship between capital account liberation and the healthy development of the economy has long been a topic discussed within academic circles. To summarize the opinions of the two sides, we believe that the openness of the capital account under proper conditions, such as relatively advanced financial development, the supporting macroeconomic policies as well as relevant system arrangements, will bring positive impact to economic growth. Current financial reform has carefully taken into consideration the mutual influence of these different factors and prioritise them accordingly. Therefore, as a key element of the overall reform agenda, the openness of the capital account will play an irreplaceable role in the further optimization of the allocation of financial and economic resources if advanced properly.

The opening up of the capital account can also facilitate the spread of new technologies and new systems. Globally, the openness of the capital account in China will facilitate the “going out” of Chinese enterprises, which can help the technology transfer and communication between China and developed as well as developing countries. This should enhance economic efficiency of the participating countries. At the same time, the flow and lock-in of polluting, high emissions and high carbon technology can also be prevented.)
The opening up of the capital account is also good for broadening overseas investment channels for Chinese residents. This will reduce the problem of excessive prices of limited investment goods such as real estates in China, and help to reduce price distortion, excessive prices as well as unnecessary emissions in these industries, further enhancing efficiency in the overall economy.

To sum up, financial reform plays an important role in not only ensuring the vitality and the healthy development of finance and economy, but also contributing to the low carbon and green transformation agenda in China.

4.7 Thought provoking questions

Financial reform is making the financial system in China more efficient and open, and accelerating green investment and China’s low carbon transition. It aims to achieve increased investment efficiency, which in turn increases the overall operational efficiency of the economy. This has accelerated the low carbon transformation of the Chinese economy, which is an unexpected outcome of the financial reform.

The following questions remain: Will the current “unconscious” and “unorganized” reform process be able to lead China to complete its green transformation at a sufficient fast pace and within the timeframe? Does China need a more specific, “conscious”, “organized” and planned policy and mechanism to accelerate green investment and speed up the low carbon transformation?