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Hong Kong's Role in Building the Offshore Renminbi Market

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EXECUTIVE SUMMARY

Enhancing Hong Kong's position as a global financial centre

Hong Kong is well placed to foster the rapid development of the offshore renminbi (RMB) market. Ranking consistently among the top tier of global financial centres,¹ Hong Kong benefits from its position as an international hub for Mainland China. Massive growth in trade and investment has already pitched China into a global leadership position but more substantive changes are expected in terms of its impact on global financial markets. This will offer new opportunities for Hong Kong-based markets and businesses.

The financial sector in Hong Kong has already demonstrated its ability to manage and place large IPOs for leading Chinese companies. While the pipeline of major China IPOs may be slowing down as most of the leading companies are now quoted, the offshore RMB market is ready to take off and to provide a new boost for Hong Kong business, especially in fledgling RMB bonds and RMB banking.

Offshore RMB: the next big driver of financial market growth after IPOs

There has clearly been a sharp acceleration over the last year in China's support for the offshore RMB market. Although the mainland remains reluctant to fully open up the capital account, promotion of an offshore market will encourage use of the RMB in both international trade and financial transactions. This offshore business is concentrated in Hong Kong: since the first initiatives in 2004, a RMB deposit base has developed within the Hong Kong banking system and there have been a number of landmark RMB bond issues. Significantly, both of these trends showed a marked increase in late 2010.

The concept of 'one currency, two systems' (to paraphrase 'one country, two systems') is both highly unusual and in its infancy.² Therefore analysis of how the offshore market might develop can be based only on potential indicators and analogy with similar openings in the past, for example for the Eurobond market. Tentative estimates nevertheless point to the scope for substantial growth in the offshore RMB market. Analysis suggests that future development will depend on bringing together increasing use of the RMB for trade transactions, demand for RMB investment instruments and the potential for RMB fundraising by both Chinese and foreign companies.

To summarize the estimates presented here, by 2020:

- The share of trade transactions settled using RMB will rise sharply and boost demand for the currency to around RMB 6-7 trillion (about \$1 trillion at the present exchange rate).
- RMB bank deposits in Hong Kong may reach over RMB 6 trillion based on growth in trade transactions alone. Arguably this figure could double if further migration of deposits from the Mainland is included. This would significantly increase Hong Kong's share of the international banking market.
- The offshore RMB bond market could be worth RMB 6-7 trillion by 2020, radically transforming Hong Kong's position in the international bond market and creating a major new segment in this market.
- RMB equity issues will also augment Hong Kong's existing position as a leading centre for capital-raising exercises.

¹ Coming in third place, narrowly behind London and New York, according to the latest biannual GFCI survey conducted by Z/Yen (2010).

² See Subacchi (2010).

Hong Kong and the renminbi to gain in stature

The conclusions regarding the scope for development point to gains in Hong Kong's position as a global financial centre and in the potential role of the RMB:

The offshore RMB business will cement Hong Kong's status through the development of a significant bond market, which was previously lacking. In addition, RMB denominated equity listings also offer prospects for robust growth in this already strong sector.

China's expanding trade will spur the use of the RMB and the development of the RMB deposit base in Hong Kong, boosting its position in international banking.

Despite the rapid expansion in Mainland China's financial markets, especially Shanghai, Hong Kong will continue to enjoy numerous advantages in attracting international business.

These developments will benefit from favourable background conditions such as generally burgeoning trade across Asia and emerging markets, which will encourage acceptance of the renminbi in transaction settlements,³ and China's growing financial requirements linked to its targets for further growth and investment. Hong Kong will not only play a key role in China's next stage of development but significantly enhance its already high status as a global financial centre.

This paper is the final version of a series of draft reports circulated for discussion in late 2010 as part of ongoing research on financial developments in Asia. The authors thank the many contributors to these discussions and drafts, not least the Central Policy Unit of Hong Kong.

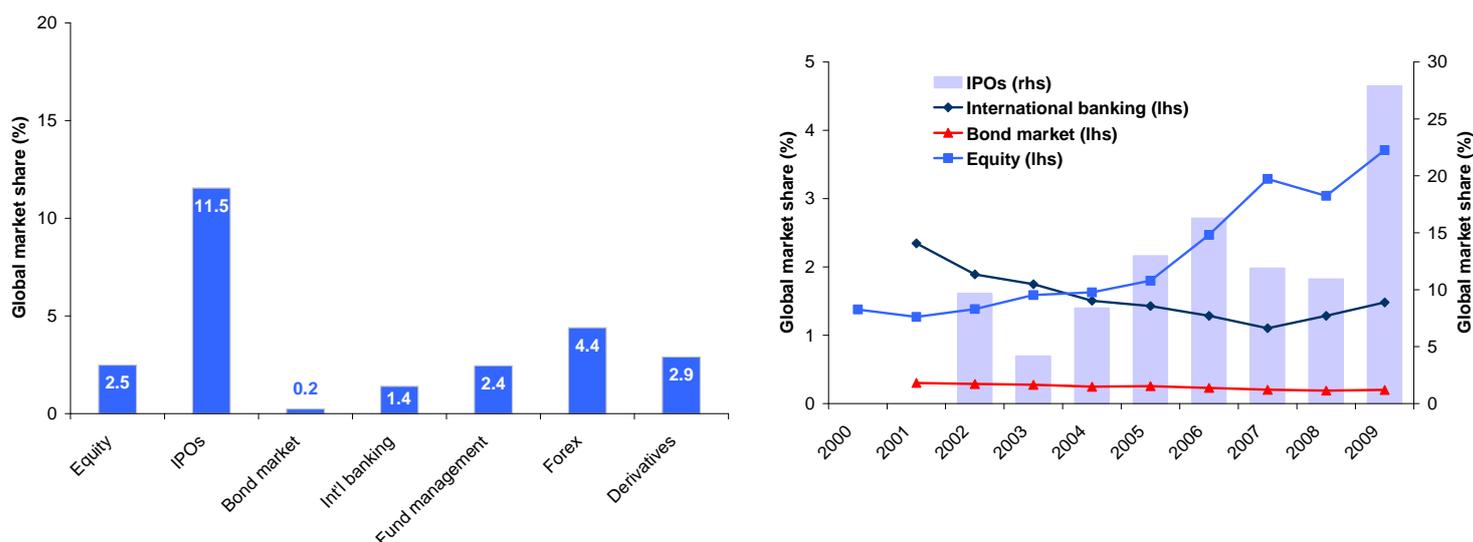
³ This is an opportunity that the Japanese yen did not have when it began its ascent in the 1980s, in part because world foreign exchange reserves were much lower than they are today but also because there was not the same backing for an alternative to the dollar. Notably the euro did not exist at that time and, arguably, its arrival may well have influenced the scope to rapidly develop an international role for the renminbi. See the Appendix for more details.

1. INTRODUCTION: HONG KONG'S CURRENT STATUS AS A GLOBAL FINANCIAL CENTRE

Hong Kong consistently ranks among the top tier of global financial centres (Z/Yen, 2010), competing fiercely with New York, London and Singapore. Analysis of its rankings across international financial markets over the last decade clearly reveals that existing strengths are chiefly linked to operations and growth in the stock market, with the management of IPOs standing out, although there are also important positions in the foreign exchange market, derivatives, fund management and banking.

Hong Kong has further expanded its already high share of the global IPO market, which has risen on the back of the substantial flow of Chinese companies entering the market. Various indicators of comparative advantage and competitiveness, including its rising share of the world equity market, point to Hong Kong's strong position in equity-related business. The World Economic Forum (2010) rates Hong Kong as having the third highest level of financial development, for example. In contrast, its share of the global bond market remains low, while international banking actually witnessed a decline in Hong Kong's market share between 2001 and 2007.

Figure 1: Hong Kong's shares in financial markets from (% , average from 2003 to 2009 on lhs) and share between 2000 and 2009 in key markets (% , rhs)

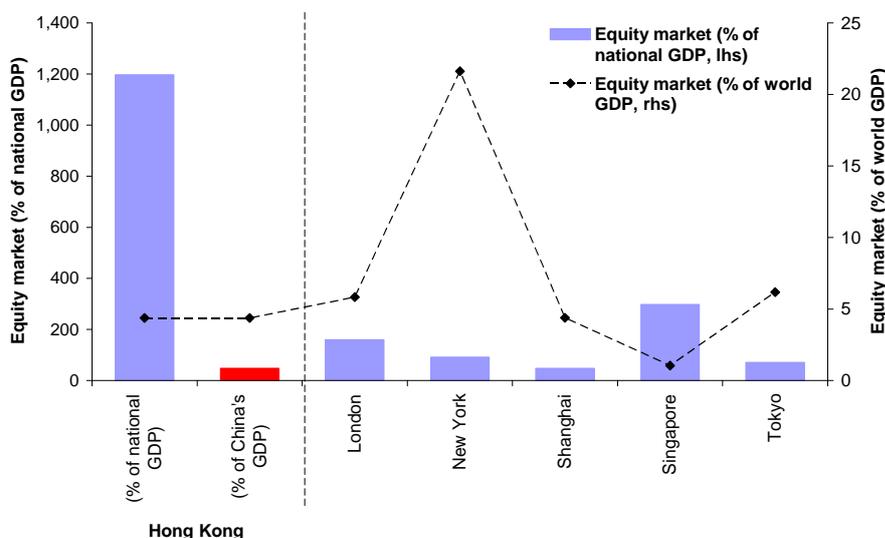


Sources: BIS, Investment Company Institute, WFE

Source Note: Equity is measured by market capitalization, bond market by securities outstanding, international banking by foreign assets and liabilities, fund management by net assets, forex and derivatives by daily turnover. Market share calculated as average over 2003-09 except foreign exchange measured as average market share between 2004 and 2010 and derivatives measured as average market share between 2001 and 2007 due to issues of data availability.

Rapid expansion in the equity market has been possible thanks to Hong Kong's ability to successfully manage large issues, with the sizeable flow of business testifying to its placing power with global investors. Companies can confidently raise substantial funds in Hong Kong, especially in sectors popular in the region. IPOs for large Chinese companies, other new listings and fundraising have all created a sizeable deal flow for Hong Kong over the last decade and equity market capitalization has risen to around 12 times Hong Kong's annual GDP (in 2010). Nevertheless, it should be remembered that this market now represents major Chinese as well as local companies and the comparison with Hong Kong's GDP therefore reflects this position (indeed, as a share of China's GDP, the Hong Kong market is still low at around 50%).

Figure 2: Equity market capitalization (% of national GDP on lhs and % of world GDP on rhs, 2010) – Hong Kong stands out among global financial centres

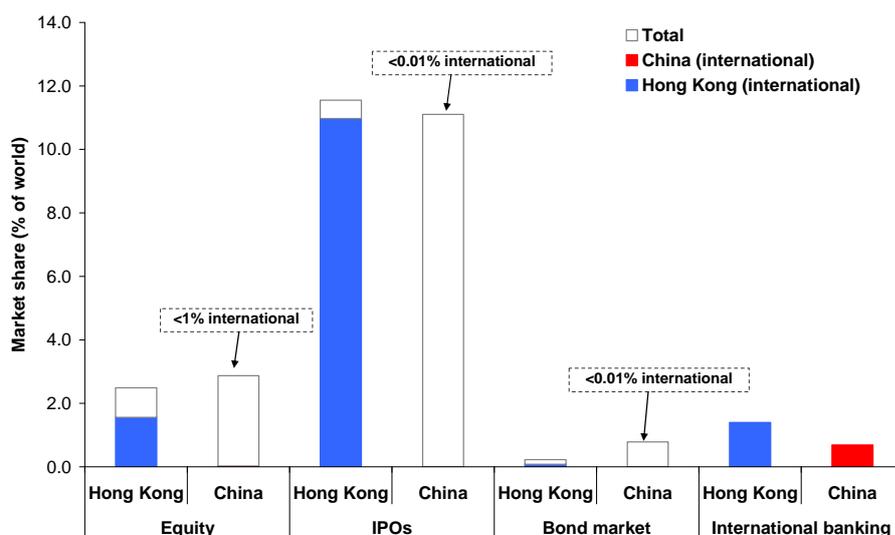


Sources: IMF, WFE

Hong Kong's financial services sector plays a pivotal role in national GDP. At around 15%, this is higher than the corresponding figures for Singapore and the UK (around 10-12%), the US (8%) and Mainland China (5%). Hong Kong's strength in this field is buoyed by its appeal to international companies and investors as a crossroads for Mainland China, the Asia region and the global economy. While there is ongoing concern over competition – whether from traditional sources such as Singapore or from newcomers such as Mainland China's financial centres (chiefly Shanghai) that could undermine Hong Kong's role – Hong Kong's underlying advantages in terms of infrastructure, institutions and fundraising capacity should not be underestimated.

In comparison with Mainland China, the shares of global financial markets are similar, but in China this accrues largely because of the sheer size of the domestic economy, while the international component remains comparatively small. For Hong Kong, it is the global position that dominates.

Figure 3: Shares of global financial markets (% total and international, average from 2003 to 2009)



Sources: BIS, Hong Kong Exchange (2010), Shanghai Stock Exchange (2010), WFE

Hong Kong also has some weaknesses as a global financial centre. While its potential to successfully raise funds through the stock market is well known, its presence in bond markets has been very limited to date. Nevertheless, Hong Kong seems to be overcoming this limitation. In spite of the fact that the fledgling RMB bond market – encouraged by Mainland China – is only just emerging, Hong Kong has quickly demonstrated that it can manage and place RMB bond issues for both Chinese and foreign companies. The market is progressing fast. What might it be worth by 2020? A decade of growth could radically change the picture not just for Hong Kong but for Asian bond markets in general.

Furthermore, there is likely to be continued growth in the RMB deposit base in Hong Kong banks. A base is already developing rapidly, largely owing to deposit migration from the Mainland linked to China's relaxation of rules for transfers.⁴ This gradual flow has started to gain pace over the last year as rules have become less restrictive and there is additional growth to come from the internationalization of the RMB, even if this is based solely on RMB demand related to China's trade transactions with key partners across Asia and emerging markets. Although the scale of RMB deposits in Hong Kong will remain small compared with Mainland deposits, it should provide a substantial new base for business within the Hong Kong banking sector.

These two major developments in the offshore RMB market – on the one hand, growing transactions demand for the RMB and the implications of this for the Hong Kong banking system and, on the other, growth in the offshore RMB bond market and capital-raising – will be the key trends in Hong Kong's outlook as a financial centre.

These trends are examined in detail in the following three sections of this paper. This analysis also incorporates tentative estimates of the scale of business that might emerge by 2020. In the final section, we consider the implications for Hong Kong's position as a global financial centre.

⁴ Individuals can exchange Hong Kong dollars into RMB, although this is still limited to 20,000 RMB per day, as it was at the policy's inception in 2004. More recent measures to ease RMB flows include the permission for Chinese companies' trade and outward direct investment to be settled in RMB (see Table 1).

2. DEVELOPING THE RMB OFFSHORE MARKET

Based on the measures that have been introduced in the last year alone, it is reasonable to conclude that China is keen to press ahead with the development of an offshore RMB market, which will facilitate the internationalization of the RMB. This is generally seen as a precursor to the eventual launch of the RMB as a fully convertible global currency.⁵ Growth in this new offshore market also offers a significant role and business opportunities for Hong Kong's financial sector, which has been and remains the dominant player in spite of growth in financial market business in other Mainland centres.

If successful, this development will establish the RMB as an international currency while allowing the Mainland to avoid a precipitate move towards the RMB becoming fully convertible before it can complete the thorough preparation of background institutions and financial market structures. The offshore concept presents a unique Chinese solution to what will be a very important national and international transition towards increased usage of China's currency.

Given China's dominant position in regional and world trade, there is obvious potential to rapidly advance the RMB's role in trade settlements. But, arguably, the creation of an offshore RMB market will also present a new conduit for funding China's 'go global' strategy⁶ and, ultimately, for China's next generation of investment and growth.⁷ Alongside its existing strength in the equity market and IPOs, the RMB bond market presents Hong Kong with the opportunity to develop the framework for a corporate debt market that could become the broader template for the Mainland to expand its capital market base.

There are many reasons for expecting substantial growth in Chinese companies' fundraising through both the equity and bond markets:

- China's economy will continue to expand rapidly, with domestic demand taking over as a driver of growth supported by rising incomes, urbanization and rural development.
- The massive annual investment spending (currently around US\$2-2.5 trillion per annum, almost half of GDP) associated with China's rapid growth will be funded increasingly by money raised in financial markets rather than relying on reinvested profits⁸ and bank loans.
- The operating cash flow that made the current model feasible is being squeezed by the trend towards dividend payments, higher wage bills and market competition. The rising sums involved for major new projects will require new funding solutions. More companies will look to Western models of corporate finance, with greater emphasis on both equity and bond financing.
- Savers are also moving towards other forms of investment besides bank deposit accounts. Apart from their increasing interest in home ownership, Chinese households are reaching the take off point on the 'S-curve'⁹ for retail financial services, indicating that very strong demand growth can be expected over the coming decade. Increasing use of such services (including insurance) will tend to promote even more institutional investment in equity and bond holdings than in the past.
- Chinese companies' investments abroad are rising and many will prefer to finance these investments via RMB bond issues. In addition, foreign companies investing into China might also prefer to fund such investment in RMB to match currency exposure. On the buy side of the market, global investors already have an appetite for RMB bonds, as demonstrated by recently oversubscribed issues in Hong Kong.

⁵ This development would offer benefits to China including efficiency gains from use of the RMB in international transactions, removing currency mismatches on balance sheets, and removing dependence on the dollar – and the associated vulnerability to liquidity shortages (see Subacchi, 2010).

⁶ That is, the increasing international expansion of the operations of Chinese companies.

⁷ Development of the offshore RMB market would allow this to be done without removing capital restrictions which could expose China to potentially destabilizing capital inflows.

⁸ Self financing has typically accounted for around 65-70% of investment expenditure, bank loans 20-25%.

⁹ That is to say, reaching the rapidly accelerating segment of the demand curve.

These factors indicate why it is so important to create large and vibrant financial markets to provide for China's future financial needs. Financial centres both onshore and offshore should become leading players in the effort to radically change the financial capability and structure of the region's leading companies, of small and medium-sized enterprises (SMEs) and future new start-ups.

For Hong Kong, development of the offshore RMB market will be yet another opportunity to grow financial business and demonstrate the importance of its position as one of the world's leading global financial centres. While RMB equity issues are an obvious extension of existing business, the addition of a large RMB bond market will not only complement existing strengths but significantly raise Hong Kong's international profile in a segment in which it hardly participates today. It is this transformational aspect of the RMB bond market that makes development here so crucial.

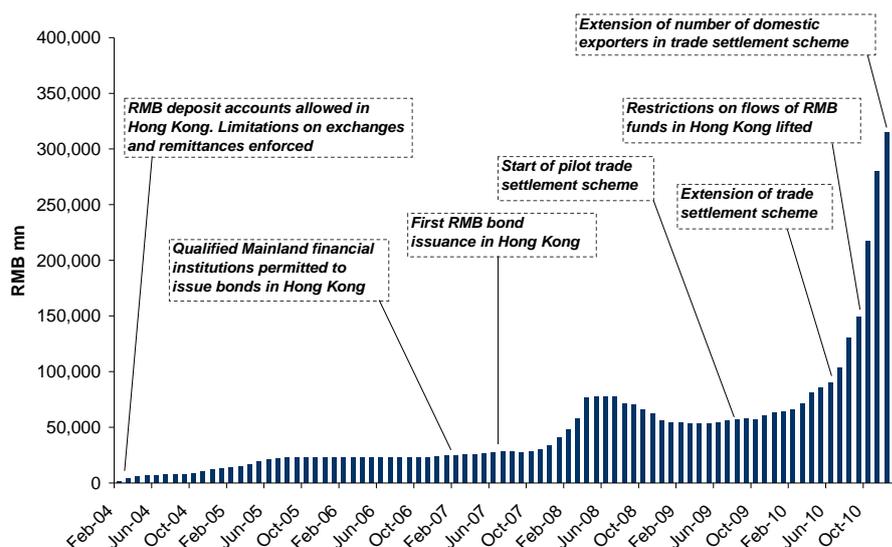
The beginnings of the offshore RMB market in Hong Kong actually go back to 2004 with the start of personal RMB banking business. This saw a gradual rise in RMB deposits which accelerated when the RMB bond market started up in the second half of 2007 and again when an RMB trade settlement scheme was implemented and then extended geographically in 2009-10.

Table 1: Timeline of RMB business development in Hong Kong

Date	Event
Feb-04	Start of personal RMB banking business. RMB deposits allowed in Hong Kong. Bank of China (Hong Kong) designated as RMB clearing bank. Limitations enforced: individuals can only exchange RMB 20,000 daily into HKD (or vice-versa) and a maximum of RMB 80,000 can be remitted to Mainland China by individuals daily.
Jan-07	Qualified Mainland financial institutions permitted to issue RMB bonds in Hong Kong.
Jun-07	China Development Bank issues first RMB bond in Hong Kong.
Jul-09	Pilot RMB trade settlement scheme started in five Mainland Chinese cities.
Jun-10	Extension of RMB trade settlement scheme to 20 provinces and cities in China.
Jul-10	Revised Clearing Agreement on the clearing of RMB businesses in Hong Kong: lifts restrictions on RMB funds (opening accounts for corporates and providing interbank fund transfer services) in Hong Kong to encourage more financial intermediary activities.
Sep-10	Hong Kong Exchange launches clearing system for potential listing of RMB denominated bonds and stocks.
Dec-10	Extension of the number of domestic exporters included in the pilot scheme for cross-border trade settlement in RMB from original 365 to almost 70,000.
Jan-11	Pilot programme to allow some Mainland non-financial enterprises to settle overseas direct investment in RMB.
Mar-11	Testing of the Trading Support Facility that will provide liquidity to RMB equity trading on the Hong Kong exchange. This is likely to be launched in the second half of 2011.
Apr-11	First RMB IPO by Hui Xin Real Estate Investment Trust, raising RMB 10.5 billion.

The scale of RMB deposits in Hong Kong is currently very small compared with the total deposits of Hong Kong banks.¹⁰ However, as the offshore RMB market develops and as restrictions on Mainland transfers are relaxed, RMB deposits will see further growth. Estimates presented below suggest that RMB deposits could become an important share of the overall Hong Kong deposit base by 2020. Even so, Hong Kong banks will inevitably be dwarfed by the massive scale of the Mainland deposit base.

Figure 4: Growth in the offshore RMB market – rising RMB bank deposits in Hong Kong since 2004 (RMB mn)



Source: HKMA

Transactions demand will augment offshore RMB deposits

Recent growth in the deposit base is particularly associated with the expected increasing use of RMB for trade transactions and settlement, following on from a pilot programme that initiated RMB trade settlement in mid-2009.¹¹ This linkage has provided analysts with one method of estimating potential growth in RMB demand and deposits through rising transactions demand.¹²

While all estimates are tentative, transactions demand can be directly correlated with plausible assumptions regarding use of the RMB in trade settlements. For example:

- Goldman Sachs (2010a) has suggested that RMB trade settlements might reach 20% of China's imports from emerging markets by 2015: this is equivalent to RMB settlements of around \$250 billion by 2015;
- HSBC (2010) sees potential for 40-50% of all China's trade to be settled in RMB;

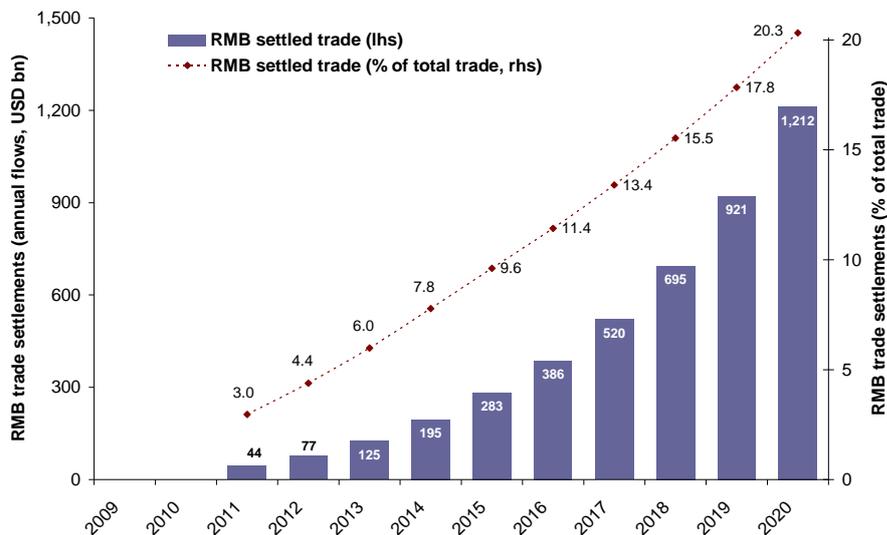
¹⁰ Despite the surge in Hong Kong RMB deposits in late 2010. Overall these deposits constitute just over 6% of all Hong Kong banking deposits and around 0.5% of Mainland China deposits.

¹¹ RMB trade settlement accelerated significantly in late 2010. Average monthly RMB trade figures expanded from under RMB 10 billion in the first half of the year to around RMB 60 billion in the second half of the year.

¹² Tourist spending as well as overseas direct investment settlements can also drive growth in the offshore RMB deposit base (DBS, 2011).

- In this assessment, we assume that RMB transactions will steadily rise to the equivalent of 20-25% of China's imports from emerging markets by 2015 and to 50% by 2020 as momentum builds up – this means that the potential use of the RMB for trade settlement could be considerably more than \$1 trillion (probably RMB 6-7 trillion) by 2020, representing around 20% of China's total import bill at that time.

Figure 5: Estimates for RMB trade settlements to 2020 (annual, USD bn)



Source: Projections based on IMF data.

Note: Estimates based on trend growth in imports from these regions and the rest of the world. Assumes RMB settled trade value reaches 20-25% of total Chinese imports from Asia, Africa and Latin America by 2015, reaching 50% by 2020.

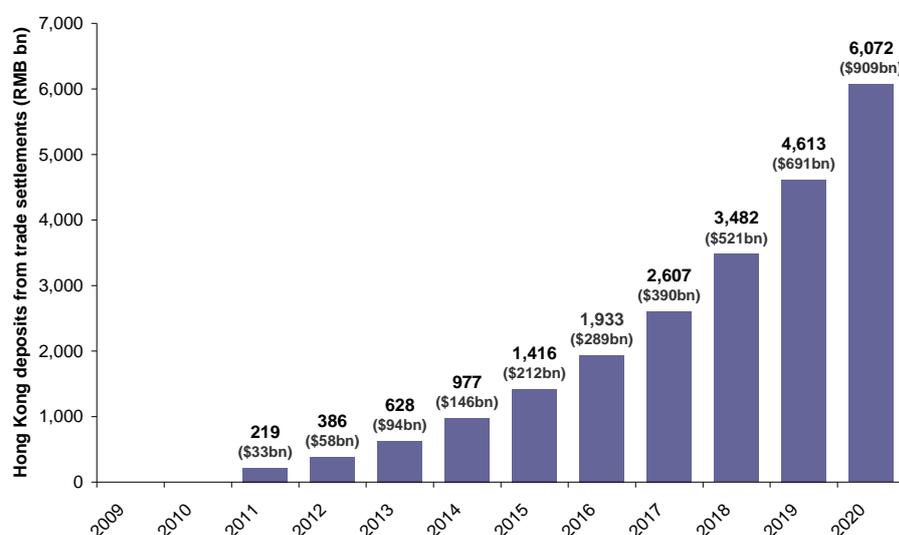
Development of Hong Kong's international banking sector

Furthermore, these estimates for the use of the RMB in trade settlements can be translated into potential growth in RMB deposits in the Hong Kong banking system, as such deposits will facilitate RMB payments, borrowing in RMB and holding of RMB balances. Thus:

- Much of the increasing use of RMB in trade settlements will feed back through the RMB offshore market into Hong Kong – in this analysis, we assume that 75% of the RMB used in trade settlements continues to be deposited in this way;¹³
- On this basis, RMB bank deposits in Hong Kong could rise by around RMB 1.5 trillion by 2015 and over RMB 6 trillion by 2020, adding to the current deposit base of almost RMB 350 billion (data for January 2011).

¹³ This is close to figures such as those of Goldman Sachs (2010b) who calculate an 83% RMB trade-to-deposit capture ratio in Hong Kong for the third quarter of 2010.

Figure 6: Estimates for the increase in RMB deposits in Hong Kong banks assuming 75% of total RMB trade transactions feed into such deposits (RMB bn)



Source: Projections based on IMF data.

Note: Based on the assumption that 75% of RMB trade settlements flow into RMB deposits in Hong Kong. Estimates based on current exchange rates

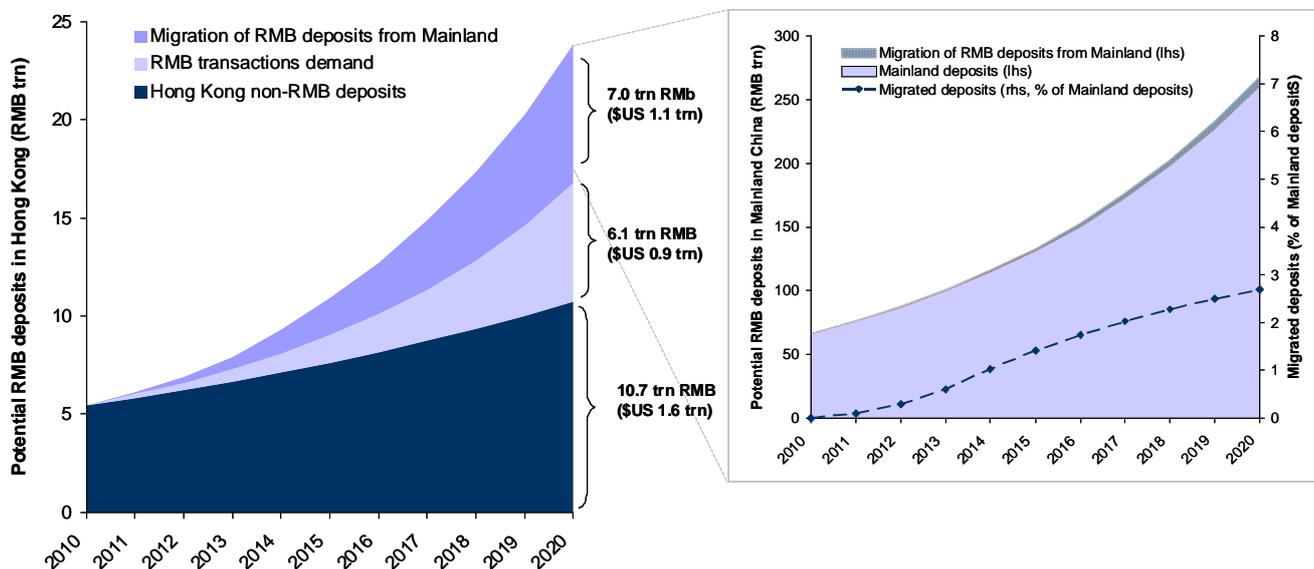
In addition, analysts see potential for a larger share of savings to migrate from Mainland bank deposits into RMB deposits in Hong Kong and into other investments in the offshore market. This could reasonably double the scale of RMB deposits versus estimates for deposit growth based on transactions demand alone. Such deposit migration is simply an extension of the process by which the RMB deposit base in Hong Kong first developed in 2004-05. The gradual lifting of restrictions on such transfers will accelerate the migration.¹⁴

In total, a rapidly rising RMB deposit base, boosted by both transactions and migration factors, could grow from an almost negligible scale to become larger than the Hong Kong dollar deposit base by 2020 (allowing for typical rates of organic growth in local dollar deposits).

This new business growth could directly raise Hong Kong's share of international (foreign) banking from mediocre (less than 1.5%) today to almost 5% of the global market by 2020.

¹⁴ For example, in January 2011 the city of Wenzhou announced that it will allow individuals to make offshore investments of up to \$200 million annually (*Financial Times*, 2011). However, this policy is currently under review by China's State Administration of Foreign Exchange. The implementation and extension to such a pilot programme could spur further deposit migration.

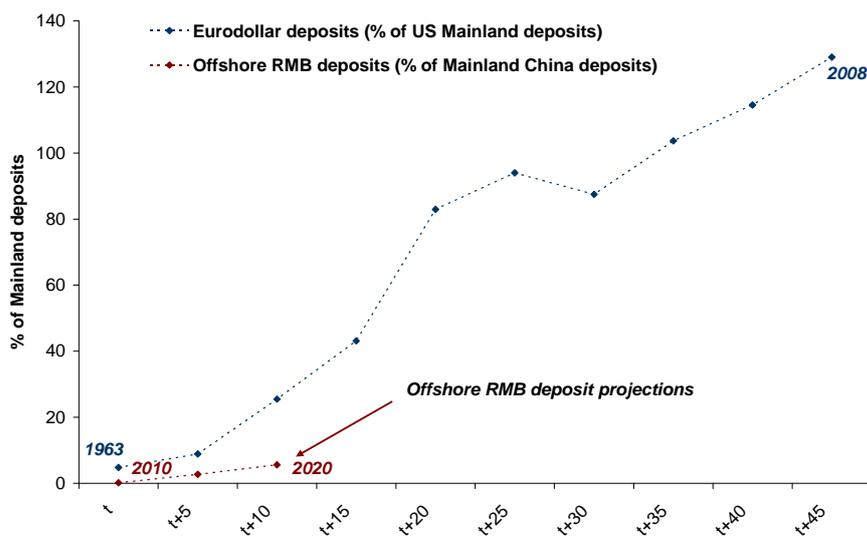
Figure 7: Deposit migration and the overall potential for deposits in Hong Kong banks (lhs, RMB trn) compared with deposits in Mainland China (rhs, RMB trn)



Source: Own extrapolations based on Goldman Sachs (2010a) projections and assumptions for period 2016-20. Based on current exchange rates for currency conversions

Although these projections appear to be very substantial for Hong Kong, in fact, changes are small compared with the Mainland and the observed pace of change is not outside previous experience. Comparison with the start-up phase of the offshore US dollar (Eurodollar) market indicates that this saw an even more rapid development in its early years.

Figure 8: Comparison of the offshore RMB market with the start of the offshore dollar (Eurodollar) market: depicts offshore deposits as % of respective Mainland deposits



Sources: Goldman Sachs (2010a), People's Bank of China and own extrapolations

In addition to indicating the scope for growth in RMB bank deposits, increasing use of RMB in trade settlements will inevitably promote some holdings of RMB (for convenience if not as a store of value) as part of central banks' foreign exchange reserves.¹⁵ This will be particularly true for China's trade partners within Asia as well as in other emerging markets, which manage most of the world's largest holdings of foreign exchange reserves.

Table 2: Central Bank bond holdings of major reserve currencies compared with total markets (USD bn, end 2009)

	Government bond market size	IMF estimate of central bank reserves	% of allocated reserves	Pro-rata total reserves	Foreign exchange reserves	
US dollar	9,478	2,837	62.2	5,079	China	2,399
Euro	8,567	1,250	27.4	2,238	Japan	997
British pound	1,239	195	4.3	349	Other Asia	1,345
Japanese yen	9,657	134	2.9	240	MENA	868
Swiss franc	114	5	0.1	9	Europe	622
Other	-	142	3.1	253	Latin America	479
China	1,464	-	-	-	Russia	406
					N. America	93

Annual transactions demand for RMB estimated at approx. \$US 250 bn by 2015 and over \$US 1 trn by 2020 suggests FX reserves may be up to \$US 500 bn by 2020

Sources: BIS, IMF

If annual RMB trade settlements do reach around \$1-1.5 trillion by 2020, and the RMB gains credibility, then it is possible that central bank holdings of RMB could be as high as \$250-500 billion: in fact, this would only represent about 20% of the present level of emerging Asia's foreign exchange reserves (excluding China). In this case, the increasing use of the RMB in emerging Asia alone could propel the RMB into becoming an international currency by 2020.¹⁶

15 In 2010, the Malaysian central bank purchased RMB bonds for its foreign exchange holdings – the first such instance.

16 This scale of foreign exchange holdings would place the RMB in the second tier of currencies – with the Japanese yen and British pound, but below the US dollar and euro. However, in terms of the use of RMB for international trade (although not financial) transactions, the RMB would have a much more significant role, especially as a regional currency.

3. ESTABLISHING THE OFFSHORE RMB BOND MARKET

Hong Kong remains a small player in global bond markets, reflecting the lack of development of bond markets across most of emerging Asia. However, this is the segment that seems most likely to change in the future if the newly emerging offshore RMB market grows rapidly. Projections for growth in this sector rely on Hong Kong's success in capital-raising and on estimates for the scale of potential issues of RMB bonds.

The pipeline of major China IPOs is seen as coming to an end¹⁷ but activity in the bond market could begin to take off. If demand for RMB bonds continues to rise, this may offer a future growth engine for Hong Kong's financial sector through expansion of the financial services as well as sectors that feed into this. This would also develop an important alternative to the senior bond markets of the US and Europe for global fixed-income investors.¹⁸ Such a development is long overdue as part of a rebalancing of financial markets and wealth holdings around the world.

Table 3: Hong Kong listings of Mainland Chinese companies dominate the league table of the world's 15 largest IPOs but the potential for large China IPOs has declined as the major companies have now been listed

Rank	Company	Date	Exchange	Deal size (USD bn)
1	General Motors	Nov-10	New York	23.1
2	Agricultural Bank of China	Jul-10	Hong Kong/Shanghai	22.1
3	Ind'l & Com'l Bank of China	Oct-06	Hong Kong/Shanghai	21.9
4	NTT Mobile	Oct-98	Tokyo	18.1
5	VISA	Mar-08	New York	17.9
6	AIA	Oct-10	Hong Kong	17.8
7	ENEL SpA	Nov-99	New York	16.5
8	Nippon Tel	Feb-87	Tokyo	15.3
9	Deutsche Telekom	Nov-96	New York	13.0
10	Bank of China	May-06	Hong Kong/Shanghai	11.2
11	Dai-ichi Mutual Life Insurance	Mar-10	Tokyo	11.0
12	AT&T Wireless	Apr-00	New York	10.6
13	Rosneft	Jul-06	Moscow	10.4
14	Japan Tobacco Inc.	Oct-94	Tokyo	9.6
15	China Construction Bank	Oct-05	Hong Kong/Shanghai	9.2

Sources: Renaissance Capital (2010), Reuters (2010)

¹⁷ For example, of the 23 Mainland Chinese companies on the Fortune Global 500 (2010), only three are not listed in Hong Kong. These three companies represent only 4.4% of the market capitalization of all the Chinese companies on the list, and only approximately 10% of the largest Chinese companies. Overall, these 23 companies represent almost 50% of total Mainland China market capitalization. There is the potential for more demand for listings in Hong Kong to come from Mainland Chinese SMEs, although it is unlikely that this could create the same scale of deal flow for Hong Kong as the historic IPO surge.

¹⁸ Japan is omitted from this analysis as its bond market is almost exclusively held by domestic investors with only a very small international presence.

In assessing the opportunities to expand the offshore RMB bond market, we focus on three key factors:

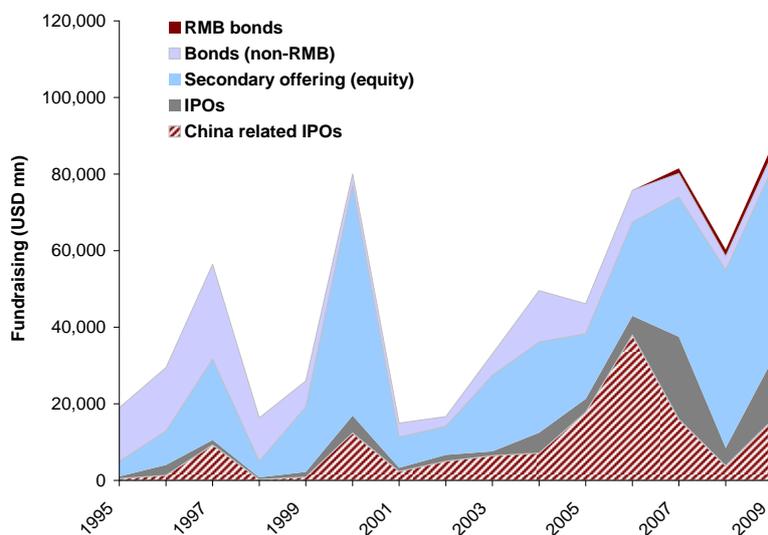
- Hong Kong's capacity to lead and place issues – as demonstrated by its ability to accomplish this for the China IPO stream as well as completing other fundraising through the stock market;
- The interest of international investors in holding RMB bonds: evidence points to strong demand as recent issues were oversubscribed and the risk premia were relatively low given the limited experience of this fledgling market;
- Interest in RMB borrowing, which is seen coming chiefly from:
 - Foreign companies wanting to fund foreign direct investment (FDI) into China through RMB borrowing;
 - Chinese firms seeking to fund investments abroad through offshore RMB fundraising.¹⁹

Hong Kong's fundraising capacity

Concerning Hong Kong's capacity for fundraising, the track record shows a continuous build-up in business since the dotcom recession of 2001 – with only a brief interruption linked to the recent global downturn. Overall fundraising has grown to over \$80 billion annually, with the wave of China-related IPOs peaking at around \$40 billion in 2006.²⁰ Secondary equity offerings have also experienced sustained growth, with capital-raising reaching almost \$50 billion in 2009.

Although bond issuance used to represent a significant share of annual fundraising up to the Asian crisis period (to 1998), it has remained low over the last decade. However, the emergence of the RMB bond market offers the possibility of a new expansion in the fixed-income sector.

Figure 9: Historical evidence of Hong Kong's capability to manage and place issues – chiefly in the equity market since 1999 (USD mn)



Sources: Goldman Sachs (2010a), WFE

¹⁹ In January 2011, a pilot programme was launched to allow some Mainland non-financial enterprises to settle overseas direct investment in RMB.

²⁰ IPOs were also very high in 2010 – recovering swiftly from the global financial crisis to reach \$59 billion. However, this was driven by two particularly large deals: the IPOs for AIA and Agricultural Bank of China.

During 2010, the development of the offshore RMB bond market accelerated markedly, albeit from a low starting point. By August, RMB bond issues in Hong Kong had reached close to RMB 40 billion. In the second half of the year, issuances skyrocketed (totalling over RMB 35 billion), increasing the market size by almost 100%.²¹ In absolute terms, these figures are all low²² but they indicate the rapidly rising interest in the sector. Corporate issues have all been for relatively small amounts and short-dated, with maturities around 2-3 years (typical for Asia) and coupon rates of approximately 3%.

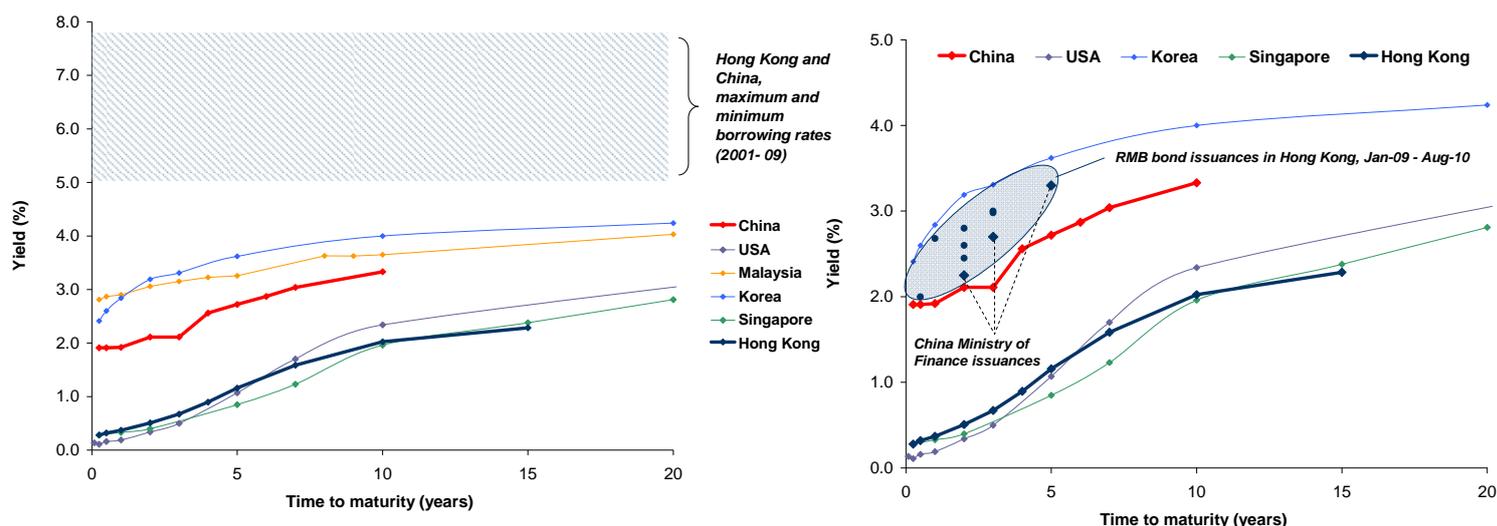
Among the most notable bond issuances (both corporate and public sector) in Hong Kong have been:

- China's Ministry of Finance issuance of three different maturities of bonds in autumn 2009 (RMB 6 billion at maturities of 2, 3 and 5 years) – this approximates to sovereign issuance.
- The July 2010 issuance of RMB 1.4 billion with a maturity of 2 years by Hopewell Highway infrastructure was the first corporate RMB bond that was made available to international investors.
- McDonald's issuance of RMB 200 million with a maturity of 3 years, launched in August 2010, marked the first by a foreign multinational company.
- The January 2011 issue for the World Bank, its first RMB-denominated bond, worth RMB 500 million with a maturity of 2 years and a coupon of just 0.95%, in line with yields on China's sovereign debt on US dollar issues.

Decomposing the yield on RMB bonds

With bank borrowing rates in Hong Kong and China averaging between 5% and 7%, clearly it has been cheaper for companies to seek financing through the bond market than through the local banking system. In addition, given the strong investor interest that has been registered for these issues, the premium versus the Chinese sovereign bond market has been particularly low in spite of this being a newly created market.

Figure 10: Sovereign yield curves versus bank borrowing rates (lhs) and versus yields on RMB bonds issued in Hong Kong (rhs)



Sources: Asian Bonds Online, Goldman Sachs (2010a), IMF

21 By the end of 2010, the Bank of China (Hong Kong) launched the first offshore RMB bond index to track the development of the market.

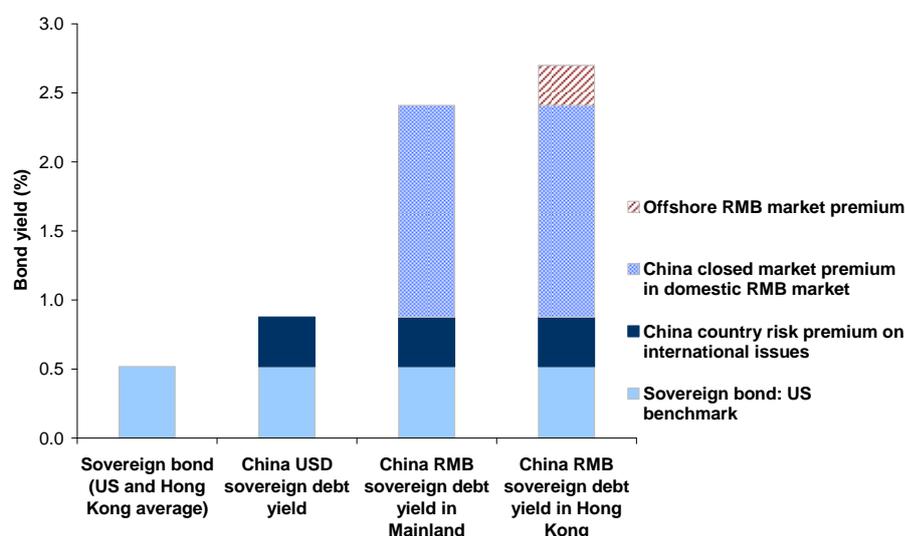
22 Resulting in these issues being nicknamed 'dim sum' bonds.

In order to examine the structure of offshore RMB bond yields in more detail, it is useful to dissect the Ministry of Finance issues as well as McDonald's corporate bond pricing to identify the varying contributions to the overall yield structure. The yield can be decomposed into several factors:

- The benchmark yield for low-risk sovereign debt (the US and Hong Kong government yields are broadly aligned);
- The additional country risk for sovereign bonds (e.g. for China) and corporate risk for corporate bonds;
- A currency premium/discount – linked to the widespread expectation of RMB appreciation; and
- a Hong Kong offshore RMB market premium consisting of a liquidity premium owing to the very small market size and a new market premium, i.e. the extra yield offered either because of the lack of an adequate pricing system for bonds in a very new market or in order to secure a successful issuance through high demand.

In the case of sovereign bonds, there is a country risk applicable to China's sovereign bonds in the international market, estimated as the spread of Chinese sovereign bonds issued in US dollars versus US sovereign bonds. However, this country risk premium is low compared with other emerging markets. In addition, RMB sovereign bond yields in the Mainland market include a substantial extra premium that can be attributed largely to China's closed domestic market.²³ Excluding the recent World Bank issue, which attracted an exceptionally low premium,²⁴ the yield on Hong Kong issued RMB bonds appears to incorporate this China market premium and a small additional premium that reflects the specific features of the fledgling offshore market, chiefly that it is only just emerging, untested and too small to be a deep and liquid market. These premia should fall sharply as the offshore RMB market develops strongly and liquidity and experience improve, especially as the offshore market ensures convertibility.

Figure 11: Decomposing the spread on offshore sovereign RMB bonds (3-year) – the example of bond issuances by China's Ministry of Finance



Sources: Asian Bonds Online, Goldman Sachs (2010a).

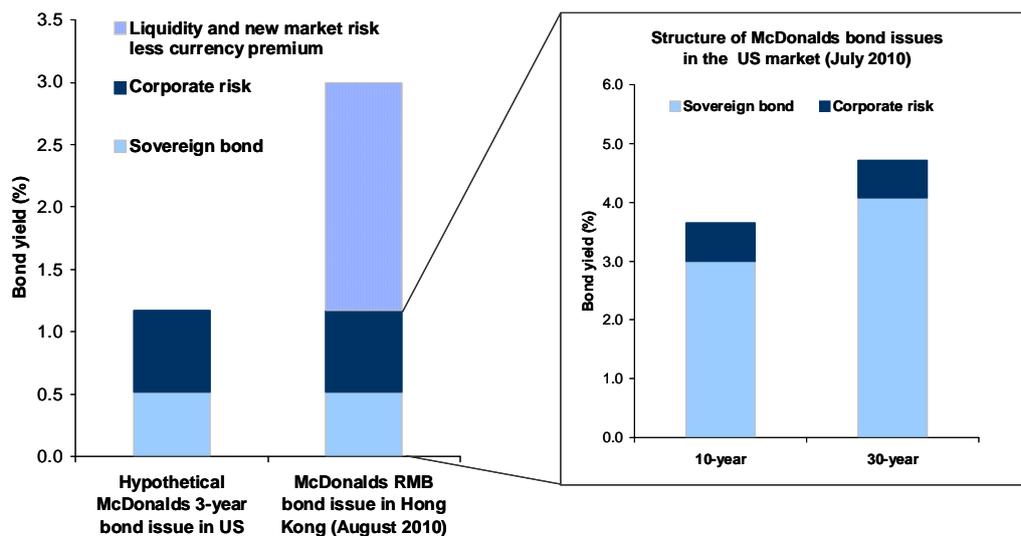
Note: Sovereign RMB bond is China's Ministry of Finance 3-year bond issued in September 2009

²³ Given the widespread expectation of RMB appreciation – and very low perceived risk of devaluation – the currency factor would not be expected to add a positive risk premium on Chinese bonds. Arguably it may imply a negative premium (as for Japanese or Swiss bonds).

²⁴ More recently, Unilever also secured a very low premium of 1.15% on a RMB 300 million bond issuance.

To similarly decompose a corporate bond issue, we examine the McDonald's RMB bond issue and compare this with the company's bond issuances in the US. The spread over (US) sovereign bonds is calculated from two bond issuances made by McDonalds in July 2010. The additional yield in Hong Kong thus reflects a liquidity premium and new market risk less the currency premium/discount.

Figure 12: Decomposing the spread on offshore corporate RMB bonds – the example of the McDonald's 3-year issue



Sources: Goldman Sachs (2010a), Asian Bonds Online, Bonds Online.

Notes: Lhs chart creates hypothetical McDonald's 3-year bond issue in US in order to be comparable with RMB bond issue in Hong Kong. Sovereign risk is calculated as US and Hong Kong 3-year bond average.

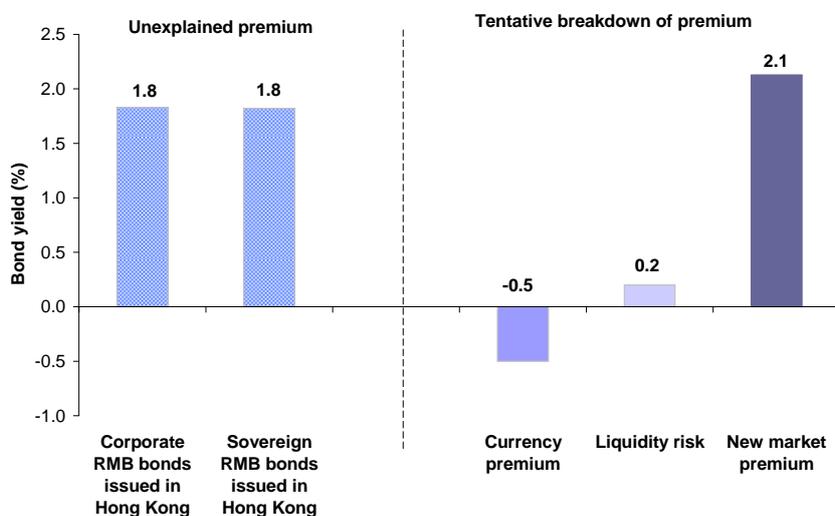
To further decompose the part of the bond yield that is not explained by country and corporate risk, we can make tentative estimates for the currency premium and liquidity risk components. The currency premium is estimated at around -0.5% based on data for short-term bond spreads for Japan and Switzerland. A mature market liquidity risk premium can be calculated at about 0.2% based on the spread of small, relatively risk-free, European economies' bonds against the benchmark German Bund.²⁵

On the basis of the existing evidence from bond yields in the offshore RMB market as well as the assumptions described above for currency and liquidity risk premia, this analysis suggests that the new market risk premium in Hong Kong has added substantially to the yields on recent RMB bond issues, increasing the coupon by as much as 2%.²⁶

25 See the Appendix for more details on calculating liquidity risk and currency premia.

26 However, it cannot be ruled out that either the currency premium on holding RMB is greater, thereby making the new market risk even larger, or the liquidity risk is greater, in which case the new market risk would be reduced.

Figure 13: Decomposing the liquidity and new market risk less RMB currency premium based on international comparisons



Sources: Asian Bonds Online, Bonds Online, Goldman Sachs (2010a)

As the still fledgling market expands, the new market risk premium, and thus the yield, will decline sharply, making the offshore RMB market more attractive for fundraising. Once the Hong Kong RMB market has become sufficiently sizeable, this risk may even disappear, taking as much as 2% off the yield. In fact, the low yield on the January 2011 bond for the World Bank signals that this decline may already be appearing, although clearly this issue was for an exceptionally high-grade borrower.

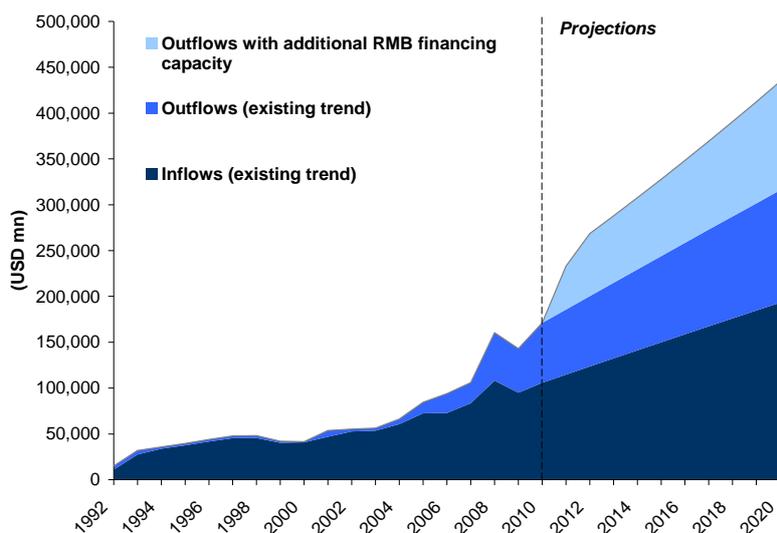
4. WHAT SCALE OF OFFSHORE RMB BOND MARKET BY 2020?

How can we estimate the likely growth in the offshore RMB bond market over the next decade? To gauge the potential level of interest from borrowers, the following factors are expected to be critical:

- The scale of 'go global' investments abroad by Chinese companies: many companies are believed to prefer funding these investments in RMB. In addition, the potential to issue RMB bonds could provide an additional stimulus for overseas direct investment (ODI) compared with projections for ODI without the RMB bond market option;
- The scale of investment inflows into China: FDI projects into China could also raise funds in the RMB bond market although it is less likely that this facility would provide a substantial additional stimulus to such capital inflows into China.

The two sources of RMB bond issues identified above represent part of overall FDI outflows and inflows for China. While it is hard to estimate prospects for new bond issues from currently meagre information, we can examine the progress and likely projections of total FDI inflows and outflows based on past trends and cross-country comparisons and then use these estimates as proxies for future issuance of RMB bonds.

Figure 14: FDI inflows and outflows for China (USD mn): potential to match recent flows in/out of the US by 2020?

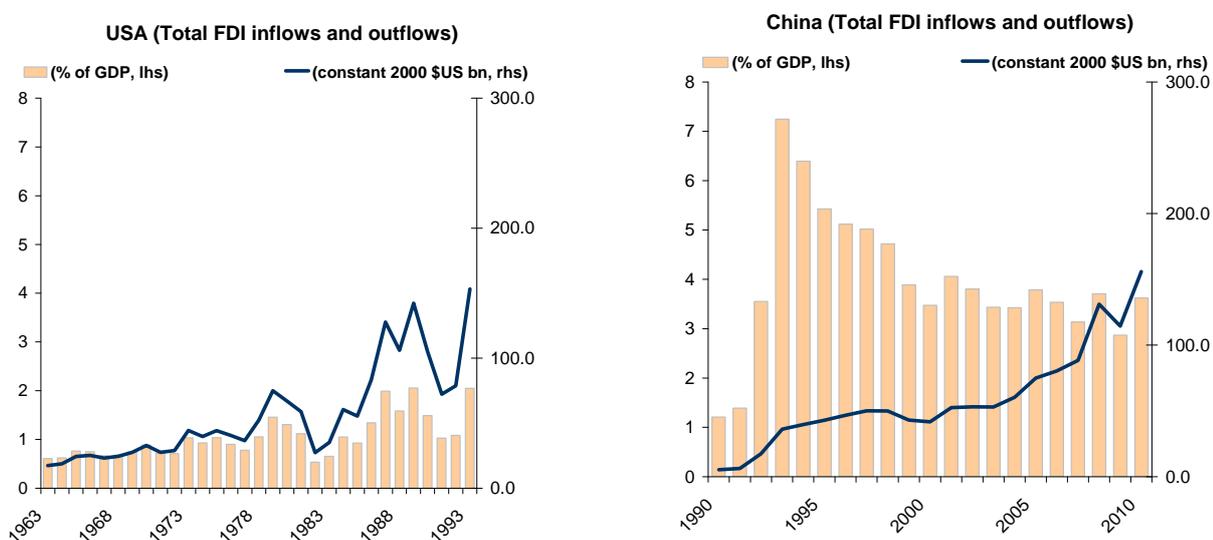


Source: Own projections based on UNCTAD data

While we project a rapid increase in China's ODI,²⁷ these estimates are not particularly aggressive when compared with the data for both the US and China over the previous two decades. In real (constant price) terms, the total value of Chinese direct investment inflows and outflows over the last two decades has been similar to, even slightly exceeding, that of the US during the period of the establishment of the Eurodollar market. In addition, according to these projections, China's flows as a percentage of GDP will taper off to around 3-4% – lower than those experienced by both China and the US over the previous decade. These projections are therefore quite moderate and based on cautious assumptions.

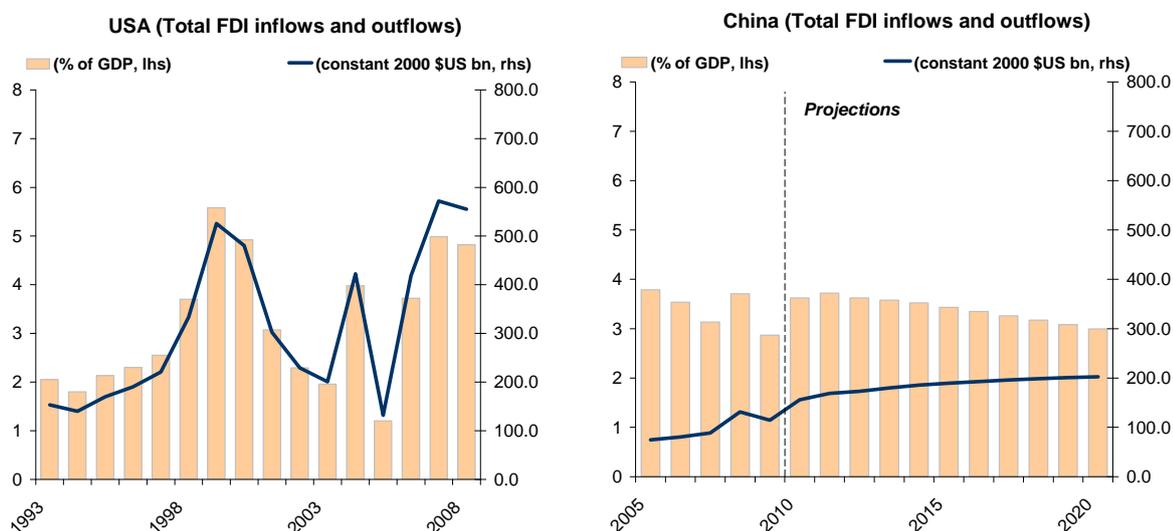
²⁷ In absolute terms. See the Appendix for more details.

Figure 15: Historical comparisons between the US's and China's total FDI inflows and outflows – in real terms, China's flows are higher than those of the US at the time the Eurodollar market was developed (% of GDP on lhs, constant 2000 \$US bn on rhs)



Sources: BEA, UNCTAD

Figure 16: Projections for China's total FDI inflows and outflows (2010-20) compared with those of the US between 1993 and 2008 (% of GDP on lhs, constant 2000 \$US bn on rhs)



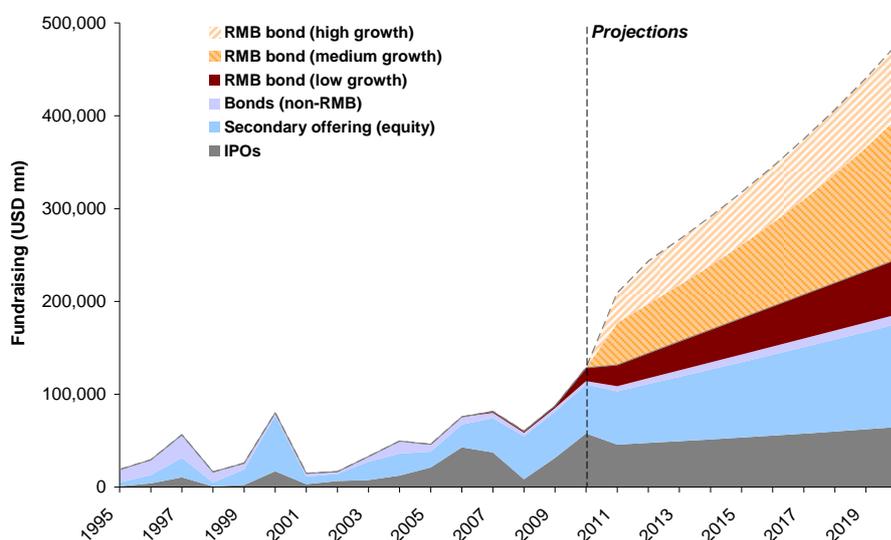
Sources: BEA, UNCTAD. Own projections for China's GDP based on IMF and World Bank data

The projections for direct investment inflows and outflows for China then feed into the estimates for development of the RMB bond market.

Here we consider three scenarios:

- In the first, 'low growth' case, overall fundraising in Hong Kong continues at its trend rate, with the RMB bond market only representing the residual between this overall potential and the growth in IPOs (which are projected to taper off) and secondary offerings.
- The second, 'medium growth' scenario, adds in issues in the RMB bond market due to FDI-related demand based on existing trend growth in these capital flows.
- The third, 'high growth' scenario, further adds in the extra ODI growth that may come from developing RMB financing capacity.²⁸

Figure 17: Potential placing power: the scope for development of the RMB bond market in Hong Kong (USD mn)



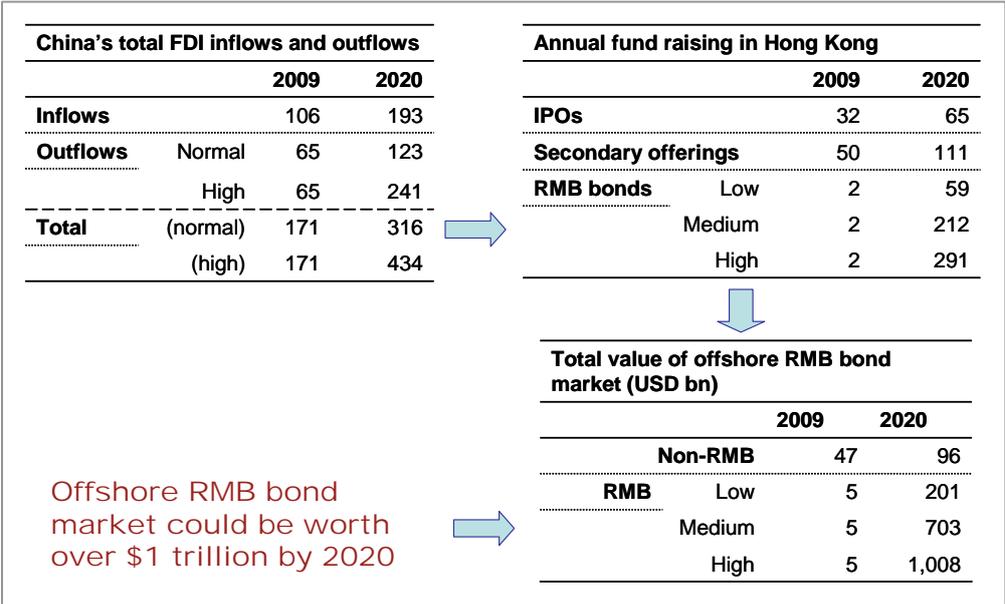
Source: Own projections based on WFE data

In the 'medium growth' case, the RMB bond market could develop into a market valued at over \$700 billion by 2020 and in the 'high growth' case, this figure could be greater than \$1 trillion.²⁹

²⁸ See the Appendix for details of the assumptions used in these projections.

²⁹ These projections assume a discount factor of 0.8 for bonds to account for the relatively short maturity.

Figure 18: Linking ODI-FDI flows with offshore RMB bond market growth (all USD bn)



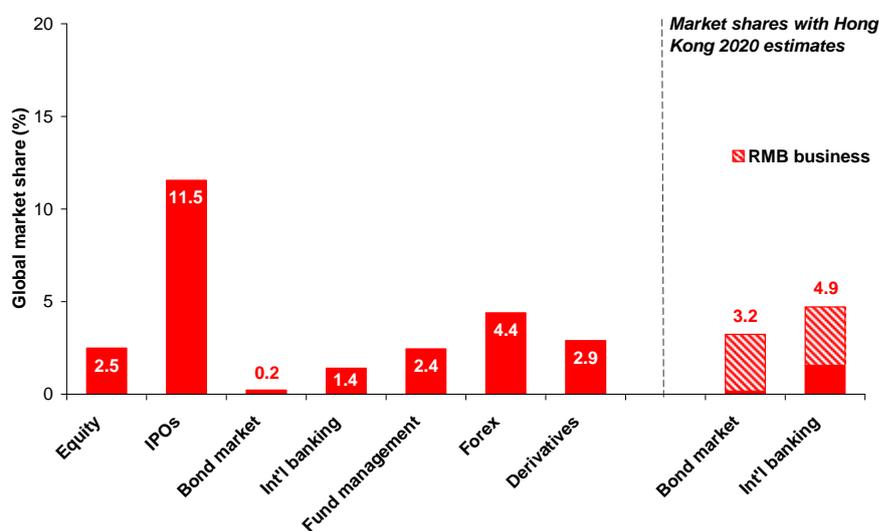
Source: Own projections based on WFE and UNCTAD data.

5. THE IMPACT ON HONG KONG AS A GLOBAL FINANCIAL CENTRE

Can growth in the offshore RMB business cement Hong Kong's position as the foremost financial centre in Asia and one of the leading global centres? Where will Hong Kong stand in comparison with Mainland Chinese financial centres, notably Shanghai? And, in particular, could the offshore RMB business transform Hong Kong's position in the international bond markets – where Hong Kong and Asia have traditionally been weak performers?

According to the 2020 estimates derived above, development of RMB business may well have a very marked impact on the profile of Hong Kong as a financial centre. For example, if the changes suggested for the banking sector and in the 'high growth' bond market case were to be introduced immediately (at today's prices), Hong Kong's share of the world market in international banking would increase from 1.4% to 4.9% and its share of the bond market would also rise from a meagre 0.2% to 3.2%. This would bring Hong Kong's share of the world market in these two financial sectors at least into line with its typically high share in other world markets.

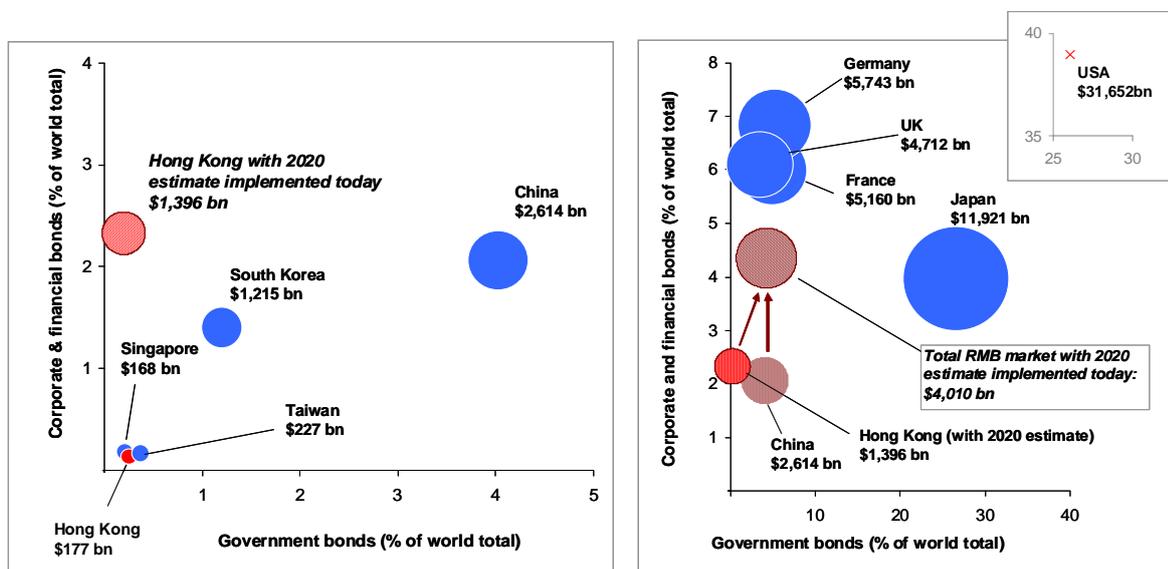
Figure 19: Hong Kong's shares in financial markets (% , average from 2003 to 2009) and illustrated change if 2020 estimates for bonds and banking were implemented today (at today's prices)



Source: Own projections and data from BIS, Investment Company Institute, WFE; see Figure 1 for notes on calculation

In terms of establishing an RMB bond market, the potential offshore development outlined here, combined with the traditional onshore RMB market, could propel the total RMB bond market into the same league as the large European markets – although still falling well behind the US and Japan for both corporate and sovereign bonds.

Figure 20: Comparison of international bond markets (% of world's outstanding securities; bubble size represents total bond market value, \$US bn)



Source: Own projections and BIS, based on 2009 data. Notes: Assumes development of RMB bond market would be due to corporate and financial bond issuances

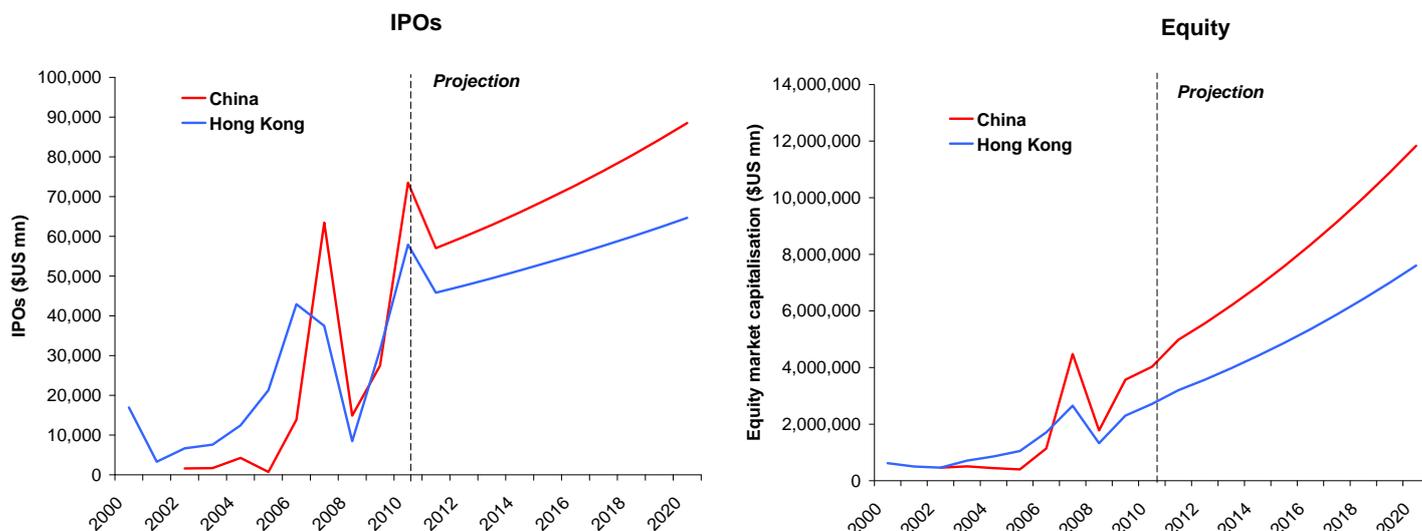
While the total RMB bond market provides a useful indicator, Hong Kong will also be concerned by the potential for Shanghai to overtake it as the financial centre capable of serving the Mainland Chinese market. This is particularly the case given the Chinese government's stated ambition for Shanghai to be transformed into a global financial centre by 2020.

The Mainland bond and equity markets (and the IPOs associated with the expansion of the equity market) will develop strongly simply as a result of the rising scale of China's economy.³⁰ In Hong Kong, the equity market is likely to continue to grow robustly on the back of the ability to fundraise in RMB.³¹ However, according to tentative projections, the equity market capitalization in Mainland China could reach almost \$12 trillion by 2020. The scale of Shanghai's equity market is therefore likely to considerably surpass Hong Kong's, although relative to the domestic economy, Hong Kong's equity market will stand out and remain more international in nature.

30 See the Appendix for more details the assumptions used to on project Mainland China's financial market development.

31 The Hong Kong Exchange has held readiness tests for the use of RMB stock trading and RMB denominated IPOs, as well as for the use of a Trading Support Facility to support trade in RMB stocks without a liquidity constraint that might arise from an inadequate supply of RMB. See Hong Kong Exchange (2011).

Figure 21: Fundraising through IPOs (\$US mn on lhs) and growth of the equity market (\$US mn on rhs)

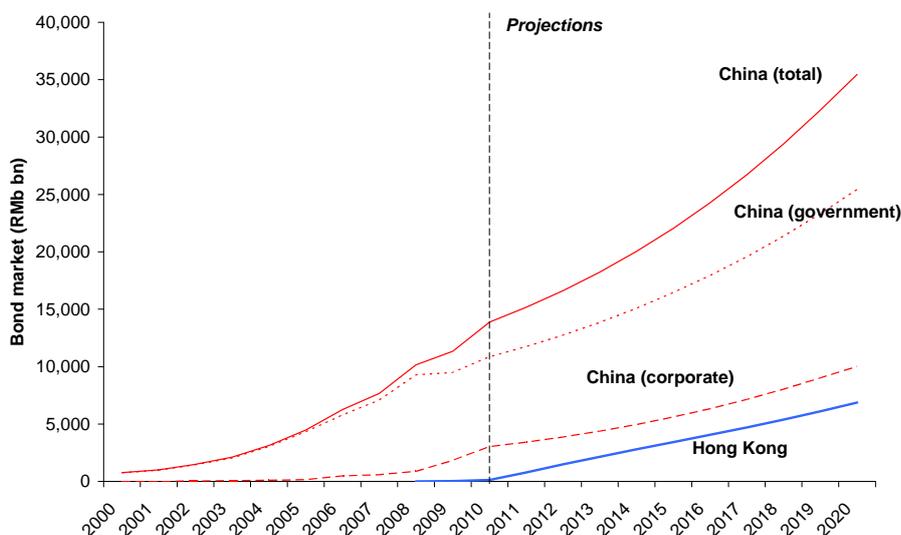


Source: Own estimates based on WFE data

The size of Mainland China's bond market can be projected on the basis of the funding requirements for government and corporates. This suggests that the value of the government bond market could rise from approximately RMB 10 trillion today to around RMB 25 trillion by 2020 (although this will decline as a share of GDP). The corporate bond market is projected to grow from RMB 3 trillion today to over RMB 10 trillion in 2020.

While the rise of Hong Kong's offshore RMB bond market is projected to be rapid, taking it to approximately RMB 7 trillion by 2020 from almost nothing a few years ago, these estimates indicate that Hong Kong's market will be dwarfed by the huge Mainland bond market. However, this offshore RMB bond market would still make an important contribution to the Hong Kong financial sector's business outlook and to the international position of the RMB.

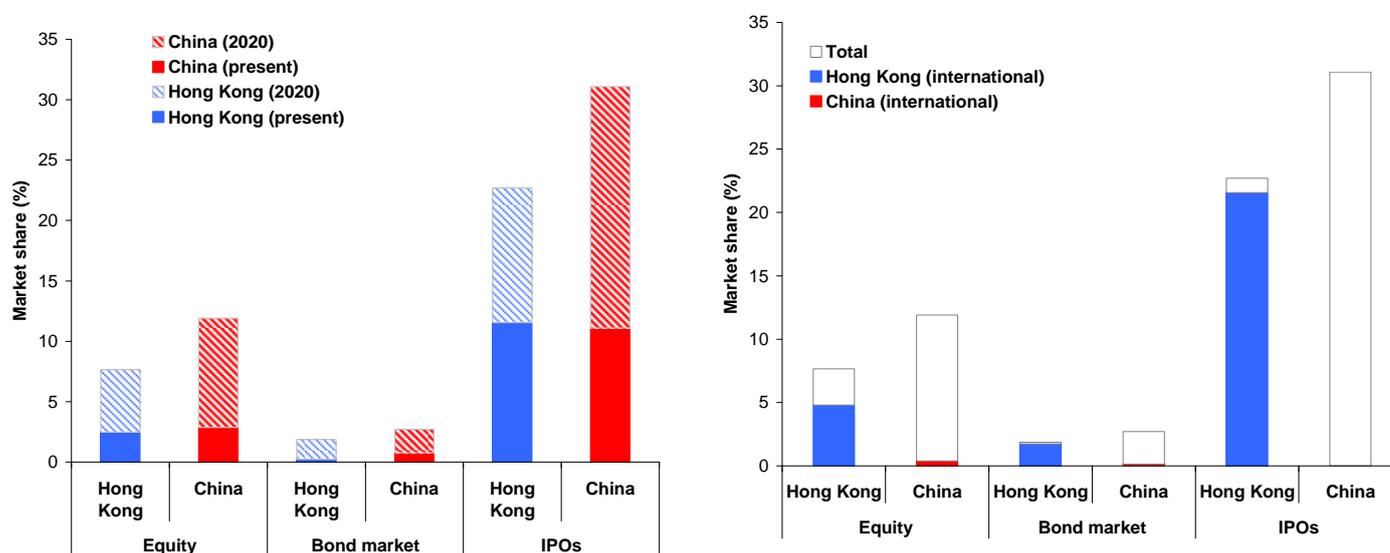
Figure 22: Potential development of the onshore RMB bond market and comparison with estimates for Hong Kong (RMB bn)



Source: Own projections based on data from BIS and WFE

Although Shanghai will prosper as a financial centre, playing a pivotal role in financing the rapid development of China's economy, a degree of segmentation in China's financial markets is likely. Shanghai is well suited to the already substantial fundraising needs of the domestic economy, yet Hong Kong enjoys numerous embedded advantages that are attractive for international business. It is widely recognized that transforming Shanghai into an international financial centre, despite favourable government support, will require a complex set of developments including a stronger institutional and legal framework and a broader array of financial instruments, and progress also depends heavily on the Mainland government's willingness to relax controls on capital flows³² and restrictions on foreign investors.³³ The international aspect of Shanghai's development as a financial centre may be uneven, with stronger international participation in sectors where there is already significant business, such as commodities trading.

Figure 23: Hong Kong compared with Mainland China – share of global financial markets if 2020 estimates were implemented today (% at present and in 2020 on lhs, % of which is international on rhs)



Source: Own projections based on data from BIS, Hong Kong Exchange (2010), Shanghai Stock Exchange (2010), WFE - Notes: Mainland China's international share is estimated on the basis of a comparison with the current state of the Japanese bond and equity markets. Data from Tokyo Stock Exchange (2010) and the Japanese Securities Dealers Association.

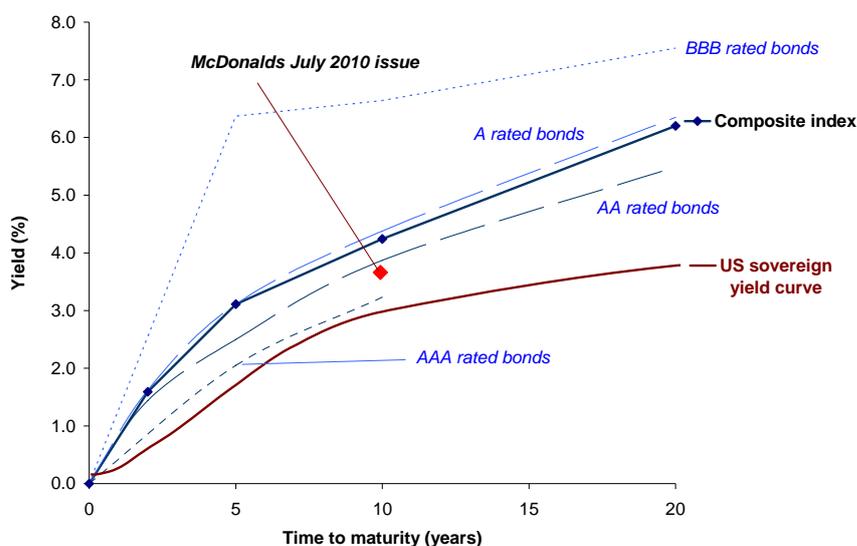
To ensure the success of the offshore RMB bond market and for this to act as a driver of Hong Kong's growth, cementing its status as a global financial centre, a number of factors will be important. Improvements in credit rating systems and research could help boost corporate interest and reduce risk premia in the market. In this respect, it may be efficient to develop a new agency in Hong Kong to specialize in the sectors represented in the new RMB bond market.³⁴

³² China's government currently appears more content to relax capital controls on trade settlements than on portfolio flows – the latter can have a more destabilizing impact (DBS, 2011).

³³ Hang Seng (2009). There has been some movement towards allowing greater foreign participation; for example, in January 2011 a pilot programme was announced allowing foreign institutions to make private equity investments in Shanghai.

³⁴ The importance of credit ratings has been accentuated by recent concerns over the quality of the financial reporting of Mainland Chinese companies.

Figure 24: Range of corporate bond yields in US demonstrates the powerful impact of credit ratings



Source: Bonds Online

Development of financial products and services linked to growth in the offshore RMB market has the potential to double the scale of financial market transactions in Hong Kong by 2020 under the most favourable projections. The growth of the RMB market will impact on a range of financial instruments such as derivatives including hedging instruments, insurance and fund management. According to DBS (2010), 'the non-deliverable forwards (NDF) market should dissipate over time, and new derivative products come to the fore'. As an indicator of these trends, HSBC launched the first offshore RMB options in October 2010 (two 1-month options against the US dollar and Australian dollar).

The projected increase in financial activity will have ramifications for Hong Kong's labour market, possibly doubling the demand for professional personnel from around 170,000 (in 2009) to almost 350,000, although some business may leak into newly developing financial centres such as Shenzhen to reduce the cost pressure in Hong Kong. This new business growth is also likely to create more demand in the wider business and professional services sector (currently over 250,000 employees in Hong Kong).

Overall, the impact of developing the RMB offshore market on Hong Kong as a global financial centre should be very positive, with important spillover effects on jobs and the broader economy:

- The offshore RMB business will boost Hong Kong's status as a global financial centre, with development of a significant – and previously lacking – bond market. RMB-denominated equity listings also offer the prospects for robust growth in a sector of existing competitive strength.
- China's expanding trade will spur the development of a wider RMB deposit base in Hong Kong, boosting its position in international banking markets. At the same time, this will promote the holding of RMB in foreign exchange reserves by central banks, particularly within Asia. This development alone could propel the RMB into a significant position among the top international currencies.
- Despite a rapid expansion in Mainland China's financial markets, Hong Kong will continue to enjoy numerous advantages in attracting international business.

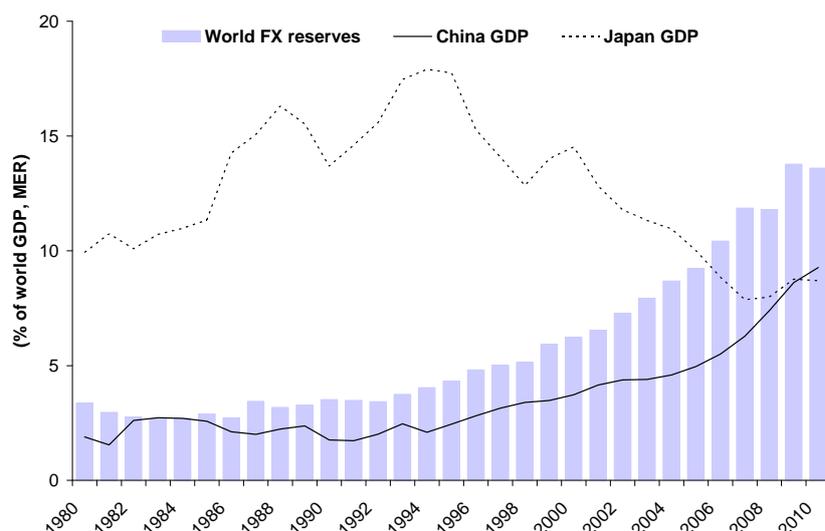
APPENDIX

The Renminbi's potential to become a reserve currency: comparison with the Japanese yen in the late 1980s

While Japan's economy, as measured as a percentage of world GDP at market exchange rates, was significantly larger in the late 1980s than China's is now, the yen only succeeded in becoming a relatively minor international reserve currency – for example, in late 2010, it represented less than 4% of world FX reserves. Why should the RMB's ascent be more successful?

First, China's GDP will ultimately overtake that of the US; most predictions focus on a date between 2020 and 2025 – not all that far ahead. Secondly, FX reserve holdings have not only expanded dramatically since the 1980s but are also heavily concentrated in Asia (Figure A1; also see Table 2), which will probably help China to build a position for the RMB. Moreover, the advent of the euro and its adoption as the world's second reserve currency has arguably encouraged countries to consider diluting their dollar FX reserve holdings (Figure A2).

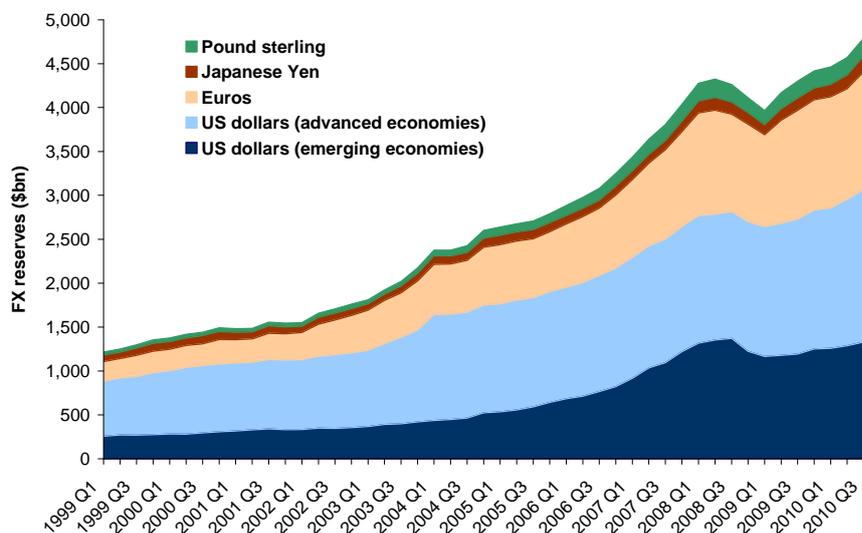
Figure A1: World FX reserve build-up accompanies China's rise as an economic power (% of world GDP)



Source: IMF (latest data and GDP estimates for 2010)

Finally, the collapse of Japan's bubble economy – and the persistently low interest rate environment and volatile yen that emerged in the wake of this economic disaster – discouraged foreign investors from holding Japanese bonds: it is still the case that foreign presence of any kind in the Japanese bond market is minimal and possibly reflects some central bank holdings. Of course, a similar bubble-bust problem could curb the rise of China. However, so far progress has been steady and fast – and China is still a long way off the overall level of development seen in the Japanese economy in the 1980s.

Figure A2: Currency composition of known allocated foreign exchange reserves (\$ billion)



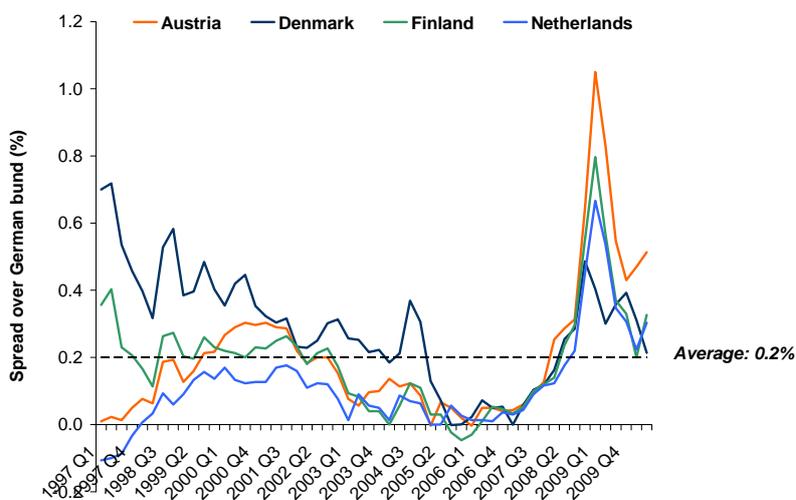
Source: IMF

Calculating the liquidity risk and currency premium on offshore RMB bonds shown in Figure 13

To calculate the liquidity risk and currency premium on offshore RMB bonds, we make tentative estimates based on international examples.

To investigate the liquidity risk, we consider the spread on government bonds of small, relatively risk-free, European economies against benchmark German bunds. The average liquidity risk observed here is 0.2%.

Figure A3: Liquidity risk due to small market size (spread against German bund, %)

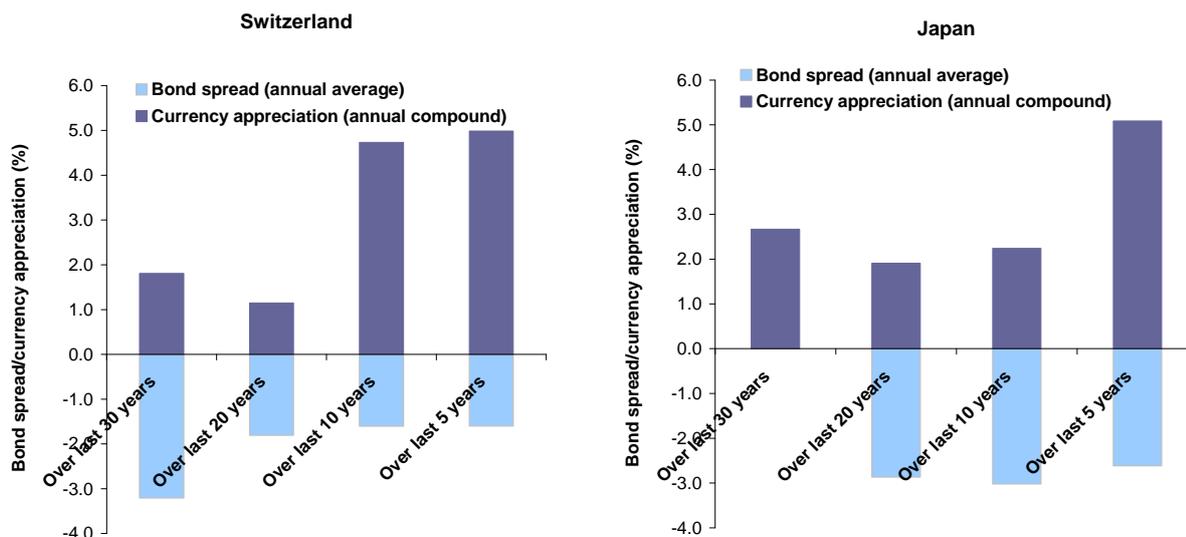


Source: OECD.

Note: uses 10-year government bonds

To estimate the currency premium, i.e. the lower bond yield investors are willing to accept to hold currencies expected to appreciate, we use data from Japanese and Swiss government bonds. The expectation of appreciation is borne out by a continuous premium on their bonds against US sovereign bonds.

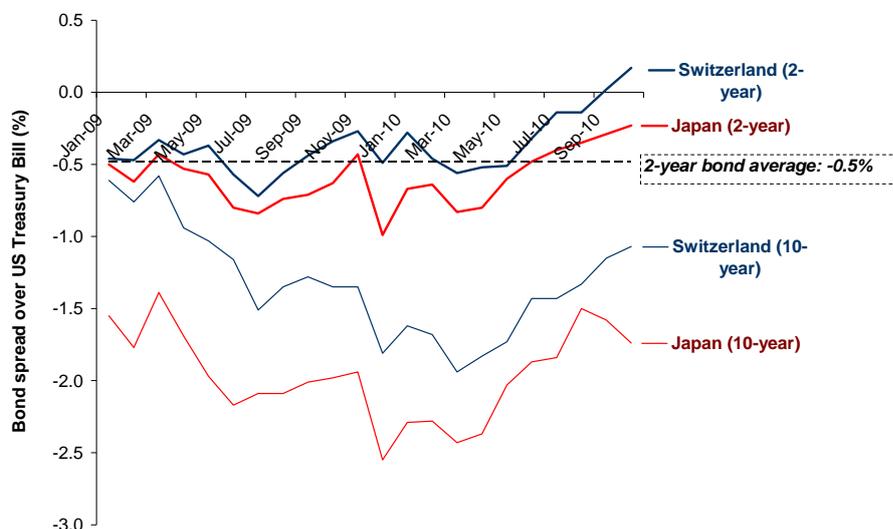
Figure A4: Currency premium demonstrated by 10-year government bond spreads of Japan and Switzerland against the US (average annual bond yield spread and annual compound appreciation of currency against USD)



Sources: IMF, OECD

However, with Asian bonds – including offshore RMB bonds – tending to have shorter maturities than 10 years, this is perhaps not a suitable comparison. Evidence from the spread of 2-year benchmark government bonds of Switzerland and Japan against the US illustrates the currency premium is significantly lower – with an average of -0.5%.

Figure A5: Japanese and Swiss government bond spread against US demonstrates lower currency premium for shorter-dated bonds



Source: Financial Times

Assumptions used for projecting financial market development, presented in Sections 4 and 5

The Hong Kong bond market

Projections for growth in Chinese FDI inflows and outflows are based on trend growth rates since 2001 (with a gradual slowdown for FDI inflows). The additional ‘high’ growth highlighted as a potential for ODI is premised on ODI reaching a similar value to FDI inflows by 2020.

To project the development of the offshore RMB bond market, we assume that secondary offerings and non-RMB bonds continue along their past trend growth rate, although IPOs’ growth tapers off.

In the ‘low growth’ case, RMB bond issues simply fill the gap between trend growth in Hong Kong’s ‘capacity and placing power’ and other fundraising – effectively as IPOs tail off, bond issues pick up the slack. The ‘medium’ and ‘high’ growth bond market cases assume increased growth potential due to the creation of the RMB offshore market.

In the ‘medium growth’ case, it is assumed that two-thirds of trend in total FDI inflows and outflows are gradually absorbed into the Hong Kong RMB bond market (with some front-loaded adjustment as this market starts up). The ‘high growth’ case is based on the higher estimate for ODI, with two-thirds of the extra Chinese ODI being absorbed immediately into the RMB bond market.

Mainland China's bond market

The development of Mainland China's bond market is based on two components. The first is government fundraising, estimated by extrapolating a budget deficit of 2% of GDP forward to 2020. The second is corporate fundraising. This is estimated by bringing forward the current share of corporate bond issuance in overall investment (with a small increase in this share to 2020) and also assuming a shift towards corporate bond issuance that replaces a small proportion of investment that is self-funded (i.e. reinvested profits). Moreover, we also include the assumption that investment as a share of GDP will decline moderately over the coming decade. To estimate the international share of Mainland China's bond and equity markets by 2020, the current share for Tokyo is used as a proxy for a large financial centre that mainly caters to the requirements of its sizeable domestic market.

Equity and IPOs

To estimate the development of the equity market and IPOs in Hong Kong and China, we assume that current equity market capitalization grows in line with Mainland China's economy – the impact of Hong Kong's domestic economy is assumed to be limited. For Mainland China, it is plausible that this may underestimate the development of the equity market. Projections for IPOs assume that fundraising through this source grows in a relationship with equity market capitalization. This relationship moves from its present state in Hong Kong and Mainland China towards that observed in the US – a reflection of that fact that as equity markets mature, fundraising through IPOs decline relative to the overall size of the equity market. Furthermore, a slight drop in IPOs is anticipated in 2011 (from 2010) because the value of IPOs in 2010 is assumed to be somewhat above trend and buoyed by companies' decisions to postpone IPOs during the global financial crisis.

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